

The Impact of Intellectual Capital on Competitive Advantage at Jordanian Commercial Banks

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Abstract

The study aimed to investigating the impact of Intellectual Capital on competitive Advantage at Jordanian Commercial Banks. This study used descriptive as well as cause/effect. Data collected from Jordanian Commercial Banks (13 banks) by means of questionnaire during March 2018. The questionnaire was distributed to 300 out of 366 managers and supervisors, only 290 questionnaires were obtained, and just 281 were suitable for further analysis. After confirming normality, validity, and reliability of the tool, correlation between variables was conducted, and then hypothesis was tested by using multiple regressions. The results show that both companies are highly implementing IC and competitive advantages variables, and there are strong relationships between IC and competitive advantages variables. The results of multiple regressions show that there is a significant impact of IC on competitive advantage at Jordanian Commercial Banks. The results also show that human capital, relational capital and structural capital have positive significant impact on competitive advantage at Jordanian Commercial Banks. Finally, the study recommends further testing of hypothesis on same industry in other countries, especially Arab countries and other industries to test the validity of results.

Keywords: Intellectual capital (IC); Competitive advantages; Human capital (HC); Relational capital (RC); Structural capital (SC).

1. Introduction

The world has seen in Business Organizations in most countries a transformation towards focusing on Intangible assets or so-called Intellectual Capital in its dimensions. The subject of Intellectual Capital is one of the most important modern management topics of the contemporary management literature, which was interest to a group of researchers in the early of 1990s. The literature appeared on multiple subjects; which changed the traditional vision of the concept of Intellectual Capital, therefore, sought to interpret the concept of Intellectual Capital as importance matter in my study.

The first appearance for Intellectual Capital in the academic literature was in 1969; when Galbraith defined Intellectual Capital as the difference between books' value and firms' market. Galbraith has shown the Intellectual Capital like a crucial part of firms' value creation process and assets simultaneously. Teece (2000) stated that a set of intangibles such as: knowledge, intellectual property, innovativeness, information, expertise, and the team's abilities have been added to the definition of Intellectual Capital.

The discussion over the Intangible Assets as a company' value's creating component has been arising over the past two decades. Nowadays, a highly competitive, ever-changing markets, the importance of financial and physical factors have declined, whereas investments in knowledge and other intangibles have been raised. Cegarra-Navarro and Sanchez-Polo (2010), told that the executives in both private and public sectors are generating competitive advantages by centralizing their focus on Intangibles. Martin-de-Castro *et al.* (2011), told that the Intellectual Capital has been defined as a factor of production, replacing the tangible assets such as land job, and production's facilities. Chen *et al.* (2012), told that the reason why the intellectual capital is considered a reliable values due to the fact that intangible assets are more important than tangible assets. Masoud *et al.* (2014), said that Intellectual Capital is a collection of assets that are assigned to a corporation. And it is considered among its features and lead to organizations' considerable competitive improvement through adding value to the key stakeholders of organization.

Dumay and Garanina (2013), added for the work of intellectual capital and concluded that measurement and classification of intellectual capital is essential for any companies. They introduced a various measurement models of intellectual capital. And they discussed the importance and valuable of different dimensions of intellectual capital in creating decisions. Furthermore, they revealed that certainty in measurement is not acceptable, therefore, it is important because it assists in developing new managerial objectives and elements.

Stahle and Bounfour (2008), told that even though the impact of intellectual capital have been known; the intellectual capital is still in its early parts in the terms of recognizing the impact on strategy and management in the knowledge-based economy. Ercegovic and Anita (2013), said that the competitive advantages have been widely discussed in the strategy management literature; but there is still no agreement on a single definition of competitive advantage and company performance.

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It seems that the Intellectual Capital is crucial for the organization's success. Implementing all Intellectual Capital dimensions (Human, Structural and Relational) can create competitive advantages (cost, quality, time/speed, and innovation). Therefore, this study is devoted to investigate the impact of Intellectual Capital on competitive advantages.

