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INTELLECTUAL CAPITAL DRIVEN PERFORMANCE: ROLE OF INNOVATIVE PERFORMANCE AND BUSINESS PROCESS CAPABILITIES

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Abstract. Theory of resource based view (RBV) postulates intangible resources as strategic resources which tend to provide sustainable competitive positioning for a firm to survive in a fast-paced highly dynamic market place. This study attempts to demonstrate the impact of intangible resources i.e. intellectual capital (IC) resources on firms' performance. Further, the paper also aims at specifying the optimal mediating mechanism for IC driven performance in the presence of business process capability and innovative performance as intermediate measures. Using the key informant approach a survey was conducted and a valid sample of 660 middle and senior level employees was considered for analysis. Convergent and discriminant validity is examined by observing the values of loadings and average variance extraction (AVE) before proceeding for further model estimation. However, fitness of the model is examined through observing the values of absolute, incremental and parsimonious fit measures using confirmatory factor analysis (CFA). The results of the study imply that IC's components not only directly

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affect the performance but it also indirectly influences the performance through business process capability and innovative performance. Based on the findings of the study, this piece of effort suggests that managers need to explore more intellectual resources in order to align the business process capability and innovative performance for superior performance outcomes.

Keywords: Intellectual Capital, Business Process Capability, Innovative Performance, Performance

JEL classification: O34, L21, O31, L25

I. INTRODUCTION

A recent change in global knowledge economy consisting of intangible resources provides sustainable performance to firms in a turbulent and competitive environment (Teece *et al*., 1997; Subramaniam and Youndt, 2005a, 2005b). In era of knowledge based economy, the appearance of intellectual capital (IC) has attracted lot of recognition as a driver of competitive positioning (Sharabati *et al*., 2010), where most of the firms have failed to understand its significance in earlier (Collis, 1996). This influential phenomenon has led the aim of transition of traditional industrial economy in knowledge economy (Guthrie *et al*., 1999). According to theory of resource based view (RBV), intangible assets cognized as knowledge resources provide better performance outcomes than tangible resources (Bogner and Bansal, 2007).

Previous research defines IC as personnel skills, firms' routines, network relationships and collective know-how that reside inside of intellectuals of organization (Kong, 2008; Stewart, 1997). It is also recognized as strategic valuable resource for firms' performance to gain constant competitive edge (Schiuma and Lerro, 2008; Kong and Prior, 2008; Chen, 2008). Knowledge economy presented it as a source of 'economic value' covering three major facets of non-physical assets of a firm which includes human, organizational and social capital. Extant of strategic management literature postulates that intellectual capital is a valuable and non-compatible resource used to link firms' capabilities with sustainable performance (Karkoulian *et al*., 2013; Barney, 1991). Interestingly, recent academic research views IC as a key strategic driver for business growth and performance (Tovstiga and Tulugurova, 2007;

Huang and Liu, 2005). However, very little attempts were made to know that how innovation and business process capabilities mediate the relation to bring out better IC oriented performance.

Although, it is robustly accepted that organization capability to innovate is extensively relies on its 'ability to exploit knowledge or intellectual assets effectively (Subramaniam and Youndt, 2005a). Innovation is acknowledged as driving element to leverage the value creation and performance at firms' level (Griffith *et al*., 2006). Firms' capability to get sustainable performance outcomes are based on their dynamic capability i.e. innovative performance through leveraging, grasping and reconfiguring IC appropriately (Hsu and Wang, 2012). Further, innovative performance provides competitive positioning in a dynamic environment if the firms integrate, sensing and restructure the internal, external and human capability efficiently (Teece *et al*., 1997).

