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Effects Of Intellectual Capital On Organizational Performance: The Mediating Role Of Performance Measurement System

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Abstract
Purpose: The primary goal of this study is to empirically analyze the influence of innovative culture and trust on intellectual capital and examine the impact of intellectual capital on organizational performance through the mediation effect of the performance measurement system in the aviation sector of Pakistan.
Methodology: The target population of the study comprises ground-level and aircraft staff from the aviation sector of Pakistan. The convenience sampling technique is used to collect the data. The pre-structured questionnaire is used to gather data is an indication that this is a quantitative study. SEM is used to measure the hypothesized model.
Findings: Using SEM in AMOS v22, the outcomes of the study show that organizations can efficiently improve their non-financial performance by measuring the main drivers of IC (i.e., trust and innovative culture).

Keywords: Intellectual capital, Knowledge resource, Intangible resources, Performance measurement system, Organizational performance, Trust, Innovative culture, Aviation sector

1. INTRODUCTION

In the contemporary era of globalization, almost every organization faces the challenges of managing knowledge resources as all the economic activities are connected with the creation, implementation, and expansion of knowledge resources. Intellectual capital (IC) is the principal strategic intangible factor of the knowledge-based economy. An American economist, Galbraith, coined the word intellectual capital in 1969.
The standard definition of IC is debated and not decided yet (Hussi and Ahonen, 2002; Mayo, 2001), and in 2001, Lev comprehensively defined IC as a strategic resource that levered the

value of the firm, and that has been driven by innovation, employees' activities, and specific plans. The modern researcher defined IC as it is the integration of intangible knowledge resources by the firms through employees' skills, experiences, information, intrinsic and extrinsic motivation, relationships with other stakeholders, networking, the procedure of the organization, and systematic authorization of knowledge through databases (Bejinaru, 2017; McDowell *et al.*, 2018).

IC has been considered research focused topic for the last three decades; several studies have found the importance of IC as it drives the economic growth of domestic and global firms (Bontis, 1998; Bontis *et al.*, 2000; Bontis *et al.*, 2005; Sharabati *et al.*, 2010).

The scope of this study is unique for mainly four reasons; first, it is hard to comprehend accurate and precise conceptualization of the intangible assets due to their multidimensional nature (Szulanski, 2000). Despite the abundance of studies conducted on IC still, the theory and relevant literature seem to be incapable of explaining IC role in the organization and the effect of intangible assets on organizational performance (OP). This study encompasses the comprehensive concept of IC, two driving forces (antecedent variables) of IC, i.e., innovative culture and trust, are examined to investigate their effects on IC.

Kaplan and Norton (1996, 2001) explained that, second, OP is significantly affected by intangible resources and intangible assets rarely affect the OP directly. Additionally, IC may affect OP through the mediation of the performance measurement system (PMS). So it has worth studying the mediation impact of PMS in the connection between IC and OP. Third, every organization desires to be innovative and wants continuous improvement in products and services over to their competitors and enables the organization to develop and adopt effective strategies and processes through unique knowledge resources (Zulu-Chinsanga *et al.*, 2016). Based on the knowledge resources of IC, innovation is the fundamental strategy to leverage its performance (Andries & Czarnitzki, 2014).

Although many studies are available in the literature, which examine the connection between IC and innovation, the current study is unique as innovative culture (IOC) is investigated as an antecedent variable to IC. IOC is characterized by organic external orientation, creativity, innovation, growth, the flexibility of values (Oh & Han, 2020).

Fourth, the IC concept is not well renowned in the aviation sector, particularly in under-developed countries like Pakistan. The aviation sector is an abundant basis of the physical capital as well as the intellectual capital. Innovation and technical knowledge is a crucial strength of this sector. It has prominent knowledge-based economy characteristics because its valuable assets are its distinctive procedures, trained workers, and technology advancement to provide qualitative service to its customers. Following the Pakistan Economic Survey (2020), it performs a significant catalyst role to boost production and advancement of other industries.

The aviation sector is a rapidly growing industry of Pakistan as, during FY17, the total number of passengers in Pakistan was reported at 18.2 m (FY16: 17.2 m), an increment of 5% compared to the previous year. The percentage of international passengers in overall passenger traffic increased to 80% (FY14: 75%), while the remaining 20% consisted of domestic passengers (JCRVIS, 2018). The expected total revenue of the aviation sector of Pakistan is $832.2 billion in 2020 (JCRVIS, 2013).

2. LITERATURE REVIEW

IC field is grateful to the researchers who have made the basis of organization theory stronger (Siegel, 2004). Researchers like Itami and Roehl (1991); Roos and Roos (1997); Edvinson and Malone (1997) should be acknowledged for providing the information related to IC.

The contingency theory is related to the organizational internal and external factors that highly impact the efficiency of the organizations. Organizations achieve effectiveness by establishing organizational strategies, the atmosphere of the organizations, firm size, organization structures (Donaldson, 2001). The operational environment provides the basis for contingencies that affect IC components; the features of the organizations. There must be a good fit between IC components and organizational contingencies if they want to survive in the market for a long time. The past literature represented that IC has affected organizational performance.

The resource-based view (RBV) was originally given by Penrose (1959). This theory has the assumption that the assets and competencies of the organizations are helpful to determine a sustainable competitive advantage. RBV includes tangible assets, just like plant and equipment, furniture and fixture, land, capital, and work-in-process. Roos and Roos (1997) said that IC is considered a significant variable in achieving a competitive advantage.

In this modern era, business organizations are shifting from the production basis to the knowledge-centered economy. Knowledge-based view (KBV) is the further extension of RBV. Knowledge is considered one of the most significant sources of environmental, social, financial, and cultural development. In the knowledge-centered economy, all the activities are related to information and knowledge formulation, implementation, and expansion. The knowledge-based perception is a mixture of management theory, and it is considered an independent parts structure (Cole, 2004). There is a mixed combination of IC and its components with the organizational performance in various industries.

