# The Effect of Intellectual Capital on Achieving the Competitive Advantage in the health sector in the Kingdom of Bahrain

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## Abstract:

This study aimed to highlight the role of intellectual capital and its components in achieving competitive advantage in the health sector in the Kingdom of Bahrain, and then provide recommendations that should be taken into account in intellectual capital to achieve competitive advantage. The study used the descriptive and analytical approach, and secondary and primary data were collected using a questionnaire designated for data collection, and it consisted of a sample of (148) employees in senior and middle management (director, deputy/assistant director, and department head). in the health sector in the Kingdom of Bahrain. The program used to measure the data is the Statistical Package for the Social Sciences (SPSS). The researcher used descriptive and statistical analysis. The study reached a number of conclusions, including that there is a high level of intellectual capital dimensions in the

health sector in the Kingdom of Bahrain, and it was also found that it has a high level of competitive advantage. It also found a statistically significant effect of intellectual capital in its dimensions (human capital Structural capital, relational capital) on competitive advantage. In light of the proposed conclusions, some recommendations were presented in the health sector in the Kingdom of Bahrain. They centered around continuing to develop its intellectual capital in order to achieve a sustainable competitive advantage in the health sector in the Kingdom of Bahrain.

**Key words**: Intellectual Capital, Competitave Advantage, the health sector in the Kingdom of Bahrain.

## Introduction:

In a global economy based on human knowledge and competencies, the lack of adequate awareness among developing countries of the concepts of intellectual capital, its cognitive dimensions and its role in creating value, by assessing the reality of its economic institutions, imposes on the institution the need to search for intellectual wealth, skills and creative ideas in their human resources. It is then identified and invested appropriately with the aim of converting them into profits, in the light of improving the competitive advantages of the organization and achieving a better competitive strategic position, (Hariyati et al,2019).

Intellectual capital consists of human assets, linked to information, knowledge and intellectual property of patents,

trademarks, etc., structural assets associated with organizational procedures and structures, as well as the nature of relations between the Organization and its allies. Thereis also the creative capabilities of some employees, which enable them to produce innovative ideas, or develop old ideas and use them to achieve a competitive advantage for the organization, (Chahal & Bakshi, 2015).

While global companies have realized in the transformations of the competitive environment that intellectual capital, is the only productive factor that can provide them with the continuous competitive advantage is their intellectual capital, and the strength of knowledge and high skills capable of creativity. It has become strategically important to move from an information economy to an economy of knowledge and smart minds. The availability of financial resources to finance projects, and the difficulty of monopolizing information and advanced technology, have led contemporary organizations to seek a competitive advantage over organizations working in the same activity, by adding value to the customer and achieving excellence by investing the intellectual and mental energy of individuals (Obeidatet al,2016).

Ralph Stayer, 1990, director of Johnsonville Food Company, was the first to launch the term “intellectual capital”. He said: (In the past, natural resources, the most important national wealth components and the most important assets of the companies, then capital has become representative of cash and

fixed assets are the most important community and components companies, but now it has intellectual capital replaced natural resources and cash and fixed assets (Areiqat,2019).

Guthrie (2001) points out that intellectual capital is reflected in the unique capabilities of some FAO staff, which enable them to present innovative ideas that enable the organization to increase its productivity and achieve high performance levels compared to competing organizations.

Sachem (2002) argues that intellectual capital represents the economic value of two categories of intangible assets - Structural Capital and Human Capital - an invisible value that is difficult to assess without an increase in the Organization's wealth.

While Sveiby (2005) considers that it is the process of transforming the knowledge that an organization possesses into added value, it is a mental energy formed by knowledge that is the main raw material of today's knowledge-based economy.

By identifying the previous concepts and definitions, the researcher believes that the definition of intellectual capital is "the possession of a group of employees in the institution of distinctive knowledge capabilities that the company is investing with its policies, programs and systems to provide that puts that knowledge and innovative ideas under implementation which leads to provide outstanding services and products to customers" (Bratianu, 2018)

Human capital is the basis for the formation and diagnosis of individuals who possess the mental capacity, skills and

experience necessary to find appropriate practical solutions to meet the requirements and desires of customers. Human capital has a specific characteristic that it is increasingly in use, as knowledge and experience increase and accumulate in the human element over time. (Lavyet al, 2014).

