

# The Opinion of Dr B. R. Ambedkar on Village Panchayats The Effect of Intellectual Capital on The Competitive Advantage: A Case Study In Iraq Communication Firms

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**Abstract:** The domination of intellectual capital (IC) elements on competitive advantage (CA) in Iraq communication firms are investigated in this study. According to the empirical findings, both structural capital (SC), as well as relational capital (RC) possess a favourable influence on CA. The CA is constituted of 48.4% SC and RC. It is stunning to discover that human capital (HC) has no direct influence on CA. Nevertheless, since HC is entrenched in RC, it is acceptable to assert that it has an indirect and significant impact on CA. Gender, including age, affect the influence of RC on CA. Younger males are the ones who are most affected. The impact of SC is only marginally tempered by gender, with women having a somewhat greater impact than men.

**Keywords:** Intellectual capital (IC) Human capital (HC) Relational capital (RC) Structural capital (SC) Competitive advantage (CA)

## 1- Introduction

Even though there is broad agreement that intellectual capital (IC) affects a firm's competitive position across a broad array of sectors, other scholars suggest that its impact may possibly be industry related (Stewart, 2010; Molodchik et al., 2012).. IC research has grown over the previous decade, with various analysis techniques being applied in varying situations (Halim, 2010). As a result, several persuasive arguments have been offered in favour of the necessity to comprehend the function of the IC in knowledge-intensive businesses as well as sophisticated technologies (Sokolov & Zavyalova, 2020). Moreover, the knowledge economy's urgency has been ascribed to a broad acknowledgment of the IC as a decisive element that propels economic and innovation advancement during the past decade. IC holds the capacity to provide a sustainable competitive advantage (CA) (Zakery & Saremi,2020). Despite measuring IC as a crucial intangible resource is tricky, its additional worth is undeniable. Furthermore, the majority of studies on intellectual.

In western corporate contexts, research on capital as well as its link to performance has been done. In the meantime, albeit several scholars have contributed to emphasizing the influence of IC in such a knowledge-intensive business as communication, their overall discoveries to the IC literature are minimal (De Silva et al., 2014; Carmona-Lavado et al., 2013). Therefore, the goal of the current study is to explore the influence of IC on CA in Iraq Telecommunication firms. Communication is regarded to be one of the greatest knowledge-intensive businesses, which is one of the primary factors for delving into it in Iraq (Bradely, 1997). Moreover, it is regarded to resemble an extremely inventive (Thapa,2018),and fast-growing industry (Massaro et al., 2014). Furthermore, the communication field contributes significantly to the Iraq economy, accounting for 12% of the country's GDP in 2014. This industry provides the Kingdom with a potential to gain a CA against its Arab neighbours in the vicinity. Iraq is said to hold all of the necessary components for

a regional information technology hub. In 2013, ICT exports were USD 324 million, with 85% of these exports going to Arab states. Additionally, the employment statistics in this industry is steadily expanding, with 18,000 people employed in 2014 (Iraq Investment Commission, 2015). Thus, the center of this investigation is on the Iraq communication industry.

## **2.Literature review**

### **2.1 Intellectual capital (IC)**

Most people regard intellectual capital (IC) to be a critical aspect of industry, yet it is officially recognized by almost absolutely nobody (Bontis, 1998). A series of problems about how collective intelligence as well as tacit knowledge anchored in human capital, as well as organizational processes, are driving this condition (Maditinos et al., 2011; Su, 2014; Chu et al., 2011). In other words, IC intangibility makes it difficult to comprehend as well as management throughout the whole corporation. Most academics and managers, on the other hand, have only hazy ideas regarding how to handle intangible resources focused on nurturing as well as expanding human capital (HC), structural capital (SC), and relational capital (RC). This illusive IC intangibility necessitates a more accurate theoretical and practical definition of IC as a discipline (Clarke et al., 2011; Calabrese, Costa, & Menichini, 2013).