Multifarious studies have been conducted in various information-concentrated businesses to study IC role and its association with OP. Most research-concentrated domains are government-owned corporations in South Africa which are registered in Jonesburg Stock Exchange (JSE) presented by Stainbank and Firer (2003), insurance sector of Ghana presented by Oppong *et al.* (2019), agriculture business presented by Scafarto *et al.* (2016), banking and finance presented by Joshi *et al.* (2013), and pharmaceuticals presented by Khalique *et al*. (2011); Mehralian *et al.* (2012); Vishnu and Gupta (2014).

Makki *et al.* (2008) studied IC through analyzing data of six years of those companies which are listed in the Lahore Stock Exchange (LSE) in Pakistan and found that IC had a great role in cement, oil and gas companies, and chemical industry, while the banking sector and public companies had the minimal IC contribution. Researchers evidenced that IC is a pivotal force to leveraging performance and acting as an agent to increase the value of the firm (Edvinson & Malone, 1997; Riahi-Belkaoui, 2003). Ahangar (2011) found a significant association between the IC and the OP in Iran through research.

Various studies conducted in Malaysian and Canadian organizations found a significant positive relationship between IC and OP (Miller *et al.*, 1999; Bontis *et al.*, 2000). Guthrie (2001) elaborated the direct positive interconnection between IC and OP. Pal and Soriya (2012) conducted a study in the Indian textile and pharmaceutical industry and verified the positive relationship between IC and profitability in the organizations. IC enhances organizational performance and plays a significant role in getting competitive advantages over competitors

(Rennie, 1999). Sadq *et al.* (2020) found a strong relation between IC and trust in Korek Telecom Company.

Conceptual Framework

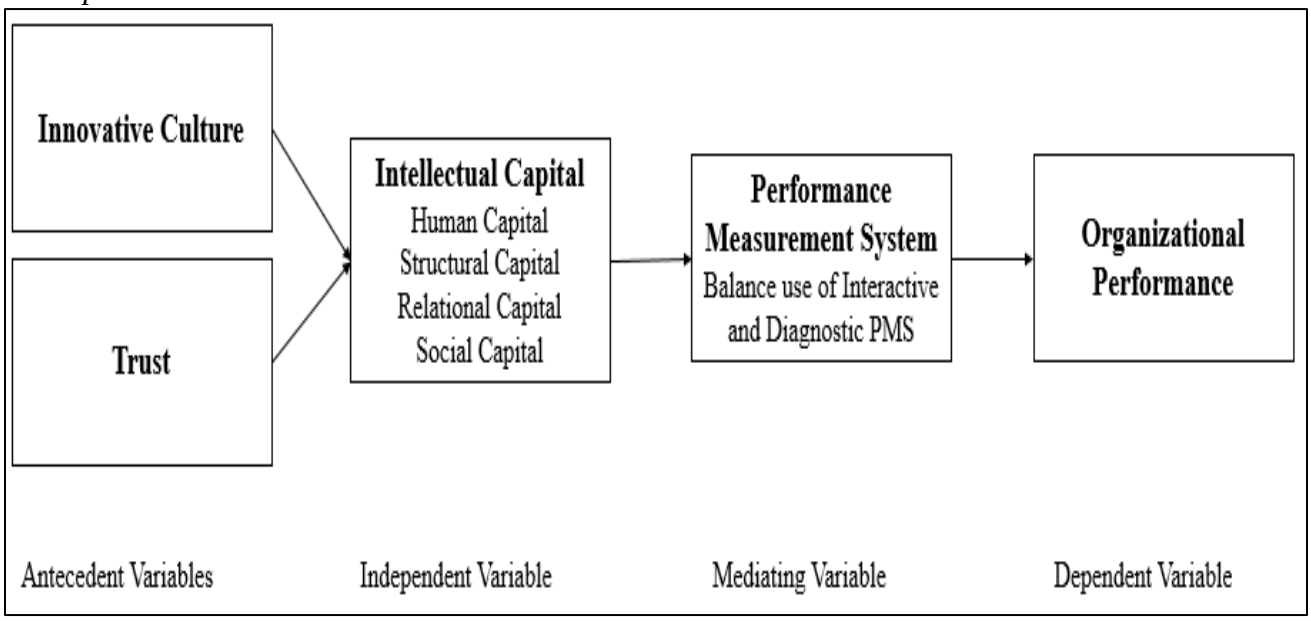

Figure 1-Conceptual framework related to factors affecting Organizational performance

Hypotheses of the study

Hypotheses of the study are explained below:

Innovative Organizational Culture

There are two essential parts of culture:

- To be an innovative culture without having a fear of failure.
- Teamwork: To be an innovative culture and accepting all the mistakes are the indications for an innovative culture.

There are two major dimensions of the organizational culture:

- An internal-external culture.
- An organic-mechanistic culture.

Moreover, there are four further organizational cultures: hierarchy, adhocracy, clan, and market. The innovative or adhocracy culture has a central position in that are entities having a dominant innovative culture are more successful in boosting up creativity, workers' adaptability, risk, and innovation (O'Cass & Ngo, 2007). This study applies the innovative culture and observes its impact on IC, PMS, and OP in knowledge-based and technology-based industries such as the aviation sector of developing countries, i.e., Pakistan. So based on these arguments, the following hypotheses are framed:

H1: *IOC is associated with the level of IC significantly.*

H2: *IOC is associated with OP significantly.*

H3: *IOC is associated with PMS significantly.*

Trust

According to Lin (2007), trust is a primary intervening factor since it is associated with exchanging all the information about the innovation. Mistrust or suspicion among peers will

reduce the tendency to share personal information. It refers that that IC management depends on trust (Isaac *et al.,* 2010). Mistrust among the peers will bound personal data sharing, which shows the creation and development of IC based on trust. Henceforth, the following hypotheses are developed based on the above arguments:

H4: *Trust is related to the high level of IC significantly.*

H5: *The level of trust is connected with OP significantly.*

Intellectual Capital and Organizational Performance

Researchers believe that IC is a fundamental factor for improving performance, as Riahi-Belkaoui (2003) showed a significant effect of IC on OP. Edvinson and Malone (1997) stated that IC plays a mediator role in the value creation of business organizations and positively associates OP. IC helps boost value creation and high efficiency of organizations (Marr *et al.,* 2003). So the following hypotheses are developed based on the above arguments:

H6: *High level of IC related to OP significantly.*

H7: *IC mediates the association between IOC and OP.*

H8: *IC mediates the association between trust and OP.*

Intellectual Capital and Performance Measurement System

Henri (2006) described that the balanced use of PMS, including diagnostic and interactive, produces more efficient and more effective PMS, which increases intellectual skills and capabilities of the stakeholders, i.e., knowledge, entrepreneurship, innovation, and learning. Recently, knowledge-based organizations and economies use strategic resources such as IC and PMS to secure the maximum benefits. Henceforth, the following hypotheses are developed based on the above arguments:

H9: *IC is associated with the PMS significantly.*

H10: *IC mediates the association between IOC and PMS.*

Performance Measurement System and Organizational Performance

It is a rational view that the balanced use of PMS has a positive impact on performance, and the balanced use of PMS can be assumed a capability for business organizations. (Henri, 2006). Henceforth, the following hypothesis is developed:

H11: *PMS is associated with the OP significantly.*

Mediating Role of Performance Measurement System

PMS plays the role of an accelerator in business dealings. If the management collects suitable, significant, and relevant information, PMS becomes a primary planned resource (Widener, 2006). Various studies verify that mediation of PMS exists (Joiner *et al.,* 2009; Jusoh, 2008; Widener, 2006). Henceforth, the following hypotheses are developed:

H12: *PMS mediates the association between IC and OP.*

H13: *PMS mediates the association between IOC and OP.*

3. RESEARCH METHODOLOGY

The quantitative method is the most acceptable in social sciences research (Bell & Bryman, 2007). This study follows the quantitative research design. The unit of analysis was individual workers of ground and cabin crew from the aviation sector of Pakistan. The time

horizon of the study endeavor was cross-sectional since the data were gathered in one shot. The study settings were non-contrived. The targeted population of the research was "employees from the aviation sector of Pakistan", working in Islamabad, Lahore, and Karachi. The sample size determined in connection with item response theory, 450 questionnaires were distributed through multiple sources and returned a total of 298 filled questionnaires from the aviation sector of Pakistan; hence the response rate was 66.22%. The population was unknown, so a non-probability sampling technique was used, known as convenience sampling. The nature of data is primary as data is gathered through a questionnaire.

Measures

A Likert scale of 5-point was used to measure the variables. The scale ranges from "1 (*strongly disagree*) to 5 (*strongly agree*)."

IC: The specific IC model is based on the tripartite structure of relational, human, and structural capital (Andries & Czarnitkzi, 2014; Ricceri, 2008) and social capital as the fourth component of IC. IC relates to the combination of intangible knowledge resources by the firms through employees' skills, experiences, information, intrinsic and extrinsic motivation, relationships with other stakeholders, networking, organization procedures, and systematic authorization of knowledge through databases (Bejinaru, 2017; McDowell *et al.*, 2018).

For measuring human, structural, and relational capital, 6, 9, and 10 items, respectively, were used from the research study conducted by Tayles *et al.* (2007); these mentioned items were originally suggested by past studies like Reed (2000); Usoff *et al.* (2002). Four items were taken from Subramaniam and Youndt (2005) to measure social capital. A total of 29 items were measured.

IOC: Innovative culture is characterized by organic external orientation, creativity, innovation, growth, the flexibility of values, and organizational structures aiming to cope with the increasing challenges of the market and environment (Norbom & Lopez, 2016; Oh & Han, 2020). For measuring the IOC, 11 items were acquired from Nieboer and Strating (2012).

Trust: Trust is regarded as "expectations, assumptions, or beliefs about the likelihood that another future action will be beneficial, favorable or at least not detrimental" (Robinson, 1996). For measuring the trust, eight items were taken from (Huff & Kelley, 2003; 2005).

PMS: According to Simons *et al.* (2000), the measurement of OP involves monitoring the implementation of corporate strategy by diverting actual results from the expected results. PMS has been operationalized into two aspects as the balanced use of diagnostic and interactive PMS is investigated. A 12-item scale was used given by Henri (2006) to measure PMS.

OP: The current study measured OP as a non-monetary performance of the organization. In this perspective, six items proposed by Gupta and Govindarajan (1984) and Govindarajan (1988) were applied to measure it.

4. RESULTS

The variables were quantified after entering data into two soft-wares; SPSS and AMOS.

Demographic characteristics of the participants

The total size of the sample of the study was 298 respondents. The majority of the participants were male, that was, 260 (87.2%), and females were 38 (12.8%). Referring to the age, the majority of the respondents were having the age bracket of 20-29 years, that was 147

(49.3%), referring to the qualification, majority of the respondents were having 16 years of qualification, that was 160 (53.7%), majority of the respondents were affiliated with private institutes, that was 118 (60.4%), and the majority of the respondents spent 3-5 years in their respective organizations, that was 86 (28.9%).

Table 1-*Correlation matrix*

Variables of the study	1	2	3	4	5
1-Innovative Culture	1				
2-Trust	.643**	1			
3-Intellectual Capital	.695**	.652**	1		
4-PMS	.631**	.618**	.565**	1	
5-Organizational Performance	.596**	.587**	.669**	.607**	1

Note: ** "Correlation is significant at the 0.01 level (2-tailed)"
* "Correlation is significant at the 0.05 level (2-tailed)"

Table 1 depicts that innovative culture is correlated with trust positively (r = .643, p < .01), it is correlated with intellectual capital positively (r = 695, p < .01), it is correlated with PMS positively (r = .631, p < .01) it is correlated with OP positively (r = .596, p < .01). Trust is correlated with intellectual capital positively (r = 652, p < .01), it is correlated with PMS positively (r = .618, p < .01) it is correlated with OP positively (r = .587, p < .01). Intellectual capital is correlated with PMS positively (r = .565, p < .01) it is correlated with OP positively (r = .669, p < .01). PMS is correlated with OP positively (r = .607, p < .01).