1.1. Problem Statement

Managing and measuring Intellectual Capital is a worldwide problem; in fact it is not limited to industry, organization or country. *Vashishtha et al. (2012)*, said: Management of Intellectual Capital cannot be possible without measuring it. *Manzari et al. (2012)*, specified: Every organization should select its appropriate Intellectual definition and its indicators to measure it. Finally *Sharabati et al. (2010)* stated: The concept of Intellectual Capital is not well known to most managers in Jordan. Through my meetings with several managers who are working in banking industry, the researcher was informed that each company is searching how to better service the customers and trying to create competitive advantages in cost, quality, time/speed and innovation. Many studies recommended that intellectual capital could affect competitive advantages such as *Sharabati et al. (2013)* stated that a positive significant effect of Intellectual Capital on Jordanian Telecommunication Companies' business performance.

Stated that all intellectual capital dimensions have a statistically significant and positive relationship with technical innovation dimensions. Therefore, the purpose of this study is to investigate the impact of Intellectual Capital on Competitive Advantage. Through my meetings with many managers who they are working in the banking industry; the researcher was informed and noticed that each bank is searching of how to provide a better services to the customers and to try how to create a competitive advantage in the cost, quality, time or innovation.

1.2. Problem Question

The study aims to answer the following research main question: Do intellectual capital practices affect competitive advantages of banking industry?

Based on IC components the following five sub-questions are derived:

1. Do intellectual capital elements (Human, Structural and Relational) affect competitive priorities at Jordanian commercial Banks?
2. To which extent does the sample rely on Intellectual Capital and its components in comparison with physical capital to create competitive advantage?
3. Does human capital affect competitive advantage for the sample?
4. Does structural capital affect competitive advantage for the sample?
5. Does relational capital affect competitive advantage for the sample?

2. Study Purpose and Objectives

The purpose of this study is to investigate the impact of Intellectual Capital on achieving competitive advantage on Jordanian commercial banks. Moreover, the main objective of this study is to determine the impact of Intellectual Capital on Competitive Advantage and to provider recommendations to Jordanian commercial Banks and other industries, as well as, to decision makers who concerns about Intellectual Capital and competitive Advantage. In additional, to researchers and academicians who may use it as reference.

2.1. Study Significance and Importance

The importance of this proposal is to recognize the impact of Intellectual Capital on competitive advantage at Jordanian commercial banks and that helps banking sector decision making by setting proper plans and strategies based on enhancing their intellectual capital in order to reach a competitive advantage and this will leads banks to better understanding the intellectual capital dimensions, in a way to improve or maintain their competitive Advantage. Recognizing the impact of intellectual capital on competitive Advantage especially in Jordanian Banks, this study is going to set many helpful suggestions that help decision makers in banking sector.

The study significance rises from the following considerations:

- This study could make other researchers search in this important field, through the study literature review and previous studies.
- This study is contributing to add more value in this field, and from this point this study reveals its importance in this rapid changes era that is hard to control.
- Show the role of intellectual capital in enhancing competitive Advantage.

2.2. Study Hypothesis

Based on problem statement the study questions will be answered by testing the following hypotheses:

H₀₁ intellectual capital has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H_{01.1} intellectual capital (human capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H_{01.2} intellectual capital (structural capital) has no impact on competitive advantage in Jordanian commercial banks ($\alpha \leq 0.05$).