According to Hussinki et al., (2017), IC is the value of knowledge or intangible assets, which may be expressed as the discrepancy between market value as well as books (Wiig, 1997; Bontis, 1999), or all nonphysical and nonmonetary resources. IC, according to Stewart (1991), is the intellectual knowledge material, experience, intellectual property, and information that may be utilized to generate prosperity. Tovstiga (2009) defined IC as comprising HC, SC, and RC, as defined by Bontis (1998), Chen & Xie (2004), Tovstiga (2009). Furthermore, investigators have broken down IC to make measurement and assessment easier. According to Maditinos et al., (2011). IC is rooted in only two bases: HC as well as SC. Organizational capital and customer capital are two types of SC. Process and renewal capital comprises organizational capital. Internal structure, external structure, and key capabilities were covered by Sveiby (1997) in an ultimate model of intangible assets control. IC's primary principle reveals all hidden value types linked with a corporation's intangible assets. According to a current study, IC is made up of structural (internal) capital, relational (Customer-relation) capital, and HC (Abdullah, & Sofian, 2012; Shih et al., 2010; El Tawy & Tollington, 2012). Despite there being intangible assets that do not represent a subset of the whole IC rationally as well as its main three types (structural, relational, as well as human), the idea of IC is frequently utilized to allude to intangible resources, knowledge assets, or knowledge capital, (Zeghal, & Maaloul, 2010). This study is based on the idea that IC is a synergistic combination of HC, SC, and RC.

### **2.2. Human capital (HC)**

All business skills inherent in personnel that are not held by the company are referred to as human capital (HC) (Hsu & Fang, 2009). It is an institution's personal knowledge inventory as portrayed by its workers (Folloni & Vittadini, 2010). According to Mehralian et al. (2013), HC is a fundamental component of intellectual assets and among the greatest crucial CA sources for businesses. In this sense, HC alludes to worker resources, for instance, experience, skills, as well as tacit knowledge (Kamukama, 2013), or the individuals of a company own individual tacit knowledge (Mubarik et al., 2018). Moreover, the term HC (talent capital) refers to intrinsic abilities, intellect, creativity, as well as talent brainpower (Butter, Valenzuela, & Quintana, 2015). Thus, it resembles the most important aspect of intellectual capital, as well as the primary source of intelligence, innovation, as well as creation (Chiappero-Martinetti & Sabadash, 2014).

### **2.3 Structural capital (SC)**

Specific knowledge or codified knowledge items are found in structural capital (SC). SC, unlike human capital (HC), is entrenched in programs, databases, as well as systems (Benevene & Cortini, 2010). It consists of organizational procedures and structures that promote personnel' performance or productivity (Hejazi et al., 2016). For HC and relational capital (RC), it is a bank of knowledge and supportive infrastructure. Without SC, Bontis (1998) said, intellectual capital (IC) would be nothing more than HC. Businesses with a competent SC can discover a superior match between their HC and their RC. The term "IC" refers to the convergence of these skills (Yaseenet al., 2016).

#### **2.4. Relational capital (RC)**

Relational capital (RC) refers to the information that is ingrained in consumer choices, for instance, suppliers and partner connections (Yitmen, 2014). The mobilization of knowledge, as well as relational resources via social structure, is at the heart of RC (Hsu & Wang, 2012). Furthermore, it is a broader definition of customer capital (Martini et al., 2016). RC is defined in the existing literature as the knowledge contained in all connections between a business and its stakeholders. As a result, most people regard customer capital to be a subset of the RC (Corvino et al., 2019). Apart from that, RC is also an intangible asset that is built on fostering as well as creating high-quality connections with workers, consumers, collaborators, suppliers, rivals, and other stakeholders, all of which possess a favorable impact towards CA and performance.

#### **2.5. Intellectual Capital (IC) and Competitive Advantage (CA)**

Organizations have varying resources amounts that have an impact on their performance. These assets might be intangible or tangible assets that affect their CA directly or indirectly (Omerzel & Gulev, 2011). Within corporations, intellectual capital (IC) may be thought of as knowledge assets or intangible assets (Jain et al., 2017; Grimaldi, Cricelli, & Rogo, 2012). which refers to the institution's accessible stocks (knowledge), or dynamic (the flow), which is the outcome of knowledge development in stock communication (Liu, 2017). Moreover, (Yaseen et al., 2016) claim that the IC is formed via the aggregation as well as the interchange of intellectual resources inside companies, which can be expressed as tacit knowledge or explicit.

Knowledge denotes the most valuable asset in enterprises. It is regarded as the foundation for profitability, worldwide expansion, national, as well as developing competitive strategies (Cheng et al., 2010; Seleim & Khalil, 2011). Other than that, Quinn (1992) underlined the knowledge significance in his investigation, stating that the business's intellectual capital and service skills are more vital than its material resources. As a result, IC is a critical source of information and understanding inside enterprises. Strategic management is responsible for not just allocating IC throughout firms but also for identifying innovative ways to convert intangible assets. Corporations with a varied set of skills and a significant level of human creativity are rather prone to be creative, giving them a significant CA (Grimaldi et al., 2012).