Table 2-Reliability Analysis

Variables of the study	Cronbach's Alpha (α)
IOC	.902
Trust	.888
IC	.945
PMS	.917
OP	.796

Note: IOC = Innovative culture, IC = Intellectual capital, PMS = Performance measurement system, OP = Organizational performance

Variables of the study	Minimum value	Maximum value	Mean	Standard Deviation	Skewness value	Kurtosis value

IOC	1.15	5.00	3.466	.742	-.354	-.076
Trust	1.20	5.68	4.155	.775	-.640	.671
IC	1.29	5.29	3.993	.674	-.614	.484
PMS	.93	4.28	3.270	.548	-1.014	1.830
OP	1.95	5.49	4.101	.738	-.417	-.028

Table 2 represents the reliability of the data. Cronbach (1951) stated that all the values of α should be greater than 0.70 to prove that the data were reliable. Cronbach's Alpha for IOC is 0.902, trust

Table 3-Descriptive and Normality analysis

is 0.888, IC is 0.945, PMS is 0.917 and OP is 0.796. Since all the Cronbach's Alpha values are greater than 0.70, so the data was proved reliable for all the variables of the study.

Note: IOC = Innovative culture, IC = Intellectual capital, PMS = Performance measurement system, OP = Organizational performance

Table 3 shows the minimum and maximum values for all the variables of the study, descriptive statistics, and data normality. The mean values for all the variables were lying from 3.2698 to 4.1551, showing that most of the respondents were supposed to be neutral or agree in their responses. All the standard deviation values are less than 1 showing the fitness of the model. The data normality was tested with the Skewness and Kurtosis method (Byrne, 2010). Data were distributed normally following the Skewness and Kurtosis method with the values of ±2 and ±3, respectively.

Structural Equation Modelling

For further analysis, missing values, data normality test, multicollinearity, and homoscedasticity were checked. After meeting all multivariate assumptions, we prepared a measurement model for checking the good fit of the model, and then data were run for SEM. AMOS v22 was used to perform SEM.

Model fit indices were assessed through various parameters such as "Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA) and Goodness of Fit Index (GFI)." The fitness of proposed measurement model was proved to be acceptable CFI = .937, GFI = .852, RMSEA = .044. It was observed that all model fit indices were proved to be standardized, and the measurement model was proved to be fit one by the suggested criteria of Hu and Bentler (1999).

