

## **Impact of Intellectual Capital in Healthcare Tourism Industry in Pakistan**

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### **Abstract**

*The objective of this research is to determine the impact of intellectual capital on innovation in healthcare tourism industry in Islamabad Pakistan. Healthcare tourism industry plays a significant contribution in the development and growth of the Pakistan economy. The components of intellectual capital were derived from the Intergrated Intellectual Capital Model (IICM). A total number of 190 respondents were participated in this study. Purposive sampling techniques was used to selcted the respondnets. The data were analy through Statistical Package for Social Sciences (SPSS). The findings of this study showed that four out of six proposed hypotheses were accepted. The empirical findings of this study will be useful for the managers and policy makers to enhance innovation in their organizations.*

**Key Words:** intellectual capital, healthcare industry, tourism, innovation, Pakistan

### **Introduction**

In industry 4.0, the intellectual capital has secured overwhelming response from business professionals, academicians, researchers and entrepreneurs to attain a competitive edge in the contemporary business competition. The term intellectual capital refers to intangible assets such as knowledge, soft skills, rules, procedures etc. In contemporary paradigm, mostly high-tech and knowledge intensive businesses are transforming from industry 3.0 to industry 4.0. Industry 4.0 is mainly referring to combine production, information technology and the internet. The newest information and communication technologies combined in Industry 4.0 with traditional industrial processes. The innovation and advancement in the development of information technology and the effect of globalization has caused the increase in competition among organizations throughout the world. There is no-doubt that in industry 4.0 intellectual capital has considered as one of the most important assets for the success and sustainability of the organization.

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Intellectual capital is also known as intellectual assets, knowledge assets or intangible assets. Many researchers such as (Cohen & Kaimenakis, 2007; Mehralian, Rajabzadeh, Reza Sadeh, & Reza Rasekh, 2012; Ngah & Ibrahim, 2009; Qurashi, Khaliq, Ramayah, Bontis, & Yaacob, 2020; Sharabati, Naji Jawad, & Bontis, 2010) argued that intellectual capital is a crucial resource for the success and innovation of organizations in a present competitive business environment.

Healthcare tourism industry is considered as one of the most important industries around the globe (Paoloni, Mattei, Strologo, & Celli, 2020). In Pakistan, healthcare tourism industry is also considered as one of the most important industries. In Pakistan, the healthcare industry is recognized as a reasonably priced and refined healthcare and is flourishing as one of the fastest up-and-coming spots towards medical tourism Qurashi et al. (2020). In spite of the importance of intellectual capital in as mentioned in the section above and the impacts it may have caused towards the many fields in the industry in the country, there are limited number of studies that has been carried out in Pakistan. On the other hand, many researches have conducted in other industries and only a mere number of researches has done on the healthcare industry in Pakistan. In addition to the above, it has found that no study has carried out before this study to examine the impact of intellectual capital in the innovation of the healthcare industry in Pakistan by using the integrated intellectual capital model. Due to the importance of the healthcare industry in Pakistan and the valuable contribution of intellectual capital in innovation, this study is very crucial to examine the impact of intellectual capital on innovation.

### **Literature Review**

The important contribution of healthcare tourism industry is widely accepted and recognized at national and international level (Paoloni et al., 2020). Many countries are giving significant importance to this industry and they are conducting research in this area (Evans, Brown, & Baker, 2015). For example, in Taiwan Peng et al. (2007) conducted study to examine the impact of intellectual capital in healthcare industry and found that there is a positive correlation between intellectual capital and performance indicator in the Taiwanese healthcare Industry. Frost & Sullivan (2010) indicates that the healthcare tourism industry in Malaysia rose at a rate of 25 percent per year from 1998 until 2007. In the realization of significance, the healthcare tourism industry can bring towards the Malaysian Economic Growth, the Economic Transformation Program (ETP) has laid out key strategies to generate a RM35.3

billion incremental gross national income from the healthcare sector between 2010 and 2020.

In Pakistan, many researchers are not giving much consideration to explore the role of intellectual capital in healthcare tourism industry to enhance innovation. Pakistan inborn totally inadequate Healthcare delivery system and mainly based on public and private sectors which comprises population nearly 30% and 70% respectively. The economy of Pakistan is under developing and Pakistan is considered as low-income country and according to Human Poverty Index (HPI), it ranks 65th among 102 developing countries. In Pakistan, 27% of the population has facility to get full benefits which includes mostly government employees and members of armed forces, and remaining 73% depends on out of pocket payments (Hassan, Mahmood, & Bukhsh, 2017). To provide full health coverage to population is the responsibility of the government of Pakistan. In Pakistan, healthcare service delivery is being organized through a three-tiered Healthcare delivery system namely Basic Health Units (BHUs) and Rural Health Centers (RHCs) for primary healthcare structure while Tehsil Head Quarters (THQs) and District Head Quarters (DHQs) for secondary care. Supporting to primary and secondary healthcare sectors, Tertiary care from teaching hospitals was established (Hassan et al., 2017).