Globalization, as well as technical advancements, have pushed businesses to battle fiercely in such a demanding market (Torres & Santos-Rodrigues, 2018). As a result, in order to succeed in the market, businesses must distinguish themselves and perform duties distinctively. As a result, the CA derives from the resources that generate the final goods and services for the consumers, not from the finished goods and services themselves. CA will not last unless businesses employ their resources efficiently as well as effectively to provide value to a particular market group Teo et al., 2014). Also, this encourages a company to build value-creating initiatives from its resources in order to achieve sustainable-term success.

### **3. Research model and hypotheses**

The link between IC and creativity, performance, and organizational learning capabilities has been studied by scholars (Hsu & Fang, 2009; Yitmen, 2014). Moreover, a large body of literature emphasizes the importance of IC components to firm performance in many contexts as well as circumstances (Tovstiga & Tulugurova, 2009; Seleim & Bontis, 2013; Pearson et al., 2015; Saxena, 2015). However, while a small number of scholars have contributed to resolving and exposing the IC components impact on firms' CA, their overall discoveries to the IC are quite modest (Kong & Prior, 2008; Kamukama, 2013; Pearson et al., 2015). Moreover, the link between IC components and CA is investigated in this study found in the literature. The suggested research model is depicted in Figure 1. This concept theorizes that IC components, for instance, relational capital (RC), structural capital (SC), as well as human capital (HC), have a favorable impact on a firm's CA. Despite IC components possessing a definite influence on a firm's CA, their accomplishments are not evenly crucial in dominating the firm's CA, according to this study (Bontis, 1998; Jaradate et al., 2012; Kamukama, 2013). Moreover, HC is concerned with human resources, encompassing collective tacit knowledge (CTK), learning and education (LE), as well as inventiveness and creativity (Bontis, 1998). The HC had significant impacts in major sectors, according to Bontis (1998), Bontis et al. (2000), Hsu and Fang (2009), Sharabati et al. (2010). As a result, we offer the accompanying study hypothesis:

***H1. Human Capital (HC) positively affects competitive advantage (CA).***

The supportive infrastructure for IC is referred to as structural capital (SC). It includes the structure and company's culture (SMCC), management style, research and development (R&D), systems and databases (ISD), as well as company's structure and business processes (CSBP), information (Yaseen et al., 2016). Furthermore, the subsequent research hypothesis is provided relying on the literature:

***H2. Structural capital (SC) positively affects competitive advantage (CA).***

Customers and Supplier Relations (CSR), Customers and external stakeholders (CSK), as well as Strategic Partners (SP) are all represented by Relational Capital (RC) (Xu & Wang, 2018). Customer capital or social capital are other terms for RC. It denotes the firm's genuine intangible resource that is incorporated inside its network of contacts. As a consequence, by joining all IC components having some other stakeholders, this capital functions as a multiplying resource that produces value (Kong & Prior, 2008). As a result, we offer the following study hypothesis:

***H3. Relational Capital (RC) positively affects competitive advantage (CA).***

It has been discovered that IC components have an influence on a company's CA (Sharabati et al., 2013; Pearson et al., 2015). CA is defined in the present study as a combination of Perceived Service Quality (DSQ), Low Cost (LC) services, as well as Differentiation and Innovation (DI). The writers investigated the varied moderating effects of IC components on the CA since this study focuses on perceptual assessments. Gender and age are said to affect the association between IC components as well as CA in the investigation. As a result, we offer the following study hypothesis:

***H4. The effect of intellectual capital (IC) components on the competitive advantage (CA) will be moderated by gender and age.***

## **4. Methodology**

### ***4.1. Sampling***

The purpose of this study is to look at the influence of IC on competitive advantage (CA) in Iraq telecommunication enterprises. A variety of study hypotheses were developed to see how well the elements of IC (HC, SC, and RC) might clarify CA in the organizations studied. The whole population of Iraq was selected as the unit of study, and all specialists, managers, as well as consultants in the three major Iraq telecommunication corporations, were included (Zain, Orange and Umniah). Hence, the overall target demographic was around 297 people, with 199 people in the research sample. In order to investigate these perceptual-based study measures, quantitative survey research seemed ideal.