Measurement Model

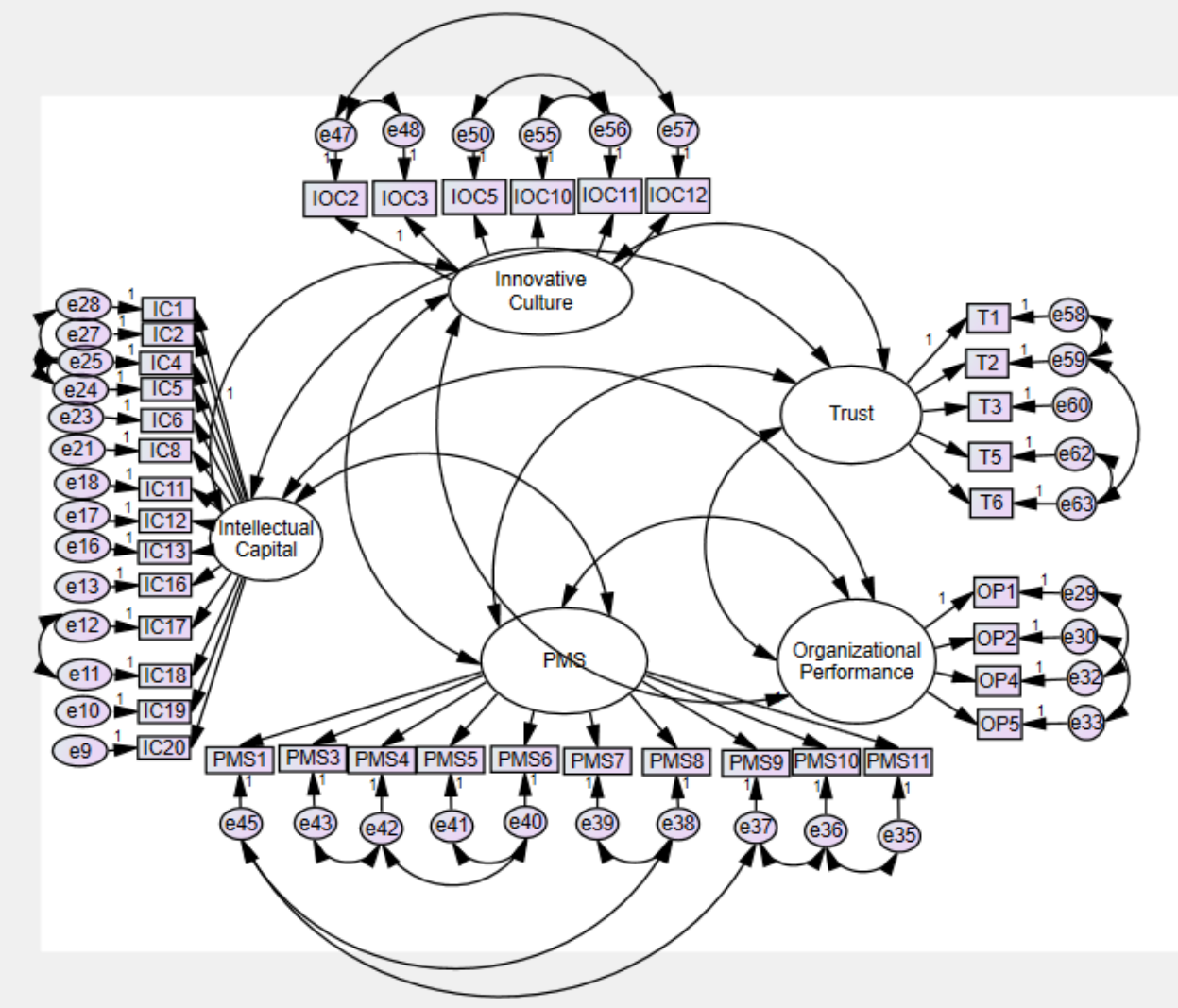

Figure 2-Measurement model consisting of all the constructs

Structural Equation Model

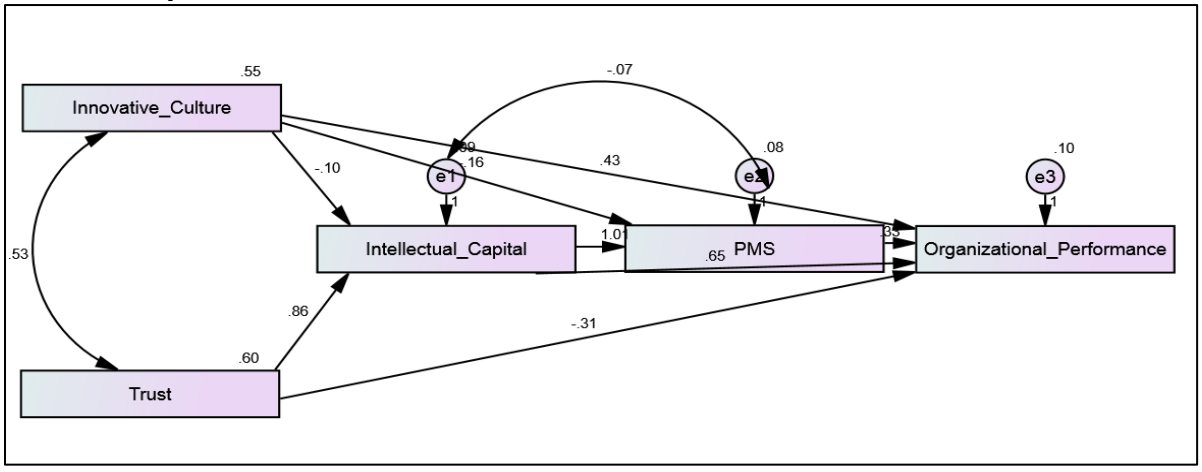

Figure 3-Structural/Path model

Table 4-Standardized regression weights for hypothesis testing

Direct Effects			*β*	*S.E.*	*t*-statistic	*p*	Hypotheses
IOC	→	IC	-.113	.063	-1.628	.103	Not Accepted
Trust	→	IC	.995	.060	14.327	***	Accepted
IC	→	PMS	1.246	.066	15.434	***	Accepted
IOC	→	PMS	-.212	.053	-2.944	.003	Accepted
PMS	→	OP	.246	.100	3.334	***	Accepted
IOC	→	OP	.434	.071	6.076	***	Accepted
Trust	→	OP	.-.325	.103	-3.000	.003	Accepted
IOC	→	OP	.596	.069	9.502	***	Accepted

Note: *** $p < .001$, ** $p < .01$, *$p < .05$, IOC = Innovative culture, IC = Intellectual capital, PMS = Performance measurement system, OP = Organizational performance

Analysis of the standardized parameter estimates did not support H1. Hence proved that innovative culture is not related to the level of intellectual capital significantly. H2 was fully supported that innovative culture is related to organizational performance significantly. H3 was also fully supported that the innovative culture is correlated with PMS significantly.

In support of H4, the level of trust is connected with a high level of IC significantly. Supporting H5, the level of trust is connected significantly with OP. In supporting H6, a high level of IC is associated significantly with OP. Supporting H9, IC is connected significantly with the PMS. In supporting H11, the PMS is significantly connected with OP.

Table 5-Mediation analysis

Paths	Without Mediation (Direct *β)*	With Mediation (Direct *β)*	Indirect *β*	Types of Mediation Observed
Trust→IC→OP	-0.310**	-0.325**	0.898**	Partial Mediation
IOC→IC→PMS	-0.156**	-0.212**	-0.141(ns)	No Mediation
IOC→PMS→OP	0.431***	0.434**	-0.154**	Partial Mediation
IC→PMS→OP	0.652***	0.596**	0.307**	Partial Mediation
IOC→IC→OP	0.431***	0.434**	-0.154**	Partial Mediation

Note: ns = non-significant, ***$p < .001$, **$p < .01$, *$p < .05$, IOC = Innovative culture, IC = Intellectual capital, PMS = Performance measurement system, OP = Organizational performance

For mediation analysis, bootstrapping technique was used. H7 proposed that IC mediated between innovative culture and OP ($\beta = -.154$, $p < 0.01$). H8 proposed that IC mediates the association between trust and OP ($\beta = .898$, $p < 0.01$). H10 did not support that IC mediated the association between IOC and PMS ($\beta = -.141$, $p > 0.05$). H12 proposed that PMS mediated the association between IC and OP ($\beta = .307$, $p < 0.01$). H13 proposed that PMS mediated the association between IOC and OP ($\beta = -.154$, $p < 0.01$).

5. DISCUSSION

The results represent that innovative culture is not performing any substantial part concerning IC advancement, particularly in the aviation sector of Pakistan; that is why we rejected H1. In general, it is essential to explain the IOC to comprehend the information flow within the business organization. Chaminade and Johanson (2003) stated that few cultural values like innovative culture are linked to new experiments with inventions, unique ideas, fear of uncertainties, and continuous improvement is not dominant due to type of business and some specific services. For instance, innovating the aviation sector is not a convenient task at all, and the employees are not allowed to take a risk to invent unique things and exercise uniqueness. It looks like that innovative culture is not welcomed in the aviation sector of Pakistan to boost IC and other knowledgeable and experienced strategic means. The corporations also require to focus on the grey aspect of all the factors of culture. Dombrowski *et al.* (2007) mentioned that they need to employ the culture for employees at all levels to boost innovation.

It is argued by Hurley and Hult (1998) that IOC is having a substantial impact on OP. In this study, there is a significant interconnection between IOC and OP. According to Carrillat *et al.* (2004), innovative culture ensures uniqueness and innovation, and it enables the business organization to be market-driven and boost up the performance level. Calantone *et al.* (2002) empirically believe that there is a significant impact of uniqueness on OP. The study endeavor empirically confirmed that an innovative culture is considered a significant originator variable to increase OP supporting H2. These outcomes are constant with the past studies like Deshpande and Farley (2004); Leisen *et al.* (2002); O'Cass and Ngo's (2007) studies. For the first time, this research study measures the connection between IOC and PMS. So, we ascertain that IOC is related to PMS significantly supporting H3. It depicts that if the management and employees exercise a strong innovative culture, it will help the management execute PMS efficiently. It was theorized that trust is associated with IC and OP significantly. The outcomes prove that there is an intense relationship between trust and IC. Henceforth, H4 is accepted and concluded that a higher level of trust is significantly correlated with IC.