Ismail (2005) argues that the dimensions of human capital are knowledge, skills, as well as cooperation, trust and mutual respect among workers in teamwork that staff show when they work in a team and accomplish their work collectively.

It is a combination of elements of knowledge related to skills, accumulation of experience, creativity and innovation and the ability of members of the organization to perform their tasks to the required level and the human capital is not owned by the organization (Alkhateeb, Yao,Kie, Kassim, & Shaban, 2016).

It serves as the engine of creativity in organizations working in the knowledge economy, especially interacting with customers as embodying the company's ability to solve business problems (Hadad, 2017).

Structural capital is the second component of intellectual capital. This type of capital represents the core merit of the organization and its explicit knowledge that lies within the structures and systems of the institution. Data, measures, methods of work, software, etc. It isa representation of the values that remain in the organization (Dombrowski et al., 2016).

Thus, if financial capital makes the physical presence of the company and its book value in accounting entries, it is intellectual

capital that makes its market value in the market, and is most influential in making the company's reputation and reputation. While structural capital makes the explicit knowledge of a company that is retained in its structures, systems, procedures, and policies, it represents all the values that remain in the company when it ends on the last working day(de Villiers & Sharma, 2016).

Relationship capital, which is a constant component of intellectual capital, is the value of the organization's relations with customers by increasing customer loyalty and satisfaction, and the extent and retention of the customer, by paying attention to his suggestions, listening to his complaints and working to find appropriate solutions to them as soon as possible, involvement in the work of the organization and transactions, and strengthen cooperation between them (Kianto, Sáenz, & Aramburu, 2017).

Ismail(2005) argues that the components of the relationship capital include all relationships that link the organization with its stakeholders such as suppliers, government agencies, investors, customers, distribution channels, and strategic alliances established by the organization.

Thus, the relationship capital determines the nature of the relationship that links the organization with its customers, suppliers and allies, as well as any other party that helps develop and transform the idea into a product or service(Yan & Azadegan, 2017).

From the above, the researcher believes that the dimensions of the relationship capital are: customer relations,

relations with suppliers, and strategic alliances established by the institution with institutions working in the same field.

The study of competitive advantage by organization level focuses on the internal factors that determine the strength or weakness of the organization. While the analysis at the industry level focuses on the attention to governing policies according to a specific economic scope, and to see organizations as independent entities and make comparisons among them, while analysis based on the level of macroeconomic performance on the study of the factors behind the strength or weakness of the economy in its performance (Teece, Peteraf, & Leih, 2018)

In other words, a competitive advantage arises when the organization discovers new methods and methods that are more effective than those used by competitors. The organization will be able to sponsor and apply this discovery in the field, in other words, to create a process of innovation in its broadest sense(Suripto & Gunawan, 2019).

Al Salem, 2009, sees the competitive advantage as a skill, technology, or resource that enables an organization to produce values and benefits for its customers beyond those of its competitors, and shows its distinctiveness and difference from those competitors from the point of view of customers who accept this distinction.

The concept of competitiveness reflects the extent to which an organization can maintain an increased market share

in the environment or area of activity in which it operates. The concept is linked to the effectiveness of the organization, which determines in the light of its ability to satisfy the needs of clients, investors and other segments of society, if it fails to be able to achieve a competitive advantage over other competitors (Dost, Badir, Ali, & Tariq, 2016).

It can be a comparative advantage enjoyed by the organization relative to other organizations during a certain period of time, and it can be a continuous advantage of the organization. It distinguishes the organization in a longer period of time during which no competitor can imitate or emulate in addition to not being able to replicate the benefits Consequences (Orugun & Aduku, 2017).

Competitive advantage is the strategic concept that reflects the organization's comparative and continuous competitive position, which is comparable to competitors, and is represented in the provision of products that distinguish them from them, and the customer is willing to pay more to get them, or provide products equivalent to the value of competitors' products at lower prices (Malkawi, Omari, & Halasa, 2018).

