



## The impact of intellectual capital development on provided health services quality

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### Abstract

This paper is an attempt to evaluate the impact of intellectual capital development to provide health services quality in the governmental hospital in Jordan Ministry of Health from Employees perspective. During the visit of the researcher to several government hospitals affiliated to the Ministry of Health Jordan, the researcher noticed that the level of services offered by one hospital to another and from one person to another in hospitals, were different. This disparity is due to the pursuit of some hospitals to obtain international accreditation. The researcher also found that the performance of employees in hospitals with international reliability is better in providing the service and within the approved standards. In contrast, the researcher noted the absence of the skills in hospitals workers without international accreditation, whether in the provision of services or the use of skills, as well as not using the necessary standards to provide the service. And this prompted the researcher to investigate in this subject to understand the impact of the development of intellectual capital quality of health services provided in government hospitals.

**Keywords:** intellectual capital, health services, health quality, health employees, Jordanian government

### 1. Introduction

Due to development of health organizations particularly private hospitals as well as the spread of new technological applications, it became obligatory that several components should be available for these organizations in order to compete, survive and continuity at global standard. Thus, intellectual capital has deemed one of the most important requirements of these organizations and its scientific, practical and cognitive skills. Intellectual Capitals has been considered as a sum of abilities, capabilities, experiences, knowledge, and skills gained by workers to compete at global levels and ensure growth achievements. Therefore, health organizations have motivated their interest in developing intellectual capital, skills, and employees' expertise on both practical and theoretical levels in response to health sector competition at significant levels. Moreover, historical dimension of health services were determined by economic assets rather than intellectual capitals. However, new trends were materialized, and further rationalized, the intellectual capital as a harmonizing indicator of health services provided by the hospital. Intellectual capital has been a well-established practice used to persuade hospitals superiority levels. The development of intellectual capital in these organizations has become a competitive advantage in providing service of high-quality, and according to global principals and standards by using latest methods and techniques. Health organizations must have thinking assets with high efficiency in providing services to respond to surrounding environment requirements, such as population increment, chronic and non- diseases chronic prevalence, in addition to be competition increases of this size. Health organizations are keen to develop their employees' creative skills through exciting them to provide

entrepreneurial and new ideas for continuity in providing their services. Since the public sector awake was late due to many reasons, it was observe that employees provided services to a large category of citizens all over the country at twenty four hours bases, which hinder possessing of much needed intellectual capital and required capabilities. However, the issue of intellectual capital development differs and much dynamic in recent decades that also look other aspect towards development, modernization and developing intellectual capital of these organizations. Efforts of development of capital intellectual includes procurement of latest equipment with global standards, appropriate and training and guidance under able and efficient senior personnel, ensuring attraction of employees to human resources of high-efficiency, and to transfer these skills and expertise to end member, i.e. patients. The shift from traditional phase in providing the service to modern technological phase that matches with the sector of developments has been the core and distinctive competencies which needed to be understand cautiously.

In addition to this, there are laws and regulations which stipulate the need to provide citizens with health services of high-quality. These hospitals have taken many steps to modernize their delivery services. It includes, among other, computerization, development of demand – supply chain, different specialties, exchange of intellectual capitals, up – gradation of required technology, in – house training of employed staff, and educational programs to refine employee's skills for differentiation in providing services to its recipients. Simultaneously, their trend towards obtaining international quality standards, reliability, and excellence in providing required health services to the recipients.

The intellectual capital development is one of new and

fundamental topics in organizations, in particular, health organizations. The focus on intellectual capital and competitive structure become one of necessary tools that must be available in business organizations under knowledge economy and competition extension between business organizations. Organizations desire, health organizations in particular to keep up with knowledge and technological development in service delivery which push such organizations to pay attention to their intellectual capital development in order to gain competition within provided health services framework with the required quality. Therefore the changes obliged organizations to investigate, and attract good intellectual skills to meet the change in different sectors and their ability to make the required basic change.

## 2. Research Problem

The intellectual capital is deemed one of the most important organization's resources in the Hashemite Kingdom of Jordan, because with knowledge revolution in the world, the organizations success become in their business, is dependent on attracting knowledge minds with extensive experience in the sector they operate in .Organizations performed as reaction to occurred cognitive revolution by developing their intellectual resources characterized by creativity and leadership, as well as distinction in structure and relations with organizations services recipients. The researcher visited to many public hospitals that belong to Jordanian Ministry of Health and he observed that there is a difference in provided services from hospital to another and from one person to another of employees of these hospitals, in addition to the difference in skills application for provided services. Such difference is due to most hospitals effort to obtain international reliability, and this in itself represents a significant variation in provided services quality by government hospitals employees.

The study problem lies in ambiguity afflicted the researcher regarding the interest extent in intellectual capital development and its impact on provided health services quality level in governmental hospitals in the Jordanian Ministry of Health. Therefore, this study aims to analyze impact of intellectual capital development on provided health services quality in governmental hospitals in Jordanian Ministry of Health.