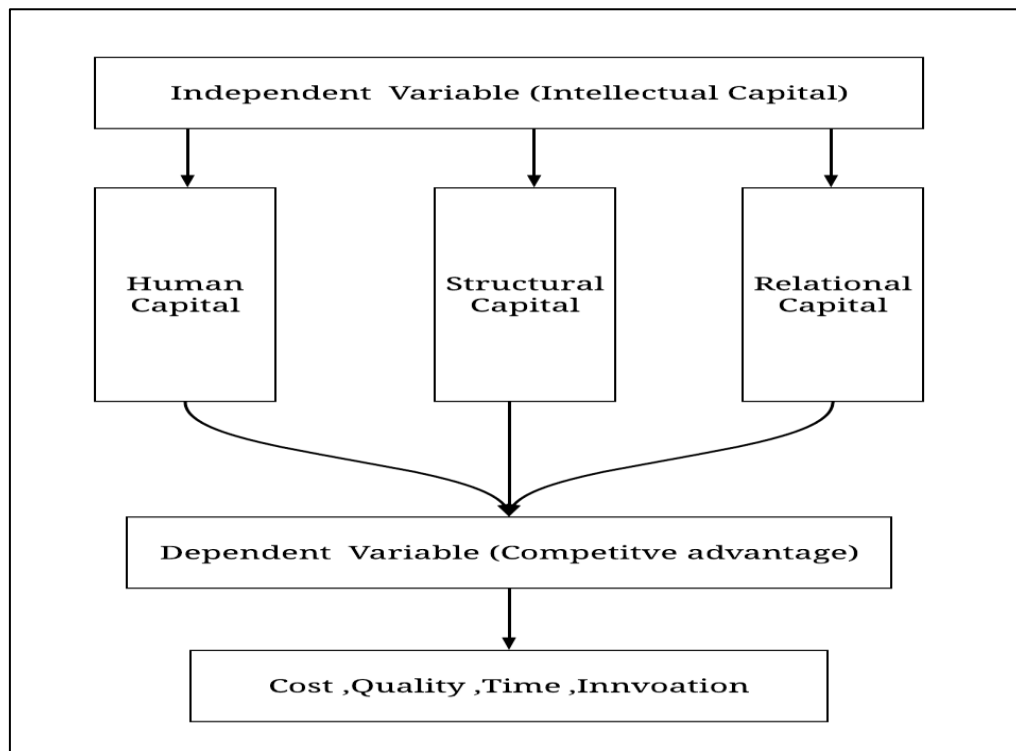
H_{01.3} intellectual capital (relational capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H_{01.4}: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to demographic information at ($\alpha \leq 0.05$).

2.3. Study Model

The research will study the impact of Intellectual Capital dimensions as independent variable on Competitive Advantage as dependent variable.

Study model:



Study sources: the model is developed based on the following previous studies: Sharabati *et al.* (2013); Chaghooshi *et al.* (2015); Sari (2015).

3. Procedural and Operational Definitions of Terms

IC is the value of an organization or companies' business training, employee knowledge, skills or any proprietary information that may provide the organization with a competitive advantage.

Intellectual Capital: All useful knowledge that related to the organization's processes, patents, technologies, employees' skills, and information about customers, stakeholders, and suppliers.

Human Capital: it's all the knowledge that employees take with them when they leave the firm. It includes the experiences, skills, knowledge and abilities of people.

Structural Capital: it's all the knowledge that stays with the firm at the end of the working day. It's consist of, procedures, cultures, systems, organizational routines, databases, etc. Some of them may be legally protected and become Intellectual Property Rights, legally owned by the firm under separate title.

Relational Capital: is every resources that linked to the relationships of the firm like suppliers, customers or R&D partners. It included that part of Structural and Human Capital dealing with the company's relations with stakeholders (suppliers, customers, creditors, investors, etc.), plus the perceptions that they hold about the company.

Competitive Advantage: is the character that allows an organization for being better than other competitors. A competitive priorities may include access to natural resources, such as low-cost power source, geographic location, highly skilled labor, access to new technology and high entry barriers.

Cost: provide the same service at lower cost.

Quality: meeting customer requirements.

Time: the duration that any service need to be delivered

Innovation: the new idea to do the service that added value to the customer

4. Study Limitations and Delimitations

As defined by Creswell (2005), a limitation is weakness in the research that could potentially be caused by any element that may block data collection within the study.

However, the limitation of the study can be listed as following:

Human limitations: The study measured Jordanian Banks managers' intellectual capital.

Place limitations: The study included managers of Jordanian Banks as representative of Jordan.

Time limitations: This study looks at the current status at the specified time points without considering previous use.

4.1. Delimitations

The study used one industry, which limits its generalizability to other industries. The study was conducted in Jordan and therefore the generalizability of this study to other countries of the same industry or other industries may be questioned. In addition, absence of similar industry studies in Jordan

4.2. Study Population, Sample and Unit of Analysis

Study population and sample: There are 13 commercial banks in Jordan. All of the banks were targeted; therefore, there is no need for sampling. All managers and supervisors at top and middle management are working at Jordanian commercial banks (about 366 managers and supervisors) were targeted for data collection, which negates the need for sampling. The unit of analysis is the managers and supervisors (top and middle management) who are working in these banks.