In this sense, the development of competitive advantage is a strategic objective of the organization to achieve through the outstanding performance of internal resources, and strategic competencies with knowledge in the various systems, strategies, activities and operations of the organization, which leads to

reduce costs, improve quality and increase market share and maximize long-term profitability(Abualoush, Masa'deh, Bataineh, & Alrowwad, 2018).

The researcher can clarify the relationship between intellectual capital and achieve competitive advantage in the form of a system so that the components of intellectual capital are the inputs and are processed on these inputs by applying the VRIO framework (value, scarcity, the difficulty of imitation, optimization) on the components of intellectual capital. The output of the system is that the institution has a distinct strategic intellectual capital that includes the main components of human capital, structural capital, and capital relations. Because of the availability of these distinct elements of intellectual capital, the institution is able to achieve the competitive advantage of high quality, creativity, efficiency and responsiveness(Fathurahman & Huseini, 2018).

**1-1 Study Problem and Questions:**

The interest in intellectual capital is one of the most prominent challenges faced by healthcare sector, due to the urgent need to organize and increase innovation and creativity, as intellectual capital focuses on the innovative and creative energies and capabilities that exist among healthcare providers, and how to discover, invest and preserve these energies and capabilities, given that the health sector views their human resources as the most valuable assets. Further, in order to enable the management of intellectual capital to contribute to the achievement and

consolidation of the competitive advantage of the healthcare organization, the healthcare sector must prepare its various programs within the framework of the healthcare organization's strategy on the one hand, and in accordance with the requirements of its work (Ofori & Appiah-Nimo, 2021; Qualtrics, 2022).

Based on the above, the problem of the study can be formulated in the following question:

What is the impact of intellectual capital in achieving the competitive advantage of the health sector in the Kingdom of Bahrain?

**1-2 The Importance of the Study:**

The importance of the study is shown by the benefits that can be achieved as follows:

1. Assisting health sector management in evaluating its intellectual capital and recognizing its importance as an essential element in creating value for customers and achieving sustainable competitive advantage.
2. Assisting health sector management to understand the relationship between the dimensions of effective intellectual capital, which enhances its competitive position.
3. Assisting health sector management in developing programs and plans for developing intellectual capital and clarifying the importance of investing in these assets because of their essential role in creating value for customers and achieving excellence.
4. Providing a greater opportunity for the company to understand

the true picture of its intellectual capital, identify and enhance the positives, diagnose the negatives, and attempt to correct them.

**1-3 The Objectives of the Study:**

The study aims to achieve the following objectives:

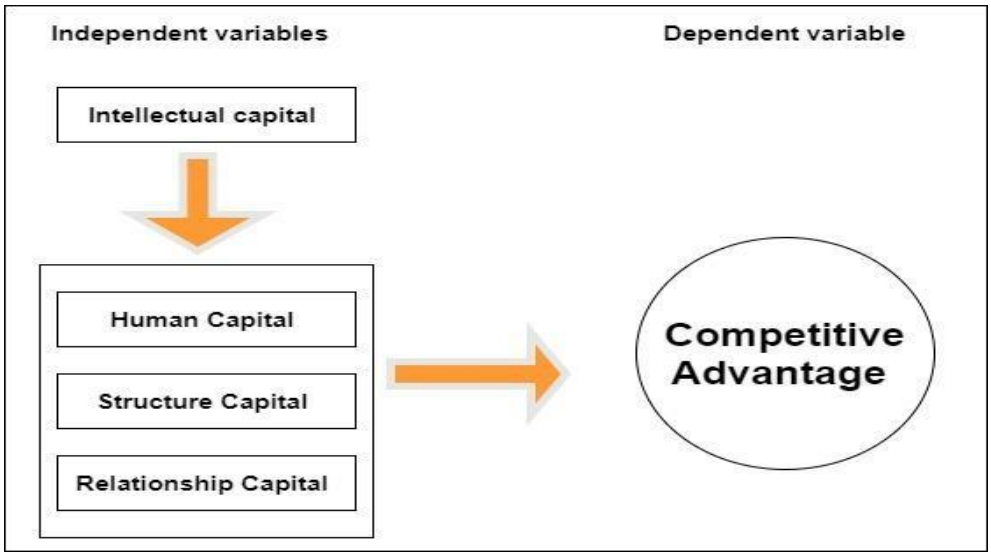
1. Identify the level of availability of the intellectual capital dimensions (human, structural and relations) at the In the health sector in the Kingdom of Bahrain. .
2. Identify the level of competitive advantage of In the health sector in the Kingdom of Bahrain. .
3. Highlight the role of intellectual capital and its components in achieving the competitive advantage of In the health sector in the Kingdom of Bahrain. .
4. Draw the attention of In the health sector in the Kingdom of Bahrain. to the importance of intellectual capital as a strategic concept and try to confirm its role as a tool to achievecompetitive advantage.
5. Highlighting the most important dimensions of the intellectual capital of In the health sector in the Kingdom of Bahrain. .
6. To reach a number of recommendations and proposals that should be taken into account for the intellectual capital to achieve competitive advantage.