## 3. Importance of Research

The importance of study emerges from scientific and practical aspects as follows;

### 3.1 The scientific importance stems from the following

1. Add a new research to researcher series that deal with intellectual capital development and its impact on health service quality, and to make it beneficial for those who are concerned in this topic;
2. To keep up with modern variable in the introduced topics globally, and has an importance for researchers;
3. To take advantage of research results through understanding intellectual capital development and its impact on provided health services quality in governmental hospitals in ministry of health;
4. The researcher hopes to take advantage of research results

related to demographic variables (gender, age, educational qualification, and years of experience) on intellectual capital development and provided health services quality in government hospitals in the Jordanian Ministry of Health Development.

### 3.3 Practical importance

1. It discusses an important issue for health organizations, which seek modernization, development, and keeping changes in the sector;
2. Attempt to draw, decision-makers attention in government hospitals in Jordanian Ministry of Health to the need for their intellectual capital development and its reflection on health services quality;
3. Knowing the extent which governmental hospitals in Jordanian Ministry of Health develop intellectual capital and their interest in provided services quality;
4. To know interest of governmental hospitals in Jordanian Ministry of Health in employees' interest in provided health services quality.

## 4. Objectives of the Research

This study aims to analyze impact of intellectual capital development on provided health services quality in governmental hospitals in Jordanian Ministry of Health, as well as it aims to achieve the following sub – objectives:

1. To investigate intellectual capital development level from governmental hospitals in Jordanian Ministry of Health employees perspective;
2. To investigate health services quality of governmental hospitals in Jordanian Ministry of Health employees perspective; and
3. Attempt to conclude results and recommendations that hospitals' management may use and, and take into account the intellectual capital development and increase health services quality level.

## 5. Questions of the Research

The research attempts to answer following:

1. What is intellectual capital development level from governmental hospitals in Jordanian Ministry of Health employees' perspective?
2. What is health service quality level from governmental hospitals in Jordanian Ministry of Health employees' perspective?

## 6. Literatures Review

Intellectual capital (IC) has multi-faces response among researcher and, thus, there is a lack of clear demarcation on which and how to accompany intellectual capital and what should be the constituents of IC? It was noticed in the Organization for Economic Co-operation and Development (OECD, 2008) <sup>[40]</sup> document that IC is an economic value ensued from two types of intangible aspects, i.e. organization and human capitals. Thus, hospitals are organizations in case of present study whereas intellectual capital includes human expertise to perform particular task. Similarly, Wang and Chang (2005) <sup>[51]</sup> have put focus on engenders organization's value as a key component of IC. While Zeghal and Maaloul (2010) <sup>[54]</sup> identified IC values are accessible knowledge that

can be utilized by the organization to provide service oriented deliveries. Moreover, Wu *et al.* (2012)<sup>[52]</sup> have considered IC as a set of organization ensued abilities imparted with three major dimensions of capitals, i.e. the human, relational, and structural capital. Therefore, IC, according to the author, represents economic capital plus the intellectual capital of the organization. However, there is a difference between book – worth and substitute assets of an organization. It can be said that IC is a multi – dimensional idea which constitute capitals pertaining human, relational, and structural assets. And those assets equip the organization (hospitals and other business entities) with indispensable competencies to achieve its real objectives (Awan and Saeed, 2015; Chein, 2013)<sup>[14, 19]</sup>. Some other researchers including Wu and Sivalogathasan, 2013; Noordin and Mohtar, 2013; and Joshi *et al.*, 2013 had defined that IC is a collection of knowledge and source of innovation, which exist in the organization’s workers, structure and customers while it can be developed into real value. However, it was acknowledged that IC covers various components as related to these aforementioned three major themes of IC. Moreover, important works are includes Stewart, 1997; Bontis *et al.*, 2000; Sharabati *et al.*, 2010; Khalique *et al.*, 2011; Al-Dujaili, 2012; Chang and Lee, 2012; Joshi *et al.*, 2013; Saeed *et al.*, 2013; Mumtaz and Abbas, 2014; and Lee *et al.*, 2015, who has not only operationalized the concept of IC but also provided clear cut outline and understanding of IC with universalization of structure. And this structure encompasses three primary key components as human, structural, and relational / customer capital. Additionally, other parts of IC were reported in the literature includes entrepreneurial capital, renewal capital, and trust capital (Kianto *et al.*, 2014), innovation capital by Chen *et al.*, 2014, and process capital by Lin, 2015. However, Wang and Chang, 2005 have divided structural capital into two divisions as innovation and process capital. Smriti and Das, 2017; Saeed *et al.*, 2013; had figured up that IC is responsible for competitive advantage of organizations whereas Mondal and Ghosh, 2012 had studied IC as a factor of sustainable organizational performance. Elaborated works of Wang and Chang, 2005 provides empirical evidences of organizational achievements due to IC in different industries in Taiwan. Similarly, relationship between organization performance and IC was studied in pharmaceutical companies in USA (Bramhandkar *et al.*, 2007)<sup>[17]</sup>, software companies in Egypt (Seleim *et al.*, 2007)<sup>[46]</sup>, financial service sector in Portugal (Cabrita and Bontis, 2008); traditional and service sectors in United Kingdom (Zéghal and Maaloul, 2010)<sup>[54]</sup>; manufacturing sector in Pakistan (Khalique *et al.*, 2011a)<sup>[29]</sup>; banking system in Kuwait (Abdulsalam *et al.*, 2011); and banking system in India (Mondal and Ghosh, 2012). Al – Hawajra (2010)<sup>[12]</sup> studied the correlation of capital investment strategies with the competitive performance of institutions. The study found a strong correlation between investment strategies in the knowledge capital and the competitive performance of companies where most of the relationships were positive. Al-Fadl (2009) has analyzed relationship between Intellectual Capital and Value Creation in the Gulf States. The study supported the supporters of modern evaluation systems who see the need to abandon the method of financial analysis in the evaluation of performance. Anjar 2011 studied the