5. Data Collection Methods (Tools)

The data that will be used for fulfilling the purposes of the study can be divided into two groups: secondary and primary data. Secondary data: books, journals and previous studies in well-known magazines, articles, thesis and websites. Primary data: the researcher will design a questionnaire that reflects the study objectives.

5.1. The Questionnaire

Previous studies will be the based for the development of initial items to measure various constructs. The questionnaire was tested and developed based on the hypotheses and the study's model. Then validity of the questionnaire was checked through interviewing experts in banking industry and a panel of judges.

5.2. Questionnaire Variables

The questionnaire will include three parts as follows:

Demographic Dimensions: Bank, Age, gender, experience and education.

Independent Variables (IC): Through literature review, there are three important independent variables: human capital, structural capital and relational capital. Each sub-variable was tested via ten questions. Therefore, the total items were 30.

Dependent Variable (Competitive Advantages): Dependent variable of the study which includes: cost, quality, time and innovation. Each variable was measured by 5 items. Therefore, the total items were 20.

All variable items will be measured by five Likert-scale as follows as following: (Strongly Agree - Agree - Neutral - Disagree - Strongly disagree).

6. Data Analysis Methods

All the commercial banks in Jordan were targeted and the questioners were distributed to all managers who are working in the banks and were available at the time of implementing this study. A three hundred questionnaires were distributed to 300 managers and supervisors out of 366. 66 managers were out of reach. Only 290 questionnaires were obtained, and only 281 questionnaires were suitable for analysis, while nine questionnaires were eliminated because of uncompleted or anomalies data. After that, the data were coded against SPSS 20 for further analysis.

Validity Test: Two methods were used to confirm content and face validity: For content validity, multiple sources of data (literature, expert interviews and panel of judges) were used to develop and refine the model and measures. Then, panel of judge were carried out for all items included in the questionnaire to confirm face validity.

6.1. Measurement Scale

The presented measurement scale and equation have been used in order to determine the level of importance of each variable, dimension, and question item or element based on the mean value:

Calculate the difference between the highest value and the value of a value ($5-1 = 4$)

Calculate the length of the category ($4/5 = 0.8$)

The categories are as follows:

- Very low if the arithmetic averages ranged between (1-1.80).
- Low level if the arithmetic averages range from (1.81 to 2.60).
- Moderate level if the calculation averages ranged between (2.61-3.40).
- High level if the arithmetic mean ranges between (3.41-4.20).
- Very high if the arithmetic averages range between (4.21-5.00).

6.2. Hypotheses Testing

This part is concerned with the testing of the null hypothesis "denoted by H_0 " which is assumed to be true but tested for possible rejection. To answer the questions related to the research problem regarding the nature of the relationship between Intellectual Capital and Competitive Advantage within Jordanian Commercial Banks. Additionally, to detect which Intellectual Capital dimensions has the most influential effect on Competitive Advantage, this research will use simple linear, multiple linear, multiple hierarchical regression analysis to test the research main and sub-hypothesis.

The First Main Hypothesis of the research and the sub-hypotheses related to $H_{0.1}$ hypothesis:

H0.1 intellectual capital has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H0.1.1 intellectual capital (human capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H0.1.2 intellectual capital (structural capital) has no impact on competitive advantage in Jordanian commercial banks ($\alpha \leq 0.05$).

H0.1.3 intellectual capital (relational capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