### *Intellectual Capital*

Firstly, the term intellectual capital was presented by John Kenneth Galbraith in 1969 (Chang and Hsieh, 2011). He claimed that the intellectual capital brought the meaning of more than just “intellect as pure intellect” but rather incorporated a degree of “intellectual action”; as a form of knowledge, intellect and brain activity, which means that enterprises can use knowledge to create value for the organization.

Discovery of intellectual capital term, researchers have come up with many different types of definitions to explain this vax concept. Each of them varies from one researcher to another. However, generally the concept of intellectual capital is the same where it serves as an intangible asset to an organization to gain business performance and competitive advantage.

(Stewart, 1997) defined intellectual capital as the “total stock of the collective knowledge, information, technologies, skills, expertise, intellectual property, team management and customer satisfaction that can be used to generate organization’s revenues”. Bontis, Chua Chong Keow, and Richardson (2000) argued that intellectual capital as the submission of individual workers' and organizational knowledge that contribute to sustainable competitive advantage. They argued that intellectual capital is based on three

components namely human capital, customer capital and structural capital. To understand the concept of intellectual capital (Bueno, Salmador, Rodríguez, & Martín De Castro, 2006) expended the model and argued that intellectual capital has comprises more than four major components which are namely human capital, organizational capital/structural capital, technological capital, social capital and business capital/customer capital.

Despite the many studies carried out regarding the main components of intellectual capital, other studies have proven that the components may vary. For example the Bin Ismail (2005) has defended his results that the model includes the human capital, customer capital, structural capital and spiritual capital. In the action of gathering and integrating the various results of researchers in their previous studies, (Khaliq, Shaari, Abdul, & Isa, 2011) proposed that intellectual capital has included six major components of intellectual capital, and introduced a Integrated Intellectual Capital Model (IICM) to understand and examined the IC in organizations. Therefore, human capital, customer capital, structural capital, social capital, technological capital and spiritual capital was mainly the six major components that sums up in the development of the intellectual capital.

#### *Human Capital*

*Hypothesis 1: Human capital has significant positive association with the innovation of the healthcare tourism industry in Pakistan.*

Human capital is considered as the foundation of intellectual capital. Mura, Lettieri, Spiller, and Radaelli (2012) argued that the human capital considers as the extent of knowledge enduring among individuals in a community instead of an organization. Lin, Chang, and Yeh (2013) indicated in their study that the support for any organization's competitive advantage is the human capital when the human capital shapes intellectual capital and blends with employee's capabilities, attitudes and intelligence. Several researchers such as indicated that human capital has positive contribution in innovation and the success of organizations (Gomezelj Omerzel & Smolčić Jurdana, 2016; Pirozzi & Ferulano, 2016; Tiwari & Vidyarthi, 2018). In addition, Qurashi et al. (2020) argued that human capital is considered as one the most important strategic asses for the success of organization and the findings revealed that human capital has positive and significant contribution in innovation.

#### *Customer Capital*

*Hypothesis 2: Customer capital has significant positive association with the innovation of the healthcare tourism industry in Pakistan.*

Bontis et al. (2000) argued that the customer capital directs to the external intangible capital owned by enterprises, inclusive of their knowledge of the external relationships of other enterprises. In addition, they argued that the customer capital as the most essential component of intellectual capital which also encompasses the organization's relationship with customers. Customer capital is able to create more intellectual capital by utilizing the America's healthcare industry as the study object. Sharabati et al. (2010) argued that the customer capital comprises customer satisfaction, loyalty, brand and network that prove the reason why customers are the main source for revenue generation of organization.

#### *Structural Capital*

*Hypothesis 3: Structural capital has significant positive association with the innovation of the healthcare tourism industry in Pakistan.*

The third component in the integrated intellectual capital model is the structural capital. The structural capital can be known as the backbone of the organization due to its importance and the positive consequences it can bring to the organization. Khaliq, Shaari, and Isa (2013) argued that it is based on competitive intelligence, formula, policies, information system etc. Structural capital is generally everything in an organization that aids the employees in their job while serving as a supportive infrastructure. It includes all non-human storehouse of knowledge in organizations such as organizational competitive intelligence, routine, formula, policies, procedures and databases. Structural capital plays significant contribution for the success and innovation of organizations (Khaliq, Bontis, Jamal, & Isa, 2015; Khaliq, Bontis, Shaari, Yaacob, & Ngah, 2018; Pirozzi & Ferulano, 2016; Qurashi et al., 2020).