Trust is a fundamental factor in motivating IC advancement in the aviation sector of Pakistan. As Pirson and Malhotra (2008) explained, corporations that consider the investor's trust unimportant are not effective in the market and usually have a short time. The result is entirely consistent with the past literature Bontis *et al.* (2009); Isaac *et al.* (2010); Lin (2007); Pirson and Malhotra (2008). The staff members having low trust levels place obstacles so that IC can be leveraged effectively (Bontis *et al.*, 2009). Sadq *et al.* (2020) found a significant relation between IC and trust in "Korek Telecom Company." OC is the essential driver of the OP. The higher level of trust among the investors boosts up OP supporting H5. Roos *et al.* (2007) stated that the IC and its major four elements perform a substantial role in guaranteeing the organizational performance in the current era. As per Sharabati *et al.* (2010), past researchers proved that investing in IC improves the economic performance of the corporations.

Following past studies, this research shows the significant connection between IC and OP. H6 is accepted that a higher level of IC is positively interconnected with OP. Knowledge-based organizations are comparatively more successful than non-knowledge-based corporations since knowledge-based corporations are more competitive than others (Youndt *et al.*, 2004). Intense competition will lead to better execution of strategic resources; as a result, OP boosts up. H7 proposed that IC partially mediated the association between IOC and OP as all paths are significant.

We sum up that H8 showed partial mediation of IC between trust and OP. Widener (2006) examined that PMS plays a significant mediation role between the crucial strategic resources and OP. H9 explored the relationship of IC with the PMS in the aviation sector of Pakistan. H9 is accepted that a high level of IC is associated with PMS significantly. H10 is not supported since IC does not play the mediating variable role between IOC and PMS. H11 postulated whether PMS is related to OP in the Aviation Sector of Pakistan. There is a strong association between PMS and OP of the Canadian manufacturing sector (Henri, 2006). H11 is accepted that is the PMS is associated with OP significantly. This demonstrates that using PMS more logically seems to be the best-concerning OP in the aviation sector of Pakistan. H12 is supported and summarized that PMS partially mediated the connection between IC and OP. Concerning the current research, since there is partial mediation as all the direct paths and indirect paths for H13 are significant, we summarize that PMS mediated the association between IOC and OP.

Implications

This study provides directions to the managers for measuring the drivers of IC effectively to raise the level of IC as well as the level of PMS with an intent to increase the OP and also enhances the abilities of management since it is related to the effective management of knowledge-based resources to get the "sustainable competitive advantage" and superior OP. It directs the administration to achieve economies of scale properly through proper allocation of the intangible resources. This study indicates that a high level of trust and strong IOC satisfied the workers, and accordingly, they work hard, try to be innovative and creative, which increases the level of IC and OP. This study is a valuable addition to the existing literature of IC and OP. It introduced the latest aspects and methods through which the scholars and researchers can pay full attention to IC and research related to Management Accounting in the aviation sector of the developing countries. This study also provides a wide insight into IC, PMS, OP, trust, and IOC in the aviation sector of Pakistan.

Limitations and Future Directions

Data is collected from employees; therefore, the chances of biases exist. All the stakeholders are not involved in this study. The data is collected at one point in time. All factors were considered once, which did not specify the long-term impact in a more specific way towards IC, OP, and PMS. Due to "COVID-19 and lockdown", convenience sampling was applied to collect data from all over the country, affecting the overall generalizability feature of the study. For the studies that will be conducted in the future, other PMS dimensions can be utilized like strategic decision making, learning and incentives, internal control system, promotion policies, legitimization, belief, and boundary systems of control. And other aspects of culture such as strong and week culture can also be utilized in the future. Comparison of public and private organizations in the scenario of developing countries can also be studied. Future researchers can use the qualitative method instead of the quantitative method to decrease workers' biased behavior. Future studies can also be conducted in the manufacturing sector and the energy sector.

6. CONCLUSION

Lev (2001) stated that intellectual capital and some other significant strategic resources are getting extreme significance for business organizations to get the "sustainable competitive advantage". The outcomes of this research exhibit that business organizations should invest in their vital strategic resources sensibly to get a sustainable competitive advantage and for performing in a better way. This research uncovers that IC management is significant, but the effective execution of vital driving forces, for instance, IOC and trust, are also essential to be considered. In this scenario, this study proves the assumptions of contingency theory, KBV, and RBV. The study mentions that if any business organization manages its essential strategic resources effectively, it will strengthen the association within and outside investors, enhancing their confidence and inspiring them to work harder, ultimately increasing OP. This study also shows that, in the aviation sector, the employees and management often prevent risk and try innovative things and experiments due to the risk concerned with passengers' lives. In such an innovative and knowledge-intensive sector, there is a dire requirement to invest in IC sensibly and manage IC to gain positive results in sustainable competitive advantage and OP.

7. REFERENCES

[1] Ahangar, R. G. (2011). 'The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company', *African journal of business management*, 5(1), pp 88.
[2] Andries, P. and Czarnitzki, D. (2014). 'Small firm innovation performance and employee involvement. *Small business economics'*, 43(1), pp 21-38.
[3] Bejinaru, R. (2017). 'Knowledge strategies aiming to improve the intellectual capital of universities', *Management and Marketing. Challenges for the Knowledge Society*, 12(3), pp 500-523.
[4] Bell, E. and Bryman, A. (2007). 'The ethics of management research: an exploratory content analysis. *British journal of management'*, 18(1), pp 63-77.
[5] Bontis, N. (1998). 'Intellectual capital: an exploratory study that develops measures and models', *Management decision*.
[6] Bontis, N., Bart, C., Isaac, R. G., Herremans, I. M. and Kline, T. J. (2009). 'Intellectual capital management: pathways to wealth creation', *Journal of Intellectual Capital*.
[7] Bontis, N., Bart, C., Nazari, J. A., Herremans, I. M., Isaac, R. G., Manassian, A. and Kline, T. J. (2009). 'Organizational characteristics fostering intellectual capital in Canada and the Middle East', *Journal of Intellectual Capital*.
[8] Bontis, N., Keow, W. C. C. and Richardson, S. (2000). 'Intellectual capital and business performance in Malaysian industries', *Journal of Intellectual Capital*.
[9] Bontis, N., Wu, S., Huang, C. J. and Liu, C. J. (2005). 'Exploration for the relationship between innovation, IT and performance', *Journal of Intellectual Capital*.
[10] Byrne, B. M. (2010). *Structural Equation Modeling with AMOS: Basic Concepts*, Applications, and Programming. Routledge: New York.
[11] Calantone, R. J., Cavusgil, S. T. and Zhao, Y. (2002). 'Learning orientation, firm innovation capability, and firm performance. *Industrial marketing management'*, 31(6), pp 515-524.
[12] Carrillat, F. A., Jaramillo, F. and Locander, W. B. (2004). 'Market-driving organizations: A framework', *Academy of Marketing Science Review*, 5(1), pp 1-14.