**1-4 Proposed Study Model:**

In light of the study's problem, questions, objectives, and the importance it entails, the proposed study model was

formulated to describe the relationship between the study variables represented in (the impact of intellectual capital on achieving competitive advantage in the health sector in the Kingdom of Bahrain). As shown in Figure (1) as follows:

**Figure 1: The proposed study model Study**




## 1-5 Hypotheses:

**H0:** There is no statistically significant effect at the level of ($\alpha \leq 0.05$) of the intellectual capital with its dimensions of (human capital, structural capital, and relations capital in achieving the competitive advantage of the health sector in the Kingdom of Bahrain).

Three main hypotheses emerge from the main hypothesis of the study:

**H01:** There is no statistically significant effect at ($\alpha \leq 0.05$) level of human capital in achieving the competitive advantage of the health sector in the Kingdom of Bahrain.

**H02:** There is no statistically significant effect at the level of significance ($\alpha \leq 0.05$) of the intellectual capital in achieving the competitive advantage the health sector in the Kingdom of Bahrain

**H03:** There is no statistically significant effect at the level of significance ($\alpha \leq 0.05$) for the relationship capital to achieve the competitive advantage the health sector in the Kingdom of Bahrain.

## 2. Literature Review:

### 1- A study by (Gravili,. Manta., Cristofaro, Reina & Tom,. 2021) entitled: " Value that matters: intellectual capital and big data to assess performance in healthcare. An empirical analysis on the European context".

The aim of this study is to The aim of this paper is to analyze and measure the effects of intellectual capital (IC), i.e. human capital (HC), relational capital (RC) and structural capital (SC), on healthcare industry organizational performance and understanding the role of data analytics and big data (BD) in healthcare value creation (Wang et al., 2018). Through the assessment of determined variables specific for each component of IC, the paper identifies the guidelines and suggests propositions for a more efficient response in terms of services provided to citizens and, specifically, patients, as well as predicting effective strategies to improve the care management efficiency in terms of cost reduction. The study has been conducted on a sample of 28 European countries, notwithstanding the belonging to specific international or

supranational bodies, between 2011 and 2016 , and shows the existence of a positive impact (turning into a mathematical inverse relationship) of the human, relational and structural capital on the performance indicator, while the physical assets (i.e. the available beds in hospitals on total population) positively mediates the relationship, turning into a negative impact of non-IC related inputs on healthcare performance. The result is relevant in terms of managerial implications, enhancing the opportunity to highlight the crucial role of IC in the healthcare sector.

**2- A study by (Huang, Leone, Caporuscio, & Kraus, 2021). entitled: " Managing intellectual capital in healthcare organizations**

The aims at rising stream of literature about intellectual capital in healthcare organizations, by exploring how knowledge-based activities are designed to promote innovation and create value. This process concerns not only buyers and sellers of industrial products/services but, more widely, larger networks of healthcare actors which include patients, payers and health institutions.

results show that three knowledge-based activities of the healthcare ecosystem shape the basis of the proposed conceptual framework. First, a value co-creation strategy to develop capabilities for each health stakeholder is intended as human capital. Second, the market access approach to promote innovation is reported to the relational capital. Third, a digital servitization strategy is referred to the structural capital.