### ***4.2. Measurement***

The majority of the measures were modified from previous studies utilizing multi-item scales. IC constructs scales, in particular, were developed from Sveiby (1997) and Bontis (1998). CA was quantified utilizing Porter (1985) and Sharma (2005) measures. Every sub-construct was paired with ten items that assessed how workers felt about it. A five-point Likert scale was adopted to assess all research constructs. The scale's face validity was evaluated by a team of specialists. There were two sessions of judging with a board of panelists. The first stage included ten professors as well as a group of professionals from Iraq telecommunication firms. The second stage was undertaken with linguistic experts to verify that the English and Arabic survey versions utilized comprehensible wording.

### ***4.3. Data analysis and results***

Males comprised of 50.2% of the participants, while females comprised of 49.7%. Most participants (94.9%) were between the ages of 20 and 49, with around 80.4% possessing a higher education. In the meantime, the mass of responders (66.8%) had between 5 and 15 years of job experience. The demographic of responders' profiles are presented in Table 1.

For data analysis, Smart PLS version 2.0 was utilized. The partial least squares structural equation modeling (PLS-SEM) tool is a second-generation instrument (Hair, Hult, Ringle, & Sarstedt, 2014). Moreover, Smart PLS employs a component-based structural equation modeling technique. A PLS path model also has two components: a measurement model, also known as the inner model, as well as a structural model, also known as the outer model. Other than that, the structural model showed the linkages (paths) between the research constructs, while the measurement model gave outcomes pertaining to scale validity and reliability.



#### 4.5.Measurement model

Table 1  
 Participants' demographic profile.

Characteristics	Frequency (N ¼ 199)	Percentage (%)
<b>Gender</b>		
Male	100	50.3
Female	99	49.7
Total	199	100%
<b>Age</b>		
Less than 30	46	23.1
30-39	99	49.8
40-49	44	22.1
50- above	10	5.0
<b>Education</b>		
Diploma	14	7.0
Bsc	160	8.4
Msc	25	12.6
<b>Experience</b>		
1 to 5 years	39	19.6
5 to 10 years	80	40.2
11to15 years	53	26.6
16 and above	27	13.6

Considering that all measures are reflective, all items should be assessed for discriminant validity, convergent, construct reliability and item reliability. Furthermore, individual item reliability, as well as the scale's internal consistency or reliability, were the first metrics of reliability explored. The standards of every item's loading with respect to its underlying variable was utilized to assess individual item reliability. Each item's loading value must be at least equal or greater than 0.7, while the squared loading ( $R^2$ ) must be at least equal to or greater than 0.5, as per Vinzi, Chin, and Henseler (2010). At the significant level, all factor loadings were larger than 0.7 and very significant ( $P < 0.05$ ). To preserve parsimony, items that did not meet this value underwent a filtration procedure (Hair et al., 2014). Since it has the lowest loading, the low-cost item was discarded (0.37).

Cronbach's alpha coefficients were utilized to examine the study components' reliability. All item loading was strongly associated, with a Cronbach's alpha of 0.7. Furthermore, the overall reliability of all constructions was greater than 0.8. The composite reliability, as well as the average variance retrieved, were utilized to assess convergent validity. A composite reliability score of 0.70 to 0.90 is considered excellent, as well as an average variance extracted value of 0.50 or above means the construct covers more than half of the variation of its markers. As demonstrated in Table 2, all of the metrics are over the acceptable levels (Fornell & Larcker, 1981; Hair et al., 2014).

The model constructs correlation matrix, as well as the average variance square roots recovered, are shown in Table 3. The AVE square roots (emphasized in bold) were found to be greater than the association between the construct and the other components, indicating discriminant validity (Smith, Duchessi, & Garcia, 2012).

#### 4.6 Structural model

The structural model focuses on the entire significance level, path coefficients (b), and explanatory power ( $R^2$ ). In all, the study model explains 0.484% of the variance in CA. Moreover, a path coefficient (b) resembles the standardized regression coefficient, with a value of 0.5 or higher indicating a significant influence, 0.3 or lower indicating a medium effect, and lower than 0.1 indicating a tiny effect (Cohen, 1988). The structural and relational capitals were reported to exhibit statistically significant effects on CA, as

illustrated in Fig. 2 and Table 4, with path coefficients of 0.252 and 0.427, accordingly. The outcomes of the intended hypotheses are summarized in Table 4. Excluding the connection between CA and human capital, all correlations were substantial at the 0.05 level ( $P < 0.05$ ).