6.3. Previous Studies

1. **Dumay (2016)** study titled: **“A critical reflection on the future of intellectual capital: from reporting to disclosure”** The purpose of this paper is to offer a personal critical reflection on the future of intellectual capital the results was that the authors need to abandon reporting and instead concentrate on how an organization discloses what “was previously secret or unknown”, so that all stakeholders understand how an organization takes into consideration ethical, social and environmental impacts in keeping with an eco-systems approach to intellectual capital
2. **Omerzal and Jurdana (2016)** study titled: **“The influence of intellectual capital on innovativeness and growth in tourism SMEs: empirical evidence from Slovenia and Croatia”** aimed to examine the influence individual intellectual capital components have on the innovativeness and consequent growth of a company the study methods was a classification and measurement method of intellectual capital. The study sample was 359 in the tourism area.
3. **Khorasanian (2016)** study titled: **“the impact of the intellectual capital on financial performance of state banks in Iran”** aimed to investigate the impact of the intellectual capital on financial performance of state banks in Iran. The sample was 8 state banks in Iran. The results show that efficiency in the use of intellectual capital positively affects the financial performance of Iranian’s state banks. So, it seems that the development of effective the Intellectual Capital is necessary to adapt to a constantly changing environment.
4. **Singh and Rao (2016)** study titled: **“Examining the Effects of Intellectual Capital on Dynamic Capabilities in Emerging Economy Context: Knowledge Management Processes as a Mediator”** aimed to investigate the effects of intellectual capital on dynamic capabilities and the mediating role of knowledge management processes. The sample was 679 responses from banking industry in India. The findings was that intellectual capital with its three dimensions has significant effect on dynamic capabilities.
5. **Pongpearchan (2016)** study titled: **“the influence of intellectual capital on firm performance of computer business in Thailand”** aimed to investigate the effect of intellectual capital on firm performance of computer business in Thailand. The sample was 925 computer business and was tested by ordinary least squared regression. The result was that organizational capital has an effect on value creation and innovative capability.
6. **Luostarinen (2016)** study titled: **“The Impact of Intellectual Capital Assets and Knowledge Management Practices on Organizational Performance”** aimed to understand the interaction of intellectual capital assets and knowledge management practices and their impact on organizational performance. The result was that intellectual capital assets and knowledge management practices have the potential to create value both together and separately.
7. **(Gunawan and Sanjaya, 2016)** study titled: **“The Influence of Intellectual Capital to The Company Value: The Financial Performance as Intervening Variable”** aimed to determine whether the Intellectual Capital will influence the financial performance and company value. The sample was 72 companies. The model that used was the result of value added intellectual coefficient. The results was that intellectual capital has no impact to the financial performance.
8. **Melendez (2017)** study titled: **“The Impact of Intellectual Capital on Firm's Performance”** The purpose was to investigate the components of intellectual capital and their relation with firm performance among presenting the most employed models of intellectual capital, and examining three already existing studies. This paper includes discussions regarding the previously presented empirical studies and a conclusion and limitations of this thesis.
9. **Iqbal and Zaib (2017)** study titled: **“Corporate Governance, Intellectual Capital and Financial Performance of Banks listed in Pakistan Stock Exchange”** aimed to examine the effect of Corporate Governance and Intellectual Capital on financial performance in banks listed in Pakistan stock exchange. The sample was dived into two groups Commercial banks and Microfinance & investment banks. The study used a Generalized Least Squared (GLS) model. The results appeared that Corporate Governance has significant impact on intellectual capital in both groups of banks
11. **Bodagh and Soleymani (2017)** study titled: **The Impact OF Intellectual Capital, Organizational Innovation and Social Responsibility on Competitive Advantage (Study of the moderating role of gender and age of insurance companies senior managers)** aimed to assessing the effect of intellectual capital, organizational innovation and social responsibility on competitive advantage regarding moderating role of age and gender among top managers of insurance companies. The sample was 160. The method was descriptive correlation. The result of the hypothesis of research denotes positive and meaningful effect on intellectual capital, organizational innovation and social responsibility on the competitive advantage of insurance companies.

12. Chu, et. al. (2017) study titled: “An Empirical Study of the Impact of Intellectual Capital on Indian IT Industry” aimed to investigate the relationship, between the intellectual capital components, with the traditional measures of performance of the company. The model used analysis of correlation and linear multiple regression. The results was that the human capital and physical capital both had the major impact on the profitability and productivity of the firms over the period of study.

7. What Make this Study Different from Previous Studies?

This study might be considered as one of a little studies that investigated the impact of intellectual capital on Competitive Advantage at Jordanian commercial Banks in Jordan. This study is going to be an expansion in the impact of intellectual capital on competitive Advantage field for all practitioners and researchers. Most of previous researches works were conducted to investigate intellectual capital on many industries and most of them focus on the physical product industries. Relatively few of these studies addressed the impact of intellectual capital on competitive Advantage on services industry. This study is going to specifically explain how the intellectual capital effect on competitive advantage at Jordanian commercial banks. All of previous studies have been executed in different countries. This study will be executed in Jordan.