**3- A Study by (Paoloni, N., Mattei, G., Dello Strologo, A., & Celli, 2020). The present and future of intellectual capital in the healthcare sector: A systematic literature review**

This systematic literature review analyzes and identifies research areas where researchers have already studied the role of intellectual capital (IC) in the healthcare sector. This review also analyzes how they carried out their work to understand future research directions The analysis is conducted through a systematic literature review. Therefore, following systematic literature review protocol, it was possible to select 225 papers. An analysis of the content was done to identify the main topics debated and understand what components of IC are the most studied by scholars. he authors highlight how the components of IC (human capital, structural capital and relational capital) in the healthcare sector have not been discussed with the same frequency and intensity by researchers. The research shows that there are already widely discussed areas, such as structural capital, while other components of IC have remained on the shadow, such as relational capital. Human capital is the most undiscussed component.

**4- A study by Taie (2014) entitled " effect of intellectual capital on organizational competitive advantage in Egyptian hospitals".**

The study aimed to investigated the effect of intellectual capital on organizational competitive advantage in Egyptian

hospitals. Results indicated that structural capital and competitive advantage variables were high and have very high means. In addition, the intellectual capital positively correlated with the competitive advantage.

**5- A study by (Louisa .. 2016)) entitled " the intellectual capital role in achieving competitive advantage at economic institutions in the light of the knowledge economy."**

conducted a study that aimed to view the intellectual capital role in achieving competitive advantage at economic institutions in the light of the knowledge economy. Louisa's study addressed the intellectual capital as a role in achieving competitive advantage in a knowledge-based economy in the 'AinTuta Cement Company'. The study found a significant relationship between intellectual capital and competitive advantage in the company under study, and recommended increased attention to intellectual capital and managing it as an important source to achieve excellence, and the need to deal with the intellectual capital as the most important strategic resource is held by the company.

**6- A study by (Alkhatib, & Valeri .,2024) entitled '' Can intellectual capital promote the competitive advantage? Service innovation and big data analytics capabilities in a moderated mediation model".**

his study explores the connection between intellectual capital (IC) components and the competitive advantage (CA) of the hospitality sector in Jordan through the mediating role of

service innovation as well as the moderating role of big data analytics capabilities.

Data were collected through a self-administered questionnaire from the hospitality sector with a sample of 402 respondents. Data were analysed using SmartPLS, a bootstrapping technique was used to analyse the data. The mediating effect for service innovation and the moderating effect for big data analytics capabilities were performed.

The results showed that the proposed moderated-mediation model was accepted because the relationships between the constructs were statistically significant. The results of the data analysis supported a positive relationship between human capital, structural capital and relational capital and the CA as well as a mediating effect of service innovation. The findings confirmed that there is a moderating relationship for big data analytics capabilities between service innovation and CA. The results illustrate the importance of IC and service innovation in enhancing CA in the Jordanian hospitality sector in light of the big data analytics capabilities.

**7- A study by (Vo,. Tran., 2023) entitled '' Measuring national intellectual capital and its effect on country's competitiveness. Competitiveness Review ''.**

The aim of this study to use a new index of national intellectual capital (INIC) to examine the relationship between national intellectual capital and national competitiveness. his

paper uses the INIC, developed by Vo and Tran (2021), to measure, compare and contrast differences in the level of national intellectual capital across 104 countries. INIC comprises the most crucial intellectual capital components: human capital, structural capital and relational capital. Various economic and social indicators are used as the proxies for these components of intellectual capital. Principal component analysis is used to derive INIC. The results indicate that during the study period the level of national intellectual capital gradually increased. Europe has attained the highest level of national intellectual capital, whereas Africa has achieved the lowest level. This study's findings confirm a close relationship between the national intellectual capital level and the national income level. Among the ten biggest countries, the USA achieved the highest national intellectual capital level, and China has significantly improved its cumulative level. Finland achieved the highest level of national intellectual capital in the world. National intellectual capital enhances a country's competitiveness.