[13] Chaminade, C. and Johanson, U. (2003). 'Can guidelines for intellectual capital management and reporting be considered without addressing cultural differences'? *Journal of Intellectual Capital*.
[14] Cole, G. A. (2004). *Management theory and practice*: Cengage Learning EMEA.
[15] Cronbach, L.J. (1951). 'Coefficient alpha and internal structure of tests', Psychometrika, 16, pp 297-334.
[16] Deshpandé, R. and Farley, J. U. (2004). 'Organizational culture, market orientation, innovativeness, and firm performance: an international research odyssey', *International Journal of research in Marketing, 21*(1), pp 3-22.
[17] Dombrowski, C., Kim, J. Y., Desouza, K. C., Braganza, A., Papagari, S., Baloh, P. and Jha, S. (2007). 'Elements of innovative cultures', *Knowledge and Process Management,* 14(3), pp 190-202.
[18] Donaldson, L. (2001). The contingency theory of organizations: Sage.
[19] Edvinson, L. and Malone, M. (1997). 'Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower. New York: HarperBusiness. Studying spirituality and religion in organization', *Journal of Organizational Change Management,* 14(4), pp 335-335.
[20] Govindarajan, V. (1988). 'A contingency approach to strategy implementation at the business-unit level: integrating administrative mechanisms with strategy', *Academy of Management journal,* 31(4), pp 828-853.
[21] Gupta, A. K. and Govindarajan, V. (1984). 'Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation', *Academy of Management journal, 27*(1), pp 25-41.
[22] Guthrie, J. (2001). The management, measurement and the reporting of intellectual capital. *Journal of Intellectual Capital*.
[23] Henri, J.F. (2006). 'Management control systems and strategy: A resource-based perspective', *Accounting, organizations and society,* 31(6), pp 529-558.
[24] Hu, L. t. and Bentler, P. M. (1999). 'Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives', *Structural equation modeling: a multidisciplinary journal,* 6(1), pp 1-55.
[25] Huff, L. and Kelley, L. (2003). 'Levels of organizational trust in individualist versus collectivist societies: A seven-nation study', *Organization science,* 14(1), pp 81-90.
[26] Huff, L. and Kelley, L. (2005). 'Is collectivism a liability? The impact of culture on organizational trust and customer orientation: a seven-nation study', *Journal of Business Research,* 58(1), pp 96-102.
[27] Hurley, R. F. and Hult, G. T. M. (1998). 'Innovation, market orientation, and organizational learning: an integration and empirical examination', *Journal of marketing,* 62(3), pp 42-54.
[28] Hussi, T. and Ahonen, G. (2002). 'Managing intangible assets–a question of integration and delicate balance', *Journal of Intellectual Capital*. Itami, H. and Roehl, T. W. (1991). Mobilizing invisible assets: Harvard University Press.
[29] Isaac, R. G., Herremans, I. M. and Kline, T. J. (2010). 'Intellectual capital management enablers: a structural equation modeling analysis', *Journal of business ethics,* 93(3), pp 373-391.
[30] JCRVIS. (2013). Airline Industry.
[31] JCRVIS. (2018). Airline Industry.

[32] Joshi, M., Cahill, D., Sidhu, J. and Kansal, M. (2013). 'Intellectual capital and financial performance: an evaluation of the Australian financial sector', *Journal of Intellectual Capital*.
[33] Joiner, T. A., Spencer, X. S. Y. and Salmon, S. (2009). 'The effectiveness of flexible manufacturing strategies', *International Journal of Productivity and Performance Management*.
[34] Jusoh, R. (2008). 'Environmental uncertainty, performance, and the mediating role of balanced scorecard measures use: evidence from Malaysia', *International Review of Business Research Papers*, 4(2), pp 116-135.
[35] Kaplan, R. S. and Norton, D. P. (1996). *Translating strategy introduction the balanced scorecard*: Harvard Business School.
[36] Kaplan, R. S. and Norton, D. P. (2001). 'Transforming the balanced scorecard from performance measurement to strategic management: Part I', *Accounting horizons*, 15(1), pp 87-104.
[37] Khalique, M., Nassir Shaari, J. A., Isa, A. H. B. M. and Ageel, A. (2011). 'Relationship of intellectual capital with the organizational performance of pharmaceutical companies in Pakistan', *Australian Journal of Basic and Applied Sciences*, 5(12), pp 1964-1969.
[38] Leisen, B., Lilly, B. and Winsor, R. D. (2002). 'The effects of organizational culture and market orientation on the effectiveness of strategic marketing alliances', *Journal of Services Marketing*.
[39] Lev, B. (2001). Intangibles: Management, Measurement, and Reporting, The Brookings Institution. *Washington DC, USA*.
[40] Lin, C.P. (2007). 'To share or not to share: Modeling tacit knowledge sharing, its mediators and antecedents', *Journal of business ethics*, 70(4), pp 411-428.
[41] Makki, M. M., Lodhi, S. A. and Rahman, R. (2008). 'Intellectual capital performance of Pakistani listed corporate sector', *International Journal of Business and Management, 3*(10), pp45-51.
[42] Marr, B., Gray, D. and Neely, A. (2003). 'Why do firms measure their intellectual capital?', *Journal of Intellectual Capital*.
[43] Mayo, A. (2001). *The human value of the enterprise*: Nicholas Brealey Publishing London.
[44] McDowell, W. C., Peake, W. O., Coder, L. and Harris, M. L. (2018). 'Building small firm performance through intellectual capital development: Exploring innovation as the black box', *Journal of Business Research*, 88, pp 321-327.
[45] Mehralian, G., Rajabzadeh, A., Sadeh, M. R. and Rasekh, H. R. (2012). 'Intellectual capital and corporate performance in Iranian pharmaceutical industry', *Journal of Intellectual Capital*.
[46] Miller, M., DuPont, B., Fera, V., Jeffrey, R., Mahon, B., Payer, B. and Starr, A. (1999). 'Measuring and reporting intellectual capital from a diverse Canadian industry perspective', paper presented at the International Symposium Measuring Reporting Intellectual Capital: Experiences, Issues, and Prospects: OECD, Amsterdam, June.
[47] Nieboer, A. P. and Strating, M. M. (2012). 'Innovative culture in long-term care settings: the influence of organizational characteristics', *Health Care Management Review*, 37(2), pp 165-174.
[48] Norbom, H. M. and Lopez, P. D. (2016). 'Leadership and innovation: informal power and its relationship to innovative culture', *Journal of Leadership Studies*, 10(1), pp 18-31.