Massive investments on knowledge resources e.g. intellectual capital are required to innovate the organizational processes, structures and products for superior performance outcomes. Recent academic research points out the strategic role of innovation for leveraging competiveness and IC driven performance (Gao *et al*., 2009). Studies found that intellectual referred as knowledge assets are the basic inputs or treated as raw material for value creation process of organization which comes through innovation to leverage the superior firms' performance over the period (Marr *et al*., 2004; Gao *et al*., 2009). Similarly, studies also imply that IC is considered as primary source of input for value creation through aligning business process capabilities of organization (Gold *et al*., 2001; Smith and Mills, 2011). Few studies advocate that business process capability in terms of customers' and suppliers' intimacy and further flexible production processes positively augment the organizational performance measures (Rai *et al*., 2006; Santhanam *et al*., 2007; Ray *et al*., 2004). Recent study points out that business process capability mediates the relation for IC driven performance (Wu and Chen, 2014). This study advocates that firms required substantial investment on internal, external and human capital which further help to structure organization's inside-out, outside-in and spanning capabilities to get better performance standard.

Though, plenty of academia research addresses the relationship of IC and firm's performance, however, many firms belonging to knowledge oriented sectors with experienced human capital, dynamic organizational processes and structures, information systems and diversify intimate with customers and suppliers failed to yield innovative performance to get the better performance outcomes (Han and Li, 2015). Previous debate also concludes that more investment initiatives on knowledge assets e.g. 'human capital, structural and relational capital' improves the firm's innovative capability in terms of operational excellence and product development and business process capability i.e. inside-out, outside-in and spanning could be a result of better sales growth and revenues (Wang and Wang, 2012; Huang *et al*., 2010). However, there is a scarcity of literature that how both concepts i.e. innovative performance and business process capability works together to mediate the relationship for IC driven performance.

II. THEORETICAL BACKGROUND AND HYPOTHESIS

INTELLECTUAL CAPITAL (IC) AND PERFORMANCE

The conceptualization of IC is very difficult to understand due to dynamic and invisibility. It often uses interchangeable as intellectual capital, intellectual assets or knowledge assets. IC comprises entirety of all knowledge assets or intangible assets that determines the firm's superior performance (Roos and Roos, 1997; Subramaniam and Youndt, 2005). Initially, IC was used to capture the difference between organization book and market value (Stewart, 1994). Later on, research conceptualized IC as hidden asset difficulty to find on companies' balance sheet; intellectual property rights, organizational philosophy and culture, employees experience and skills (Edvinsson and Malone, 1997; Stewart and Ruckdeschel, 1998). These assets paved the way to form the positioning (Youndt *et al*., 2004; Sharabati *et al*., 2010). Literature suggests that IC works for value creation and extraction though utilizing knowledge held by employees, captured in organizational data bases, business processes and relational capital (Zharinova, 2011; Sullivan, 1999; Youndt *et al*., 2004). As recommended in introduction that knowledge drives the economy to get competiveness which comes through optimal utilization of scarce IC with every possible means (Sveiby, 1998; Dumay, 2013; Edvinsson and Sullivan, 1996). IC is the

composition of human capital, structural capital and relational capital (Bontis, 1998; Rehman *et al*., 2011; Roos *et al*., 1997; Malone, 1997).

Human capital refers to integration of explicit and tacit knowledge of individual though education, trainings, mental agility and previous employment (Sveiby, 1997; Roos *et al*., 1997). Studies also describes that human capital is the intellectual ability, experience and knowledge of employees which resides in their brain and used by firm's staffs and executive (Subramaniam and Youndt, 2005; Schultz, 1961). Actually, organization needs employees with excellent capability of problem solving to make effective decisions. Therefore, it is considered a valuable strategic and dynamic resource in a rapidly changing environment (Mengistae, 2006; Bontis *et al*., 2007). As organization services and products are always rendered and provided by employees, hence it always anticipated that organization performance in terms of customer intimate, operational excellence and product development is closely connected with human capital efficiency (Cabello-Medina *et al*., 2011). Further, studies indicate that firms which invest more on human capital tend to get better financial and non-financial performance (Wang *et al*., 2011; Seleim *et al*., 2007).

H1: Human capital positively influences overall performance of pharmaceutical firms.