**2-1 Study Methodology**

In line with study objectives and study questions, the researcher used two methods in collection of data namely primary and secondary data. The way to conduct the study is quantitative method through a questionnaire that used for gathering data from the sample of population. And the program used for measuring the data is Statistical Package for Social Science SPSS. The researcher

used descriptive and statistical analysis. In order to ascertain the Impact of Intellectual Capital in their dimensions (Human capital, Structural capital, Relational capital) on Competitive Advantage ) in the health sector in the Kingdom of Bahrain, the quantitative research design will be used in carrying out the study. Therefore, the questionnaire technic will be used as the data gathering method regarding the research topic in which the results will be analyzed by SPSS Program.

**2-2 Population and Sample**

The sampling unit consisted of (148) employees in the top and middle management (director, deputy/assistant director and head of department) in the health sector in the Kingdom of Bahrain. The questionnaire was distributed to all of them, (141) questionnaires were retrieved, and (7) questionnaires were excluded due to their lack of validity for statistical analysis, so the number of valid questionnaires for analysis (141) increased by (95.3%),

**2-3 Validation and Reliability of the study instrument**

**2-3-1 Validity**

The researcher developed a questionnaire to cover all dimensions of the independent and dependent variables in a way that enable the testing of the hypotheses of the study, which were constructed, configured and distributed to the sample members. To increase the degree of reliability of the data collected, the researcher relied as much as possible on measuring the variables of the study based on the measures of previous studies, where they proved their

credibility and reliability. The responses of the study sample were distributed according to the Likert quintile scale.

**Table (1): "The statistical standard for the interpretation of arithmetic averages and their estimates."**

| Mean | Degree of approval |
|---|---|
| From 1.00 - less than 2.33 | a low degree |
| From 2.33 - less than 3.67 | a medium degree |
| From 3.67 - less than 5.00 | a high degree |

## 2-3-2 Reliability

The Cronbach's Alpha is used for internal consistency to ensure that the questionnaire is validas a data collection tool for the current study. The researcher used Cronbach's Alpha coefficient to measure the level of internal consistency of the resolution of the paragraphs, where it can be seen in Table (4).

Reliability was tested by the Cronbach-Alpha coefficient to determine the degree of consistency and internal stability in the scale used to measure the variables of the hypotheses. According to (Sekaran, 2003; Nunnally, 1978), if the Cronbach-Alpha coefficient is morethan 60%, then it is reliable to analyze and interpret the data of the research.

**Table (2): "Internal consistency coefficients (Cronbach Alpha)"**

| Variables | Stability coefficient |
|---|---|
| Human capital | .891 |
| Structural capital | .881 |
| Relational capital | .729 |
| Competitive Advantage | .946 |
| **Total** | .968 |

Table (3) demonstrates that the security coefficients of the variables were higher than 60%. This shows inward consistency between the passages. (96.8%), which is higher than 60% showing inside consistency among all passages, which affirms the legitimacy of the survey in theory tested.

**Normal Distribution Test:**

**"Table (3): Normal distribution of data"**

| | | Competitive Advantage |
|---|---|---|
| N | | **141** |
| Normal Parameters[a,b] | **Mean** | **4.0142** |
| | **Std. Deviation** | **.79089** |
| Test Statistic | | **.152** |
| Asymp. Sig. (2-tailed) | | **.000[c]** |

The table shows that the distribution of data was followed by a normal distribution.

**Demographic of Study Sample:**

In this examination, the analyst managed a portion of the statistic factors of the example asfar as (gender, age, education, Job Position, Years of Experience) The example of the investigation was as per the following:

**Table (4): "Description of the study sample according to the demographic variables"**

| Variable | Level / category | Number | percentage % |
|---|---|---|---|
| **Gender** | Male | 83 | **58.9** |
| | Female | 58 | **41.1** |
| **Age** | 20- less 30 | 38 | **27.0** |
| | 30- less 40 | 37 | **26.2** |

| | | | |
|---|---|---|---|
| | 40- less 50 | 39 | **27.7** |
| | 50 years or more | 27 | **19.1** |
| **Education** | Diploma or below | 22 | **15.6** |
| | Bachelor | 90 | **63.8** |
| | Master degree | 21 | **14.9** |
| | PhD degree | 8 | **5.7** |
| **Years of Experience** | Less than 3 | 66 | **46.8** |
| | 3- less 6 | 16 | **11.3** |
| | 6- less 10 | 18 | **12.8** |
| | 10 years or more | 41 | **29.1** |
| **Total** | | **141** | **100.0** |