7.1. Hypotheses Testing

This part is concerned with the testing of the null hypothesis "denoted by H0" which is assumed to be true but tested for possible rejection. To answer the questions related to the research problem regarding the nature of the relationship between Intellectual Capital and Competitive Advantage within Jordanian Commercial Banks. Additionally, to detect which Intellectual Capital dimensions has the most influential effect on Competitive Advantage, this research will use simple linear, multiple linear, multiple hierarchical regression analysis to test the research main and sub-hypothesis.

The First Main Hypothesis of the research and the sub-hypotheses related to H0.1 hypothesis:

H0.1 intellectual capital has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H0.1.1 intellectual capital (human capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

H0.1.2 intellectual capital (structural capital) has no impact on competitive advantage in Jordanian commercial banks ($\alpha \leq 0.05$).

H0.1.3 intellectual capital (relational capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).

Table-21. Simple Linear Regression of Intellectual Capital on Competitive Advantage

Variables	Beta	Sig
(Constant)	.047	.575
Intellectual Capital	.934	.000
R	.934 ^a	
R ²	.872	
Adjusted R ²	.871	
F	1898.669	.000 ^b

Table-22. Multiple Regression of Intellectual Capital (Human Capital, Structural Capital, and Relational Capital) on Competitive Advantage

Variables	Beta	Sig
(Constant)	.249	.000
Human Capital	.585	.000
Structural Capital	.525	.000
Relational Capital	.098	.000
R	.974 ^a	
R ²	.949	
Adj. R ²	.949	
F	1720.162	.000 ^b

From the table (21), the Simple Linear Regression correlation coefficients (R = .934) indicating that there is a strong positive correlation between Intellectual Capital and Competitive Advantage. This means that the independent variables and dependent variable change in the same direction. The (R) value is a gauge of how well the model predicts the observed data.

The value of (R² = .872) indicates that Intellectual Capital can explain (87.2 %) of the variation and change in Competitive Advantage.

The (Adjusted R²) pertained to the generalizability of the model. It allows generalising the results taken from the respondents to the whole population. It is noticed that the value of (Adjusted R²) is very close to the value of (R²), in this case, it is equal to (R² = .872), If the (Adjusted R²) is excluded from (R²), (.872 - .871), the value will be (0.001). This amount of reduction means that if the whole population participates in the research and the model has been fitted then, there will be (1.00%) less variance in the outcome.

Referring back to the analysis of variation which allows us to statistically test the main null hypothesis, from the table above, it can be concluded that the (F) value for the collected data is (1898.669) which is significant at the level

of ($\alpha < 0.05$) (sig. =.000), this result tells us that there is less than a (0.05%) chance that an (F) ratio of this value would happen by chance solely. Therefore, we conclude that there is a statistically significant effect of Intellectual Capital on Competitive Advantage. Thus, this research rejects the first null hypothesis and accept the alternative hypothesis.

Table (22) shows the Multiple regression coefficients, these results will support in detecting the most influential Intellectual Capital (Human Capital, Structural Capital, and Relational Capital) affecting the Competitive Advantage. In this regards another part of multiple regression analysis will be revealed in table (22), it is about testing the effect of each predictor (variable) included in the model if other predictors are held constant on the dependent variable. Standardised (Beta) coefficients (β) and (α) significance levels were used to test the effect.

Table (22) shows the standardised coefficients (β) values for each Intellectual Capital for the three sub dimensions (Human Capital, Structural Capital, and Relational Capital). The β coefficients were statistically significant and relatively high (.585, .525, and .098) respectively for Human Capital, Structural Capital, and the Relational Capital and due to their significant level of (0.000) which is less than (0.05). Henceforth, it can be concluded that the all of the Human Capital, Structural Capital, and the Relational Capital have a statistical significant impact on the Competitive Advantage. Therefore, this research rejects all the null Hypothesis H.0.1.1, H.0.1.2, and H.0.1.3 and accepts the alternate hypothesis.

In terms of the strongest effect of Intellectual Capital dimensions on Competitive Advantage, the level of effect of these variables depends on the (β) value, the higher (β) value the higher effect on the dependent variable. Accordingly, it can be concluded that the Human Capital ($\beta = .585$) has the strongest impact over the competitive advantage, followed by the Structural Capital ($\beta = .525$). On the other side the Relational Capital ($\beta = .098$) was found to have the least level of effect over the competitive advantage.