Structural capital refers to institutionalization of knowledge resides in organizational procedures, rules, routines and databases (Subramaniam and Youndt, 2005; Schultz, 1961). Hsu and Wang, (2012) conceptual structural capital as information systems and organizational process which is a core of firm to facilitate the flow of information required to increase the operational performance (Cabrita and Bontis, 2008). It is a valuable strategic resource and employees do not take home when leave the organization. Further, organizational process provides the availability of knowledge resources to achieve better performance outcomes (Youndt *et al*., 2004; Bontis, 1998). Firms with week structural capital in terms of poor procedures, routines and systems find difficulties to harvest the better financial performance. Therefore, firms attempt to integrate the structural capital to strengthen organizational processes which tend to improve the operational efficiency in terms of lowering the production cost and quality and enhanced problem solving capability

(Zangoueinezhad and Moshabaki, 2009). Further strong structural support give momentum to firm's performance by leveraging innovative culture and resource deployment (De Brentani and Kleinschmidt, 2004). Nevertheless, research also indicates that strong structural ties propel the organization performance by enhancing value creation activities (Phusavat *et al*. 2011).

H2: Structural capital positively influences overall performance of pharmaceutical firms.

Relational capital contains knowledge embedded that comes through interactions with all the stakeholders such as customers, suppliers, other internal and external partners (Roos *et al*., 1997). Organizational strategic alliances with internal and external stakeholder are almost inevitable for sustainable performance (Hsu and Wang, 2012). Supportive relational ties enable the management staff to identify core issues for further attention and find the better ways to do business by learning from other and thus becoming more novel and innovative (Dewhurst and Navarro, 2004). This concludes that strong strategic alliances exploit core business competencies, reduce the production cost through innovation methods and improves the product quality.

H3: Structural capital positively influences overall performance of pharmaceutical firms.

INTELLECTUAL CAPITAL (IC), INNOVATIVE PERFORMANCE AND OVERALL PERFORMANCE

Resource based view (RBV) claims that organization possesses heterogeneous intangible resources which are rare, non-imitable and non-substitutable that determines firms' capability to innovate and competitiveness (Barney, 1991). Human capital is highly supportive and compatible for innovative performance because staff's skills, experience and creativity improves the innovative capability of firm to do things differently (Subramaniam and Youndt, 2005). High human capital efficiency in terms of good education, training and sophisticated knowledge and abilities improves cognitive capabilities of individuals to have a better job performance through efficient activities (Hsu and Wang, 2012). Such human capital efficiencies improve problem solving skills of employees and ability to make strategic decision which turns to improves

innovative performance of organization (Bontis *et al*., 2007; Martín-de-Castro *et al*., 2011).

H4: Human capital positively influences innovative performance of pharmaceutical firms.

Structural capital is best describes as organizational processes and information systems (Martín-de-Castro *et al*., 2011). It is an embedded knowledge in routines, manuals, information systems, copyrights and trademarks that determines the firms' capabilities to innovative (Zangoueinezhad and Moshabaki, 2009). Further, organizational processes coordinate firm's strategies, culture and routines to enhance operational performance. Recent research indicates effective organizational structure in terms of inimitable routines and procedures likely to contribute more towards innovative performance and value creation activation than week structural capital (Widener, 2006; Bontis, 1998).

H5: Structural capital positively influences innovative performance of pharmaceutical firms.

Constructive social exchange relationship is a critical factor for value creation and deployment of resources (Subramaniam and Youndt, 2005) used to get important information from stakeholders e.g. customers, suppliers and partners. Such strategic alliances directly provide access to network resources (Subramaniam and Youndt, 2005). Innovative performance comes through extracting and sharing embedded knowledge with customers more importantly manufacturing firms would be able to achieve operational excellence through focusing close relationship with suppliers that ultimately determines the better operational and economic performance (Bonner and Walker, 2004; Nahapiet and Ghoshal, 1998). Recent research conducted by Batjargal, (2003) and Luo, (2003) found that innovative performance has positive connection with relational capital in emerging economies.

H6: Structural capital positively influences innovative performance of pharmaceutical firms.

H7: Innovative performances positively influence the overall performance of pharmaceutical firms.