Table (4) shows the sample description based on the demographic variables of the sample. Shows that the percentage of males is higher than that of females, while the percentage of males was (58.9%) while the percentage of females was (41.1%), And shows that the age group (from 40- less 50) was the highest among other groups, at a rate of (27.7%), while the age group (from 50 years or more) was the lowest among the groups, It reached (19.1%). Andshows that the highest percentage among qualifications was for the academic qualification (Bachelor's) at (63.8%), while the lowest percentage among educational qualifications was (PhD degree), at (5.7%). data shows that the highest percentage of those with Less than 3 experience was (46.8%), followed by (29.1%) for those with 10 years or more of experience, and the results indicated that the lowest percentage was for those with less experience from 3-less 6(11.3%).

## 2-4 Test hypotheses

**H1**. There is no statistically significant impact at the significance level ($0.05 \geq \alpha$) of Intellectual Capital in their dimensions (Human capital, Structural capital, Relational capital) on Competitive Advantage the health sector in the Kingdom of Bahrain

**Table (5): b (Model Summary)**

| Model | R | $R^2$ | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | **.970[a]** | **.941** | **.940** | **.19383** |

Table (5) shows that the value of the correlation coefficient of Intellectual capital and the variable (Competitive Advantage) was 97.0%. The value of the coefficient of determination ($R^2$) is 0.941, so 94.1% of the total variance is explained by the model, and the rest is explained by other factors (Hair, 2010).

**Table (6): Analysis of variance (ANOVA)**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 82.425 | 3 | 27.475 | 731.324 | **.000[b]** |
| | Residual | 5.147 | 137 | .038 | | |
| | **Total** | **87.572** | **140** | | | |

Table (6) shows that the value of F is (731.324), and the statistical significance level is (0.00) and thus is less than (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted. There is an impact of Intellectual Capital in their dimensions (Human capital, Structural capital, Relational capital) on Competitive Advantage at the significant level ($\alpha \leq 0.05$).

- **The results of the First hypothesis test**

**H1.1** There is no statistically significant impact of Human capital on Competitive Advantage the health sector in the Kingdom of Bahrain at the level of $\alpha \leq 0.05$.

**Table (7): b (Model Summary)**

| Model | R | $R^2$ | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | **.887[a]** | **.786** | **.785** | **.36700** |

Table (7) shows that the value of the correlation coefficient of Human capital and the variable(Competitive Advantage) was 88.7%. The value of the coefficient of determination ($R^2$) is 0.786, so 78.6% of the total variance is explained by the model, and the rest is explained by other factors (Hair, 2010).

**Table (8): Table of Coefficient**

| Element | B | Std. Error | Beta | T | Sig. |
|---|---|---|---|---|---|
| (Constant) | .267 | .169 | | 1.587 | **.115** |
| Human capital | **.929** | **.041** | **.887** | **22.609** | **.000** |

Table (8) shows the results of Coefficients for the impact of Human capital on (Competitive Advantage). The table shows the calculated t values is22.609. The level of significance of t sig was (0.00).

As for the relative importance of the impact of the independent variables on the dependent variable, the standardized beta coefficients were used (Malhotra, 2004: Hair et al., 2003). The table also shows that there is a statistically significant impact at ($\alpha <= 0.05$) of Human capital on Competitive Advantage.

**The results of the second hypothesis test:**

**H1.2**There is no statistically significant impact of Structural capital on Competitive Advantage in the health sector in Bahrain at the level of $\alpha \leq 0.05$.

**Table (9): b (Model Summary)**

| Model | R | $R^2$ | Adjusted R Square | Std. Error Estimate |
|---|---|---|---|---|
| **1** | 0.966[a] | 0.933 | .933 | .20471 |

Table (9) shows that the value of the correlation coefficient of Human Structural and the variable (Competitive Advantage) was 96.6%. The value of the coefficient of determination ($R^2$) is 0.933, so 93.3% of the total variance is explained by the model, and the rest is explained by other factors (Hair, 2010).