#### *Social Capital*

*Hypothesis 4: Social capital has significant positive association with the innovation of the healthcare tourism industry in Pakistan.*

Khaliq et al. (2013) argued that the social capital is also one of the most significant components of intellectual capital. Social capital is generally expressed as including concepts like sociability, social networks, social connectedness, trust, reciprocity, community and civic engagement, sense of identity, and norms. Social capital is a component of intellectual capital and it has momentous contribution towards the performance of organizations (Bueno, Paz Salmador, & Rodríguez, 2004; Nahapiet & Ghoshal, 1998; Qurashi et al., 2020). Nahapiet and Ghoshal (1998) argued that the social capital as a "sum of current and potential resources incorporated in,

available in, and derived from the network of relations possessed by an individual or social unity” and pinpointed that social capital has a imperative contribution in organization in order to become a competitive entity in the market. Many studies supported the findings of positive association between social capital and innovation where the social capital has significant influence and impact that fosters innovation in production processes or manufacturing firms (Akçomak and Weel, 2008; Kaasa, Kaldaru and Parts, 2007; Landry, Amara and Lamari, 2000).

#### *Technological Capital*

*Hypothesis 5: Technological capital has significant positive association with the innovation of the healthcare tourism industry in Pakistan.*

Despite other components of intellectual capital, the technological capital is getting more recognized in recent years especially in this knowledge-based economy. In different contexts, technological capital may also be known as technology capital or technical capital. Bueno et al. (2006) technological capital is considered as a family of intangible assets that is of the fundamentals of innovation and technical process and also based on the research & development and information technological knowledge. Technological capital to be an intangible asset and it extracts from technical knowledge. It is considered as a blend of knowledge related to the development and technical system of an organization. Many researchers such as (Bueno et al., 2006; Khaliq et al., 2018; Qurashi et al., 2020) found that technological capital has significant contribution to enhance the performance and innovation in organizations.

#### *Spiritual Capital*

*Hypothesis 6: Spiritual capital has significant positive association with the innovation of the healthcare tourism industry in Pakistan.*

Like other components of intellectual capital, spiritual capital is considered as on the most important component. Ismail (2005) stated that the spiritual capital can be prescribed as “the intangible knowledge, faith and emotion embedded in the minds of individuals and in the heart of the organization which includes vision, direction, guidance, principles, values and culture”. In Zohar’s (2010) view, spiritual capital is the prosperity, the authority, and the power that we get by behaving from a deep sense of meaning, our deepest principles and a sense of higher rationale, and all of these are best expressed through a life committed to service. (Khaliq et al., 2013) found out that spiritual capital mainly based on two dimensions such as religious and ethical values. Ismail (2005) argued that the spiritual

capital plays a crucial part in enhancing the organizational performance of telecom sector in Malaysia. Qurashi et al. (2020) argued that spiritual capital has significant impact on innovation in healthcare organizations.

### **Research Methodology**

In this research study, quantitative approach was chosen in gathering and reporting the information. Primary data were gathered through structured questionnaire forms. The survey questioner's form was combined to determine the impact of the individual components of intellectual capital in the innovation of the healthcare industry in Islamabad. The data were collected through self-administered questionnaires among the employees from a number of government and private healthcare units in Islamabad. A five-point Likert scale ranges from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree was used to grasp the perception of respondents about the employed constructs. The research instrument was adopted from (Khaliq, Shaari, & Isa, 2014; Qurashi et al., 2020). The respondents were selected through purposive sampling techniques. A total of 300 questionnaire forms were distributed to the selected respondents while 190 useable forms were returned and it's considered as satisfactory (Zikmund, Carr, & Griffin, 2013).

### **Results**

The gathered data from the selected respondents were interpreted by running the data through the Statistical Package for Social Sciences (SPSS). Before analysis the data were screened and cleaned by checking the normality and assumption. Reliability analysis was used to check the internal consistency of the employed constructs and Multiple regression was used to test the proposed research hypotheses.

#### *Reliability Analysis*

To examine the reliability of the research instrument, Cronbach Alpha was used. Cronbach Alpha value is widely used to examine the reliability and internal consistency of each individual item. Cronbach's alpha range is from 0 to 1.00; with values close to 1.00 indicating high consistency. Therefore, the reliability test was used to assess the consistency of each dimension with the given data prior to data analysis. Results in Table 1 reported that the Cronbach alpha values are above than 0.70 which fulfill the minimum threshold suggested by (Hair, William, Barry, & Anderson, 2010; Khaliq et al., 2015).