INTELLECTUAL CAPITAL (IC), INNOVATIVE PERFORMANCE AND OVERALL PERFORMANCE

Davenport (1993) argues that business process capabilities are firm specific activities used to transform the inputs into outputs. Business process capabilities used to determine the firm's capabilities to create value and competence for the organization. Research classifies business process capabilities into outside-in, inside-out and spanning capabilities (Fathy and Hooley, 2002; Day, 1994). Outside-in is an externally intensive capability which determines the firm ability to align internal processes with external setting (Wade and Hulland, 2004). These capabilities help to forecast the future market requirements of a firm through recognizing competitors' inclination and sustainable relationship with stakeholders (Fathy and Hooley, 2002). Inside-out capabilities are the firm's internal competences, usually triggered out to pursue innovation, product development, financial arrangements and workforce management (Day, 1994). These capabilities are structured to align the matching strategies e.g. internal core competencies and weaknesses with external opportunities and challenges (Wade and Hulland, 2004). Nevertheless, inside-out capabilities stress effective infrastructure management and operational excellence which tends to provide long term competitive positioning based on different value propositions like brand recognition, customer intimacy, customer retention and product improvements and developments (Wade and Hulland, 2004). Spanning capability refers to inter-and intra-firm capability used to conduct internal and external analyses (Wade and Hulland, 2004). Spanning capability permits the firm to conduct better SWOT analysis through exploiting internal core competencies (strengthens), minimizing weaknesses, exploring external opportunities and counterbalancing external threats. Further, this capability enables the firm to conduct strategy analysis and choice in terms of input, matching and decision stage for strategy formulation (Banker *et al*., 2006). So, based on these three formative constructs, this study attempts to examine the mediating role of business process capability for IC driven performance.

Intellectual assets play an important role to re-design the business processes (Brynjolfsson and Hitt, 2003). Both intellectual assets and business processes are strategically important to restructure the business

design, value creation and better performance outcomes (Easterby-Smith and Lyles, 2003).

H7: Human capital positively influences business process capabilities of pharmaceutical firms.

H8: Structural capital has a positive impact on business process capabilities of pharmaceutical firms.

H9: Relational capital has a positive impact on business process capabilities of pharmaceutical firms.

H10: Business process capabilities have a positive impact on overall performance of pharmaceutical firms.

III. METHODOLOGY AND FINDINGS

SAMPLES AND DATA COLLECTION

This study employs the survey method (instrumentation) to collect the data from respondents in context of Pakistan. Survey approach provides multiple advantages than qualitative approach such as precise measurement of theoretical constructs, quick data collection, use of latest statistical techniques, and better quantitative identification of multifaceted relations among the variables. The instrument (questionnaire) used in this study comprises two parts is given in appendix. First part captures the general or basic information of industry and respondents (based on nominal scale) including industry type, number of employees and annual revenue. However, respondents' characteristics include qualification, age, gender, designation and working experience in present organization. Second part uses the five-point Likert scales rating from strongly disagree to strongly agree which captures the information related to variables of interest e.g. human capital, structural capital, relational capital, innovative performance, business process capability and overall performance of firms.

Using a key informant approach, a total of 1338 questionnaires were distributed via post mail among middle and senior level employees, out of which 757 were received representing 56.54 % response rate. Out of 757, a final 660 questions were considered for analysis and 97 questions were discarded to due incomplete and ambiguous response thus

representing 49.33% response rate which is a quite appropriate response for this study.

INSTRUMENTATION

To establish reliability and content validity of the latent constructs, this study attempts to adopt all the measurement items of model from available literature. First, independent variable 'intellectual capital' comprises three sub-constructs i.e. human capital, structural capital and relational capital. Human capital includes five items which were adapted from the work of (Subramaniam and Youndt 2005; Bontis, 1998; Youndt *et al.* 2004; Chen *et al.* 2009). Structural capital comprises five measurement items, adapted from (Wu *et al*. 2007; Bontis, 1998; Hsu and Fang, 2009). Relational capital items were designed from the work of (Bollen *et al*., 2005; Longo and Mura, 2011; Bontis, 1998; Hsu and Fang, 2009). Second, this study uses two mediating variables innovative performance and business process capability. Innovative performance is measured using four constructs adapted from the work of (Wu *et al*., 2007 and Roberts and Grover, 2012). This study divides business process capability into three sub-constructs outside-in capability, inside-out capability and spanning capability and their measurement items were adapted from the work (Wade and Hulland, 2004; Banker *et al.* 2006). A total of 12 measurement items were used containing four items for each sub-constructs of business process capability. We used the sum of these three sub-constructs to measure the latent construct i.e. business process capability. Finally, this study uses four sub-constructs (i.e. operational performance, financial performance, customers' intimacy and product leadership) to estimate the overall performance of pharmaceutical firms. Each sub-construct contains two measurement items and there were a total of eight items were used to measure this latent constructs.