**Table (10): Table of Coefficient**

| Element | B | Std. Error | Beta | T | Sig. |
|---|---|---|---|---|---|
| (Constant) | .065 | .091 | | .714 | **.477** |
| Structural capital | **.978** | **.022** | **.966** | **44.166** | **.000** |

Table (10) shows the results of Coefficients for the impact of Structural capital on (Competitive Advantage). The table shows the calculated t values is44.166. The level of significance of t sig was (0.00).

As for the relative importance of the impact of the independent variables on the dependent variable, the standardized beta coefficients were used (Mallhorta, 2004: Hair et al., 2003).The table also shows that there is a statistically

significant impact at (α<=0.05) of Structural capital on Competitive Advantage.

**The results of the third hypothesis test:**

**H1.3** There is no statistically significant impact of Relational capital on Competitive Advantage in the health sector in Bahrain at the level of α≤0.05.

**Table (11): b (Model Summary)**

| Model | R | $R^2$ | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | **.676[a]** | **.457** | **.453** | **.58482** |

Table (11) shows that the value of the correlation coefficient of Relational Structural and the variable (Competitive Advantage) was 67.6%. The value of the coefficient of determination ($R^2$) is 0.457, so 45.7% of the total variance is explained by the model, and the rest is explained by other factors (Hair, 2010).

**Table (12): Table of Coefficient**

| Element | B | Std. Error | Beta | T | Sig. |
|---|---|---|---|---|---|
| (Constant) | -.220- | .394 | | -.558- | **.578** |
| Relational capital | **1.007** | **.093** | **.676** | **10.819** | **.000** |

Table (12) shows the results of Coefficients for the impact of Relational capital on (Competitive Advantage). The table shows the calculated t values is10.819. The level of significance of t sig was (0.00).

As for the relative importance of the impact of the independent variables on the dependent variable, the

standardized beta coefficients were used (Mallhorta, 2004: Hair et al., 2003).The table also shows that there is a statistically significant impact at (α<=0.05) of Relational capital on Competitive Advantage.

**3- Conclusion and Recommendations**:

**3-1 Conclusion:**

In light of the results of the study, the author reached a number of conclusions, as follows:

1- The result showed that the mathematical averages of respondents' answers to the "Intellectual Capital." The first variable is (Relational capital) with an average of 4.20 and a high rating, then (Structural capital) with an average of 4.04 and a high rating, Finally, (Human capital) with an average of 4.03 and a high rating. It indicates that the level of application of Intellectual Capital dimensions is high among ) in the health sector in the Kingdom of Bahrain

2- The result showed that the mathematical averages of respondents' answers to the "Competitive Advantage" ranged from (3.87 - 4.11). It indicates that the level of application of Competitive Advantage is high ) in the health sector in the Kingdom of Bahrain The result showed that there is an impact of Intellectual Capital in their dimensions (Human capital, Structural capital, Relational capital) on Competitive Advantage at the significant level ($\alpha \leq 0.05$).

3- The result showed that there is a statistically significant impact at (α<=0.05) ofHuman capital on Competitive Advantage.
4- The result showed that there is a statistically significant impact at (α<=0.05) ofStructural capital on Competitive Advantage.
5- The result showed that there is a statistically significant impact at (α<=0.05) ofRelational capital on Competitive Advantage.

**3-2 Recommendations:**

In light of the results of the study, the author proposed some recommendations for the health sector in the Kingdom of Bahrain.

1- The study recommends in the health sector should continue to develop its intellectual capital in order to achieve a sustainable competitive advantage in the market.
2- in the health sector in the Kingdom of Bahrain should encourage the building of teams within work environment in order to contribute to strengthening competitiveness.
3- in the health sector in the Kingdom of Bahrain should continue to improve its management of employees, rewarding them in order to encouragethem to create, innovate more ideas and tools to improve work, and also to achieve a competitive advantage for the organization, or to collect more value from their innovations.
4- The study recommends to track intellectual capital and its role in achieving competitive advantage in other pharmaceutical companies or any other production sectors.

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