[49] Nunnally, J. (2010). Psychometric theory 3E: Tata McGraw-hill education: Tata McGraw Hill Education Private Limited New Delhi.
[50] O'Cass, A. and Ngo, L. V. (2007). 'Market orientation versus innovative culture: two routes to superior brand performance', *European Journal of Marketing*.
[51] Oh, S.Y. and Han, H.S. (2020). 'Facilitating organizational learning activities: Types of organizational culture and their influence on organizational learning and performance', *Knowledge Management Research and Practice*, 18(1), pp 1-15.
[52] Oppong, G. K., Pattanayak, J. K. and Irfan, M. (2019). 'Impact of intellectual capital on productivity of insurance companies in Ghana', *Journal of Intellectual Capital*.
[53] Pal, K. and Soriya, S. (2012). 'IC performance of Indian pharmaceutical and textile industry', *Journal of Intellectual Capital*.
[54] Penrose, E. (1959). 'The Theory of the Growth of the Firm. New York: John Wiley and Sons Inc.', *Penrose, E. T, 1*, pp 1-23.
[55] Pirson, M. and Malhotra, D. K. (2008). Unconventional insights for managing stakeholder trust. *Harvard Business School NOM Working Paper* (08-057).
[56] Reed, K. K. (2000). The dynamics of intellectual capital.
[57] Rennie, M. (1999). 'Accounting for knowledge assets: do we need a new financial statement?', *International Journal of Technology Management*, 18(5-8), pp 648-659.
[58] Riahi-Belkaoui, A. (2003). 'Intellectual capital and firm performance of US multinational firms', *Journal of Intellectual Capital*.
[59] Ricceri, F. (2008). Intellectual capital and knowledge management: Strategic management of knowledge resources: Routledge.
[60] Robinson, S. L. (1996). 'Trust and breach of the psychological contract', *Administrative science quarterly*, pp 574-599.
[61] Roos, G., Pike, S. and Fernstrom, L. (2007). *Managing intellectual capital in practice*: Routledge.
[62] Roos, G., and Roos, J. (1997). 'Measuring your company's intellectual performance', *Long-range planning*, 30(3), pp 413-426.
[63] Sadq, Z. M., Ahmad, B. S., Saeed, V., Othman, B. and Mohammed, H. (2020). 'The relationship between intellectual capital and organizational trust and its impact on achieving the requirements of entrepreneurship strategy (The case of Korek Telecom Company, Iraq)', *International Journal of Advanced Science and Technology*, 29(2), pp 2639-2653.
[64] Scafarto, V., Ricci, F. and Scafarto, F. (2016). 'Intellectual capital and firm performance in the global agribusiness industry', *Journal of Intellectual Capital*.
[65] Sharabati, A. A. A., Jawad, S. N. and Bontis, N. (2010). 'Intellectual capital and business performance in the pharmaceutical sector of Jordan', *Management decision*.
[66] Simons, R., Russ-Eft, D., Preskill, H., Tejada, R., Delgado Negrini, S., Montero Corrales, M. and González, A. (2000). *Performance measurement and control systems for implementing strategy*: IICA, Tegucigalpa (Honduras) Instituto Nacional Agrario, Tegucigalpa
[67] Stainbank, L. and Firer, S. (2003). 'Testing the relationship between intellectual capital and a company's performance: evidence from South Africa', *Meditari: Research Journal of the School of Accounting Sciences*, 11(1), pp 25-44.

[68] Subramaniam, M. and Youndt, M. A. (2005). 'The influence of intellectual capital on the types of innovative capabilities', *Academy of Management journal*, 48(3), pp 450-463.
[69] Szulanski, G. (2000). 'The process of knowledge transfer: A diachronic analysis of stickiness', *Organizational behavior and human decision processes*, 82(1), pp 9-27.
[70] Tayles, M., Pike, R. H. and Sofian, S. (2007). 'Intellectual capital, management accounting practices and corporate performance', *Accounting, Auditing and Accountability Journal*.
[71] Usoff, C. A., Thibodeau, J. C. and Burnaby, P. (2002). 'The importance of intellectual capital and its effect on performance measurement systems', *Managerial Auditing Journal*.
[72] Vishnu, S. and Gupta, V. K. (2014). 'Intellectual capital and performance of pharmaceutical firms in India', *Journal of Intellectual Capital*.
[73] Widener, S. K. (2006). 'Associations between strategic resource importance and performance measure use: The impact on firm performance', *Management Accounting Research*, 17(4), pp 433-457.
[74] Youndt, M. A., Subramaniam, M. and Snell, S. A. (2004). 'Intellectual capital profiles: An examination of investments and returns', *Journal of Management studies*, 41(2), pp 335-361.
[75] Zulu-Chisanga, S., Boso, N., Adeola, O. and Oghazi, P. (2016). 'Investigating the path from firm innovativeness to financial performance: The roles of new product success, market responsiveness, and environment turbulence', *Journal of Small Business Strategy*, 26(1), pp 51-68.