The second main Hypothesis of the research and the sub-hypotheses related to H0.2 hypothesis:

H.0.2: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to demographic information at ($\alpha \leq 0.05$).

H.0.2.1: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Bank at ($\alpha \leq 0.05$).

H.0.2.2: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Gender at ($\alpha \leq 0.05$).

H.0.2.3: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Age at ($\alpha \leq 0.05$).

H.0.2.4: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Education at ($\alpha \leq 0.05$).

H.0.2.5: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Division at ($\alpha \leq 0.05$).

H.0.2.6: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Experience at ($\alpha \leq 0.05$).

Table-23. Hierarchal Multiple Regression of Intellectual Capital on Competitive Advantage due to Demographic Variables

Variables	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig
(Constant)	.047	.575	.054	.534	.074	.456	.041	.704	.151	.236	.183	.168	.186	.176
IC	.934	.000	.934	.000	.933	.000	.933	.000	.937	.000	.937	.000	.937	.000
Bank			-.007	.762	-.007	.744	-.009	.675	-.007	.733	-.007	.740	-.007	.742
Gender					-.009	.676	-.011	.627	-.013	.551	-.014	.511	-.014	.509
Age							.016	.461	.017	.429	.016	.473	.016	.473
EDU									-.035	.104	-.036	.097	-.036	.100
Division											-.019	.389	-.019	.389
EXP													.002	.93
R	.934 ^a		.934 ^b		.934 ^c		.934 ^d		.935 ^e		.935 ^f		.935 ^g	
R ²	.872		.872		.872		.872		.873		.874		.874	
Adj. R ²	.871		.871		.871		.870		.871		.871		.871	
F	1898.669		946.291		629.048		471.145		379.715		316.261		270.102	
Sig.	.000 ^b		.000 ^c		.000 ^d		.000 ^e		.000 ^f		.000 ^g		.000 ^h	

Table (23) shows the results of the Hierarchal Multiple Regression correlation coefficients. The results suggest that there is positive relationship between Intellectual Capital and Competitive Advantage in the presence of the demographic variables (Bank, Age, Gender, Education, Division, and Experience) the R value = .934^a, .934^b, .934^c, .935^e, .935^f, .935^g. Respectively. On the same direction, the value of R² provided a similar evidence (R2 = .872, .872, .872, .872, .873, .874, and .874) indicating that Intellectual Capital can explain (87.2 % - 87.4) of the variation and change in Competitive Advantage.

Referring back to the analysis of variation, from the table above, it can be concluded that the (F) value for the collected data have significantly decreased in the presence of the demographic variables (Age, Gender, Education, Division, and Experience) is F = 1898.669, 946.291, 629.048, 471.145, 379.715, 316.261, and 270.102 which are significant at the level of ($\alpha < 0.05$) (sig. =.000), this result tells us that there is less than a (0.05%) chance that an (F) ratio of this value would happen by chance solely. Furthermore, the β values of the effect size of the Intellectual Capital on the Competitive Advantage maintained its significant effect ($\beta = .934 - .937$) at ($\alpha \leq 0.05$). Meanwhile, none of the demographic variables have a significant effect on the competitive advantage or even affected the significance level of the Intellectual Capital effect on competitive advantage. Henceforth, it could be concluded that

the Demographic factors does not have a role in the relationship between Intellectual Capital and Competitive advantage. Thus, this research rejects the second null hypothesis (H.0.2:) and its sub hypotheses (H.0.2.1, H.0.2.2, H.0.2.3, H.0.2.4, and H.0.2.5).