MEASUREMENT MODEL

This study uses the confirmatory factor analysis (CFA) by employing structural equation (SEM) model to observe the overall fitness of the measurement model. Convergent and discriminant validity of latent constructs were judged before proceeding to test the hypothesized model. Convergent validity postulates that items used for a construct are assumed to measure a single construct. However, convergent validity argues that items used to measure a construct do not estimate the

unrelated constructs (Kline, 2010). Keeping in view, we have examined the convergent validity through observing the values of loading items (λ), composite reliability (CR) and average variance extraction (AVE). In order to establish the convergent and discriminant validity of the constructs, Fornell and Larcker, (1981) argue that loading items should be statistical significant and greater than 0.60, composite reliability should be greater than 0.80 and average variance extraction should be more than 0.50 in the entire measurement model. However, Hair *et al*., (1998) indicate that loading values exceeding 0.35 have practical significance for further model investigation. Further, Bagozzi and Yi, (1988) proposed that benchmark for convergent validity validation is (C-α≥0.7; AVE≥0.5). Table 1 indicates that all the convergent validity indicators i.e. loading values and AVE fall within acceptable range 0.35 and 0.50 respectively.

TABLE 1

Results of EFA for Convergent Validity

Constructs	Items	Loading Values	Cronbach's α	AVE	Mean	S.D
Human Capital	HC1	.752	0.74	0.70	2.30	1.04
	HC2	.744			2.28	.98
	HC3	.687			2.38	1.00
	HC4	.672			2.22	.98
	HC5	.622			2.26	.93
Structural Capital	SC1	.573	0.74	0.66	2.26	.93
	SC2	.709			2.30	1.04
	SC3	.660			2.20	1.00
	SC4	.729			2.28	1.00
	SC5	.681			2.34	.99
	SC6	.611			2.28	.97

Constructs	Items	Loading Values	Cronbach's α	AVE	Mean	S.D
Relational Capital	RC1	.685	0.72	0.75	3.57	.93
	RC2	.783			3.76	.91
	RC3	.742			3.70	.88
	RC4	.780			3.85	.88
Business Process Capability	BPC1	.661	0.74	0.66	2.16	.97
	BPC2	.704			2.16	.92
	BPC3	.689			2.08	.94
	BPC4	.664			2.07	.93
	BPC5	.680			2.12	.93
	BPC6	.573			2.23	.96
Innovative Performance	IP1	.573	0.74	0.70	2.33	1.00
	IP2	.629			2.19	.98
	IP3	.659			2.20	.94
	IP4	.703			2.24	.91
	IP5	.687			2.26	.93
Overall Performance	OP1	.705	0.85	.68	2.21	.96
	OP2	.702			2.32	1.01
	OP3	.617			2.1742	.94
	OP4	.573			2.1470	.95
	OP5	.629			2.0848	.93
	OP6	.659			2.1742	.96
	OP7	.703			2.1909	.99
	OP8	.687			2.1636	.96

Kaiser-Meyer-Olkin (KMO) and Barlett's test of Sphericity used to evaluate the suitability of the sample for factor analysis. Hutcheson and Sofroniou, (1999) argue that value of KMO approaches to 1 indicates that pattern of correlation is compressed and application of factor analyses becomes appropriate, however, value approaches to zero indicates that there is large dispersion in the data and application of KMO becomes inappropriate. Table 2 highlights that value of KMO measure is greater than 0.60 and Bartlett's Test of Shpericity is also significant for all the measurement constructs which indicate KMO is greater than 0.70 and Barlett's test of Sphericity is also significant thus specifying that sample is suitable for the execution of factor analysis.