Table 2  
 Convergent and Reliability validity

Constructs	Cronbach's alpha	AVE	CR	R <sup>2</sup>
HC	0.771	0.684	0.866	
RC	0.752	0.660	0.852	
SC	0.834	0.671	0.890	
CA	0.732	0.787	0.881	0.484

HC= Human Capital, RC= Relational Capital, SC= Structural Capital, CA= Competitive Advantage

### 5. Discussion and implications

The results show that both relational capital (RC) and structural capital (SC) possess a favorable influence on CA. Also, both RC and SC contribute for 48.4% of CA, showing that a company's investment in RC and SC has a significant impact on its market and industry structural competitive position. The influence of RC on the firm's CA is more apparent than the influence of SC. In this setting, the fact that human capital (HC) has no significant direct influence on CA is quite unexpected. Nevertheless, since HC is embedded in the RC, it is reasonable to assume that it has an indirect and significant impact on CA. Moreover, the findings indicating RC and SC have an impact on CA are aligned with Hsu and Fang's (2009) research. They discovered that among IC components, RC is the most important aspect in Taiwanese design firms. The second element is SC, while the third is HC. With the exclusion of HC, Abdullah & Sofian, (2012). discovered that IC components had a direct impact on performance. The other three aspects of HC have an indirect impact on performance: innovation capital, process capital, and customer capital.

As anticipated, gender and age mitigated the impact of RC on CA with the influence being largest among younger males. In the instance of SC, gender simply attenuated its influence on CA, with women benefiting somewhat more than men. As a result, IC has provided a CA. The results of the study demonstrated that RC and SC had a significant and favorable impact, which is similar to earlier findings by Namvaret al., 2010; Mehralian et al. (2013). Moreover, the results show that IC has a substantial and favorable influence on Iraq communication firms' CA. As a result, the present study findings have a significant impact on practice. The study emphasizes the importance of IC components in gaining a CA in a knowledge-intensive business such as communication. Managers of Iraq communication firms must understand why HC is no longer a critical factor in determining CA. Furthermore, it is critical to understand that the firm's intellectual components are the source of present and upcoming sustainable advantage. These are intangible, unique, and priceless assets. As a consequence, managers may be encouraged to invest additional resources in SC, RC, and HC in order to increase performance.

Table 3  
 Discriminant validity.

Constructs	CA	HC	RC	SC
CA	0.887			
HC	0.533	0.827		
RC	0.662	0.607	0.812	
SC	0.631	0.774	0.746	0.819
AVE	0.787	0.684	0.660	0.671

CA= Competitive Advantage, HC= Human Capital, RC= Relational Capital, SC= Structural Capital

**Table 4**  
**Findings of the proposed hypotheses.**

Path	Path coefficient	T-statistics	Sig.	Result
Human capital / competitive advantage	0.078	0.835	0.934	Not Support
Structural capital / competitive advantage	0.252	2.042	0.029	Support
Relational capital / competitive advantage	0.427	3.713	0.000	Support

## 6. Conclusion

The impact of intellectual capital (IC) components (structural capital, relational capital, and human capital) towards competitive advantage (CA) in Iraq telecommunication businesses was explored in this study. According to the findings, relational capital (RC), as well as structural capital (SC) both, have a favorable impact on CA. Human capital (HC), on the other hand, did not appear to have a significant direct influence on the firms' competitive edge. As anticipated, gender and age mitigated the effect of RC on CA, with the influence being largest among younger males. SC's influence on CA was only modified by gender, with the influence being somewhat larger for women than for men.

Despite its significance, this study has several drawbacks. To begin, the present study used a cross-sectional data survey research approach. A longitudinal study might reveal more about how individuals interpret IC components over a period. It may also reveal other correlations between variables at various stages of experimentation. Secondly, this study took place in Iraq, which is classified as a developing nation. It is possible that the findings are not applicable to other industrialized countries. Third, amidst the notion that the existing study has a sufficient sample size, the study's convenient sampling prevents the findings from being generalized.

Several subsequent study directions are recommended as a result of the existing study's shortcomings. For starters, more studies should be performed on other businesses, for instance, banking, to investigate how IC affects CA. Next, scholars may assess if our findings can be applied to developed nations in similar or other industries. This will contribute to our understanding of the worldwide impact of IC. Finally, to evaluate the dynamic influence of factors across time, longitudinal research is required.

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