Table-24. Results of testing the Main and Sub-hypotheses of the research

Null Hypotheses	Result
H.0.1 intellectual capital has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).	Reject
H.0.1.1 intellectual capital (human capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).	Reject
H.0.1.2 intellectual capital (structural capital) has no impact on competitive advantage in Jordanian commercial banks ($\alpha \leq 0.05$).	Reject
H.0.1.3 intellectual capital (relational capital) has no impact on competitive advantage in Jordanian commercial banks at ($\alpha \leq 0.05$).	Reject
H.0.2: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to demographic information at ($\alpha \leq 0.05$).	Accept
H.0.2.1: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Bank at ($\alpha \leq 0.05$).	Accept
H.0.2.2: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Gender at ($\alpha \leq 0.05$).	Accept
H.0.2.3: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Age at ($\alpha \leq 0.05$).	Accept
H.0.2.4: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Education at ($\alpha \leq 0.05$).	Accept
H.0.2.5: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Division at ($\alpha \leq 0.05$).	Accept
H.0.2.6: intellectual capital has no impact on competitive advantage in Jordanian commercial banks due to Experience at ($\alpha \leq 0.05$).	Accept

8. Results Discussions

Results of this study show that there is an agreement on high implementation of Intellectual Capital in Jordanian Commercial Banks in Jordan and there is an agreement on high implementation of each Intellectual Capital sub-variables. This indicates that the managers working at Jordanian Commercial Banks are aware of the importance of the implantation of the Intellectual Capital variables. Results also show that the Human Capital has the highest implementation, followed by Structural, then Relational, respectively. In-addition, results shows that there is an agreement on high implementation of the competitive advantages dimensions and there is an agreement on high implementation of each competitive advantages variable among the Jordanian Commercial Banks in Jordan. This indicates that the managers working at Jordanian Commercial Banks are aware of the importance of the implantation of the competitive advantages dimensions. The results also indicate that the relationships among Intellectual Capital sub variables are strong to very strong; the relationships between competitive advantages dimensions are strong to very strong. Moreover, the relationships between each Intellectual Capital sub-variables and competitive advantages are strong to very strong, which means that the correlation between the intellectual capital and total competitive advantages is very strong. This result is supported by the following previous studies: (Khan and Terziovski, 2014; Obeidat *et al.*, 2016). The simple linear regressions analysis shows that the intellectual capital affects the competitive advantages. In addition, the multiple regression analysis that all of intellectual capital dimensions have significant positive effect on competitive advantages on Jordanian Commercial Banks in Jordan. Meanwhile, the highest impact was for the human capital, followed by the structural capital, and eventually the relational capital. However, In addition, the results show that the human capital has the highest effect, followed by structural, then relational.

Yaseen *et al.* (2016), found that the relational capital and the structural capital have positive impact on competitive advantage. Razak *et al.* (2016), the findings was that the banks have relatively higher human capital efficiency than structural and relational efficiency.

9. Conclusions

The result shows that there is a significant implementation of Intellectual Capital among Jordanian Commercial Banks in Jordan. This indicates that the managers and supervisors working at Jordanian Commercial Banks in Jordan are aware of the importance of the implantation of Intellectual Capital variables. The results also show that the relationships among Intellectual Capital sub-variables are strong to very strong; the relationships between competitive advantages dimensions are strong to very strong. Moreover, the relationships between each Intellectual Capital sub-variables with competitive advantages together are strong to very strong which means that the relationship between the Intellectual Capital and total competitive advantages dimensions is very strong.

Finally, the multiple regressions analysis shows that the Intellectual Capital sub-variable together affect the competitive advantages.

Therefore, all of the sub-variable of Intellectual Capital affects the competitive advantages. The Human Capital has the highest effect, followed by Structural, then relational.

Recommendations

Based on the current study results, the study presents the following recommendations for Jordanian Commercial Banks in Jordan:

1. The study shows that the Human Capital is the important factor of intellectual capital while it is the last one in the degree of implementation list in Jordanian Commercial Banks. Therefore, the banks are advised to give human capital more attention according to the value of its implementation
 2. The current study recommends the banks to continue using intellectual capital as a tool and technique to gain and maintain competitive advantages.
 3. The study recommends the banks to implement human capital, structural and relational together.
- For Academics and future research, the study recommends the following:
4. The study is directed to Banking industry. Further studies are needed to investigate whether the study findings can be generalized to other industries.
 5. The study recommends adding strategic planning or more to Intellectual Capital variables in further studies.
 6. Finally, this study was conducted on Jordan banks, which makes generalizing its findings to other countries questionable. Therefore, similar studies in different countries are recommended to be carried out especially in Arabs countries.

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