*Table 1: Results of Reliability Test*

No	Constructs/ Items	
	<i>Human capital</i>	0.829
01	Our organization has a highly competent management team.	
02	In our organization employees are motivated, creative and bright.	
03	Our employees are experts in their particular jobs and functions.	
04	Our organization encourages the sharing of ideas, knowledge and practices.	
05	Our organization encourages and supports research and development activities.	
	<i>Customer Capital</i>	0.787
01	Our organization has good brand name in the market.	
02	Our customers have loyalty toward our organization.	
03	When new business comes into the market, our customers always select us. /	
04	Our organization cares about what the customer thinks and demands from us.	
05	Our organization distributes customer's data to all relevant departments.	
	<i>Structural Capital</i>	0.835
01	Our organization system and procedures support innovation.	
02	Our organization provides opportunities to upgrade the skills of employees.	
03	Our organization's policies, procedures, databases, and networks are up-to-date.	
04	Our organization encourages employees to speak their minds.	
05	Our employees are involved in the organization's decision making.	
	<i>Social Capital</i>	0.854
01	Our organization always considers environmental health & public social benefits in any planning, development & implementation of projects.	
02	Our employees are skillful and collaborating with each other to diagnose and solve the problems.	
03	Our employees like to share information and learn from each other.	
04	Our employees exchange ideas with people from different areas of the organization.	
05	Our employees have good relationship with customers, suppliers, alliance partners and friends to develop solutions for organizations.	
	<i>Technological Capital</i>	0.710



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01	In our organization, technological knowledge is easy to understand, transfer and use.	
02	Our organization has a large number of technological concepts which are useful for innovation.	
03	Our organization use latest and high-tech equipment and technology to remain competitive.	
04	Our organization has professional skillful employees which are necessary for technological innovation.	
05	Our organization has good systems to secure our intellectual property.	
	<i>Spiritual Capital</i>	0.702
01	In our organization employees work to the best of their capabilities because they believe and practice “working is part of their acts of devotion to God.	
02	Our organization is more profitable due to religious belief.	
03	Due to religious teaching, employees are sincere and honest in their duties.	
04	Our organization has key values, honesty, total commitment and respect to our employees	
05	Our organizational culture is based on trust, shared knowledge, mutual respect and reciprocity, which results in continuous innovation for the organization.	
	<i>Innovation</i>	0.868
01	Our company often produces new products and services which are well acknowledged by the market.	
02	A large chunk of our institutional financial gain is multiplied by the means of new products and services offered.	
03	The new products or services offered by our company always trigger counterfeit from the competitors.	
04	Our company can often commence new products or services quicker than our competitors.	
05	Our company always obtains new skills, expertise or equipment to improvise the manufacturing function or service methodology.	
06	Our company has better capacity and ability in R&D of new products or services than our competitors.	
07	Our company often attempt distinctive functional methods to expedite the accomplish the institutional aim and objectives.	
08	Our company always produces unconventional skills and expertise to transform older products into new ones for market.	
09	Our company can produce more effective and efficient	

	production methods or operational procedure.	
10	Our company can flexibly produce products and services according to the needs of the customers.	

*Testing of Research Hypotheses*

Multiple regression is widely used in research to test the research hypotheses. The coefficient of determination,  $R^2$  is known as the proportion of variation in the variable that is regarded by the factor. Chin (1998) argued that the different values of  $R^2$  represents the percentage of the constructs while the guideline of the  $R^2$  endogenous latent variables are 0.67 (substantial), 0.33 (moderate) and 0.19 (weak). Empirical findings of this study reported the value of  $R^2$  is 0.608 it's corresponded to 60.8 % of the amount of variance explained by the six employed components of intellectual capital towards innovation in healthcare industry.

In this study six research hypotheses were developed to determine the impact of intellectual capital in the innovation of the healthcare tourism industry in Islamabad, in order to test and verify the suggested hypotheses, multiple regression was utilized. The empirical findings of the supported and not supported suggested hypotheses were presented in Table 2.