TABLE 2

Kaiser-Meyer-Olkin (KMO) and Barlett's test of Sphericity

Constructs	Items	KMO Measure of sample adequacy	Bartlett's Test of Shpericity Chi-square
Human Capital	05	.774*	633.645
Structural Capital	06	.805*	727.234
Relational Capital	05	.752*	543.910
Business Process Capability	10	.870*	1529.3255
Innovative Performance	05	.782*	657.835
Overall Performance	08	.875*	2171.6235

*, ** and *** represents the significance level at 0.1%, 0.5% and 0.10% respectively

Kline, (2010) argues that discriminant validity refers to items that are used to measure a constructs unable to evaluate other unrelated constructs. Keeping in view, this study attempts to use Fornell and Larcker's framework, which suggests that AVE should be greater than squared correlation of constructs in order to establish the discriminant validity in the measurement model. Table 3 indicates the results of discriminant validity. The values given in italics are AVE and off-diagonal values denote the squared correlation among the constructs. It is

apparent from table 3 that values presented in diagonal i.e. AVE is greater than their respective values; hence measurement model confirms the existence of discriminant validity. Hence both table 1 and 2 indicates the well existence of convergent and discriminant validity for further hypotheses testing.

TABLE 3

Discriminant Validity

Constructs	HC	SC	RC	BPC	IP	OP
HC	**0.70**	---	---	---	---	---
SC	0.40	**0.66**	---	---	---	---
RC	0.33	0.35	**0.75**	---	---	---
BPC	0.28	0.32	0.45	**0.66**	---	---
IP	0.28	0.32	0.39	0.41	**0.70**	---
OP	0.34	0.36	0.23	0.27	0.41	**0.68**

Table 4 shows the results CFA for overall model fitness. It is obvious that values of absolute, incremental and parsimonious fit measures fall within the cut off values except Normed Fit Index (NFI) which is just below the threshold, however it is still tolerable. Thus table 4 indicates the well fit of the model for further hypotheses testing.

TABLE 4

CFA Results for model Fitness for IC Driven Performance

Fit Indices	Actual Score*	Recommended Values
Absolute fit measures		
$\chi 2$/df	2.004	$\leq$ 2a; $\leq$ 5b
Goodness of Fit Index (GFI)	0.918	$\geq$ 0.90a; $\geq$ 0.80
Root Mean Square Error of Approximation (RMSEA)	0.039	< 0.08a; < 0.10
Incremental fit measures		
Normed Fit Index (NFI)	0.862	$\geq$ 0.90a

Fit Indices	Actual Score*	Recommended Values
Adjusted Goodness of Fit (AGFI)	0.901	≥ 0.90a; ≥ 0.80b
Parsimonious fit measures		
Comparative Fit Index (CFI)	0.925	≥ 0.90a
Parsimony Goodness-of-Fit Index (PGFI)	0.762	The higher is preferred
Parsimony Normed Fit Index (PNFI)	0.759	The higher is preferred

* Presents the score of actual fit indices of CFA model for IC-driven performance using intermediate variables

Table 5 highlights the results of standardized path coefficients of latent constructs for hypotheses testing. For hypotheses H1 to H3, we have examined the impact of all component of IC on overall performance of pharmaceutical sector. Results show that HC, SC and RC positive (β=0.321, β=0.219, β=0.312) and significantly ($p<0.01$) contributes to overall performance. Similarly, for hypotheses H4 to H6 and for H8 to H10 all the IC's constituents positively and significantly influence the intermediate variables i.e. IP and BPC. Further, intermediate variables are also significantly influence the overall performance of pharmaceutical sector.