*Table 2: Hypothesis Testing*

H	Relationship	$\beta$	t-value	Sig.	Supported
H1	Human capital → Innovation	.160	2.002	.047	Yes
H2	Customer capital → Innovation	.213	2.736	.007	Yes
H3	Structural capital → Innovation	.235	3.130	.002	Yes
H4	Social capital → Innovation	.135	1.765	.079	No
H5	Technological capital → Innovation	.164	2.166	.032	Yes
H6	Spiritual capital → Innovation	.008	.106	.915	No

Note: \* $p < 0.05$

Findings of the Table 2 reported that the human capital has positive relationship with the innovation of the healthcare industry with the value of ( $\beta = 0.160$ ;  $t = 2.002$ ,  $p < 0.05$ ). Customer capital with the value of ( $\beta = 0.213$ ;  $t = 2.736$ ,  $p < 0.05$ ) which tells that the hypothesis is supported and has positive association with the

innovation. Structural capital has significant positive association with the innovation of the healthcare industry having value ( $\beta = 0.235$ ;  $t = 3.130$ ,  $p < 0.05$ ) go beyond way further than the recommended value of 1.96 and the hypothesis can be said to be supported. Social capital ( $\beta = -0.135$ ;  $t = 1.765$ ,  $p > 0.05$ ) indicates that this component of the intellectual capital has no positive association with the innovation of the healthcare significantly. Therefore, the hypothesis not supported. Technological capital was found positively associated with the innovation of the healthcare industry having results ( $\beta = 0.164$ ;  $t = 2.166$ ,  $p < 0.05$ ) and hypothesis was supported. The results showed that the spiritual capital was found no significant positive association with the innovation of the healthcare industry having the values ( $\beta = 0.008$ ;  $t = 1.06$ ,  $p > 0.05$ ) has lower than the suggested value of 1.96. Thus, the hypothesis said not supported.

### **Discussion**

The objective of this research paper is to determine whether intellectual capital have impact on the innovation of the healthcare tourism industry in Islamabad. The analysis made for hypothesis one in this study showed that human capital has positive association with the innovation of the healthcare industry. The findings of this study supported by previous researchers that conclude the positive relationship between these two variables (Hosein Chizari, Mehrjardi, Sadrabadi, & Mehrjardi, 2016; Mehralian et al., 2012; Qurashi et al., 2020). Customer capital can be an input to improve the business performance and competitive advantage of the organization. Customer capital built in an organization can lead to excellence in organizational performance. Sharabati et al. (2010) highlighted a significant positive relationship between the components of intellectual capital, with organizational performance of pharmaceutical companies. In this case, positive relationship between customer capital and innovation, managers should sustain the activities that promote customer loyalty, satisfaction and loyalty when customers have believed to be the main source of income in an organization. The analysis derived from the results for hypothesis three indicated that structural capital has significant positive association with the innovation of the healthcare industry. The finding of this study determines that innovation capability has positively affected by structural capital. Social capital has no positive association with the innovation of the healthcare industry. The results contrary with previous works that maintained the positive association between social capital and innovation where they claimed that social capital has significant influence and impact that fosters innovation in production processes or manufacturing firms. The analysis derived from the results for hypothesis five indicated that technological

capital has significant positive association with the innovation of the healthcare industry. The results of this study supported by the previous studies (Qurashi et al., 2020). The resulting analysis for the last hypothesis, hypothesis six determined that spiritual capital has no significant positive association with the innovation of the healthcare industry. The results support previous studies (Qurashi et al., 2020). These previous studies brought out the idea that spiritual capital can be utilize as a practical idea for economic development. The power has exploited by many organizations throughout the history to reshape the structure of organizations. Knowledge intensive organizations require to capitalize their spiritual capital. Spiritual capital is a one of the most important components of intellectual capital and its contribution is very crucial to enhance the business performance of SMEs. Therefore, managers should be aware that spiritual capital includes the principles, values, culture, vision and direction as an intangible knowledge in the hearts and mind of employees that can have great impact on the innovation capability of the organization.

### **Conclusion**

The prime objective of this research was to examine the impact of intellectual capital on innovation in healthcare tourism industry in Islamabad Pakistan. Empirical findings reported that overall intellectual capital has positive impact on innovation. Like other studies, this research study also has some limitations. This study is a cross-sectional study in nature instead of a longitudinal research. Cross-sectional study is a one kind of observational study that gathers data from a population only from a specific time. Therefore, the direction of causality may not be distinguished and the constant changes that might disturb the relationship between the constructs might not be able to define. This study has small sample size therefore; the findings of this study may not be applicable to others industries. This study also offers future recommendations, after reviewing the limitations and evaluating the implications of this study, it was found that this study allows several suggested paths for future researches. The respondents of this study were basically originating from the same geographical area which tells the results obtained may not have similar propositions with other areas in the countries as well as in other countries. Therefore, further research is necessary to examine the impact of intellectual capital on the innovation in the healthcare tourism industry in other areas in the country as well as in places across the globe. Moreover, there is a great need to explore intellectual capital in other industries and knowledge intensive SMEs in Pakistan as well as developing countries.

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