TABLE 5

Standardized Path Coefficients

Hypotheses	Direction of Relationship	Estimates	*p*-value	Remarks
H1	HC →OP	0.483*	< 0.01	Supportive
H2	SC →OP	0.856*	< 0.01	Supportive
H3	RC →OP	0.312*	< 0.01	Supportive
H4	HC →IP	0.611*	< 0.01	Supportive
H5	SC →IP	1.029*	< 0.01	Supportive
H6	RC →IP	0.284*	< 0.01	Supportive
H7	IP →OP	0.687*	< 0.01	Supportive
H8	HC →BPC	0.568*	< 0.01	Supportive

Hypotheses	Direction of Relationship	Estimates	*p*-value	Remarks
H9	SC →BPC	0.951*	< 0.01	Supportive
H10	RC →BPC	0.187*	< 0.01	Supportive
H11	BPC →OP	0.710*	< 0.01	Supportive

NOTE: * significant at the 0.01 level (2-tailed)

Legends:

HC=Human Capital

SC=Structural Capital

RC= Relational Capital

IP=Innovative Performance

BPC= Business Process Capability

OP=Overall Performance

IV. MEDIATION ANALYSIS

This study employs the four steps Baron and Kenny (1986) framework to examine the role of intermediate variables i.e. innovative performance and business process capability through structural model using AMOS graphics. For examining the mediating role of intermediate variables, first we have examined the direct effect of independent variables i.e. IC's components on overall performance which is statistically positive (β=0.321, β=0.219, β=0.312) and significant ($p<0.01$) thus confirms the first assumption of mediation analysis as suggested by (Baron and Kenny 1986). Second, we have evaluated the results of independent variables on both mediating variables and further impact of mediating variables on dependent variable has been examined in order to meet the existence of second and third assumption of Baron and Kenny's typology. Finally, we have measured the indirect effect of independent variables i.e. HC, SC and RC on dependent variable through the intermediate variables in order to set the fourth assumption of Baron and Kenny framework. Table 6 indicates the results of IC's components on overall performance using business process capability and innovative performance as intermediate variables. It is obvious that direct effect of HC, SC and RC (0.483 to 0.264, 0.856 to 0.466 and 0.312 to 0.185 respectively) reduces substantially but still remain significant thus suggesting that business

process capability partially mediates the relationship for IC driven performance. Nevertheless, innovative performance also partially mediates the relationship for IC driven performance because direct effect of IC's components reduces (0.483 to 0.249, 0.856 to 0.411 and 0.312 to 0.185 respectively).

TABLE 6

Indirect Effect of IC's Components on Overall Performance via Business Process Capability and Innovative Performance as a Mediator

Variables	B	S.E	C.R	P-value	Result
HC-->OP	.264*	.049	5.407	0.01	Significant
HC-->BPC	.541*	.053	10.186	0.01	Significant
BPC-->OP	.457*	.070	6.488	0.01	Significant
Variables	B	S.E	C.R	P-value	Result
SC-->OP	.466*	.098	4.771	0.01	Significant
SC-->BPC	.447*	.079	5.636	0.01	Significant
BPC-->OP	.943*	.111	8.485	0.01	Significant
Variables	B	S.E	C.R	P-value	Result
RC-->OP	0.185*	0.039	6.548	0.01	Significant
RC-->BPC	0.175 *	0.034	5.143	0.01	Significant
BPC-->OP	0.131*	0.030	3.683	0.01	Significant
Variables	B	S.E	C.R	P-value	Result
HC-->OP	.249*	.048	5.177	0.01	Significant
HC-->IP	.482*	.065	7.435	0.01	Significant
IP-->OP	.249*	.048	5.177	0.01	Significant
Variables	B	S.E	C.R	P-value	Result
SC-->OP	.411*	.092	4.446	0.01	Significant
SC-->IP	1.054*	.116	9.045	0.01	Significant

Variables	B	S.E	C.R	P-value	Result
IP-->OP	.467*	.071	6.619	0.01	Significant
Variables	B	S.E	C.R	P-value	Result
RC-->OP	0.122*	0.032	3.856		Significant
RC-->IP	0.065**	0.021	2.704	0.01	Significant at .05
IP-->OP	0.165 *	0.031	4.143	0.01	Significant

NOTE: *significant at the 0.01 level (2-tailed), **significant at the 0.05 level (2-tailed)

V. DISCUSSION AND SUGGESTIONS

Literature has extensively discussed the positive connection of IC with firms' performance. However, in ever-changing environment, how does business process capabilities and innovative performance performs a role of a bridge was largely unaddressed in available academic research. Keeping in view as depicted in Figure 1 given in appendix, the findings of the study has achieved the twofold objectives. First, confirms the direct effect of independent variables on dependent and second, tests the indirect effect of independent variables through mediating variables. The results of the study postulate that intellectual capital resources are basically knowledge resources provides a constructive foundation for IC-driven performance through mediating role of business process capabilities and innovative performance. According to knowledge based view (KBV), IC is an important driver for knowledge creation, sharing and value creation process (Marr *et al*., 2004; Kaplan and Norton, 2004a).

In terms of findings of the study all the components of IC reveal significant and substantial direct effect on performance (β=0.483; β= 0.856 and β= 0.312 respectively). These findings of the study are in align with recommendations of prior research (Grover and Davenport, 2001; Gray and Meister, 2004). Intellectual assets are primarily considered as the raw inputs to get synergies of organization performance. Based on RBV, recent literature on strategic human resource management implies that HC is a strategic valuable resource to provide core competency and sustainable performance (Prahalad and Hamel, 1990; Barney, 2001; Ferratt *et al*., 2005). It tends to provide competitive strategy if the firms

proper configure it to develop its employment programs (Ferratt *et al*., 2005). Firms should also need to pay more attention towards embedded structural capital in terms of procedures, routines and systems in order to channeled IC properly into organizational mechanisms. Further, firms need to construct the sound strategic alliances with stakeholders to harvest the superior IC-driven performance. Hence, all three components of IC have different nature of effects on performance, however practitioners need to work together in order to configure the IC to achieve the desired performance outcomes.

In terms of mediating role of business process capability, the results of study suggest that business process capability partially mediates the relationship for IC-driven. This implies that organization with ample intellectual resources tends to strengthen the business process capabilities in terms of outside-in, inside-out and spanning capabilities which further facilitates for IC-driven performance. Like previous studies, this study is also consistent with (Haas and Hansen, 2005; Helfat and Peteraf, 2003), thus indicating business process capability is an important mediator to initiate the IC-driven performance. From a practical perspective, this study implies that premise process capabilities such market demands, effective logistics and manufacturing processes, customer relationship management significantly augment the overall performance as aggregate measure of business process capability which further partially mediates the IC-driven performance. Further, this piece of research suggests that managers should pursue process capability in order to get dynamic competitive positioning as driver of financial and non-financial performance.

With respect of mediating role of innovative performance, this study tends to find that innovative performance partially mediates the relationship for IC-driven performance. The findings of the study highlights that all three components of IC are positive (β=0.611; β=1.029; β=0.284) and significantly related with innovative performance which is consistent with (Martín-de-Castro *et al*., 2011; Luo, 2003; Widener, 2006). This study implies that in today's rapidly dynamic environment supportive human capital e.g. high of education, expertise and skills tends to improve cognitive abilities of employees which not only improves the entrepreneurial skills and capabilities but also help to govern the business operations smoothly which in turns to increase the

innovative performance of organization. Positive connection between relational capital and innovative performance infers that better and closed embedded relations with customers; more specifically with suppliers in terms of manufacturing firms help to improvise new products with minimum cost which tends to influence the innovative performance of firms. These findings are also somehow consistent with (Batjargal, 2003). Finally, in terms of structural capital and innovative performance, the findings of study are consistent with (Bontis, 1998) which submits that strong and unique structural capital in terms of effective routines, procedures and processes provide a potential source for innovative performance which tends to help in achieving superior performance outcomes.

LIMITATIONS AND FUTURE DIRECTIONS

Notwithstanding the substantial theoretical and practical implications, this study also suffers from few limitations which needs to be addressed and calls for future research directions. First, this study is based on cross sectional research design; however, future research needs to be focused on longitudinal data in order to address the time lag effect of data. Second, this study only explores the role of business process capability and innovative performance for IC-driven performance, however with many other context specific variables such as knowledge management strategy (e.g. human oriented and system oriented strategy) and knowledge management capability (e.g. knowledge infrastructure and knowledge process) are not addressed. New research studies need to be focused on these factors in order to get comprehensive understanding of the model.

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APPENDIX

Results of Path Analysis