relationship between intellectual capital and financial performance in the Iranian company. The study aimed to examine the added intellectual value and its impact on the performance of the company. The study concluded that there is a correlation between the intellectual capital and the performance of the company (profitability, productivity, sales growth) with remarkable superiority of the influence of intellectual capital on the productivity of individuals. Abu-Alghanam 2012 evaluated the impact of the development of intellectual capital in the effectiveness of strategic information systems in the food industry companies in the Jeddah. The study aimed to identify the effect of intellectual capital development on the effectiveness of information systems in the food industry companies in Jeddah. The study concluded that the perceptions of the respondents in the food industry companies for the level of intellectual capital and the level of effectiveness of the managers.

Pursuant to these researches, IC was defined in this study as an integral part of the market value of an organization along with its economic capital, embodies all intangibles related to the organization itself such as management, procedures, trademarks, image, reputation, patents, culture, strategies, to the people of the organization such as knowledge, skills, experience, education, creativity, innovation, commitment, and engagement, and to the organizational relationship, either within the organization or with external stakeholders like customers and suppliers.

## 7. Theoretical Framework

Study refers to independent variable that is intellectual capital development with its dimensions attracting intellectual capital, intellectual capital making, intellectual capital activation, maintaining intellectual capital, and interest in intellectual capital) on health service quality with its (reliability, responsiveness, trust, safety, and transparency) and personal and demographic variables (gender, age, academic qualification, and years of experience).

Theoretical framework of the study has been presented below under theme of variables, i.e. independent and dependant.

### 7.1 Independent variable

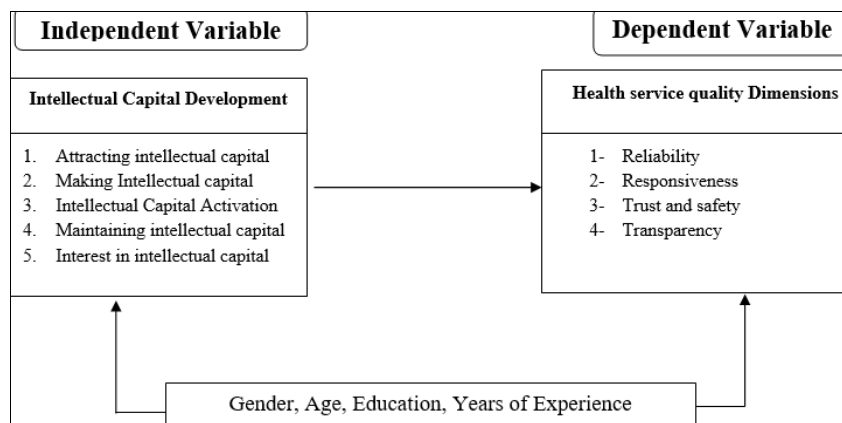
Intellectual capital constitutes a key competitive advantage for organization for its ability to add value to the organization and increase its assets and intellectual. Stewart (1997)<sup>[49]</sup> has explained intellectual capital that is not working to add real value is the intellectual capital is useless because the medium has the skills and expertise is to (implied) only and is available to everyone and that the success of products based on the sharing of knowledge of the mind these through the creations and inventions that increase competitive advantage this inevitably leads to economy of resources and cost in the region.

Mulone and Edvinsson (1997)<sup>[21]</sup> provided that the intellectual capital consist of three basic elements:-

1. Human capital: - it is the experiences and skills of individuals who own them.
2. Structural capital: - refers to the organs and capabilities available in the organization and helps individuals and the organization perform the required tasks.
3. Customer capital: - the value of relationship with existing

and potential customers and the strength of their relationship with the organization and their loyalty and

satisfaction.



Source: prepared by researcher based on studies and references in table (1)

Fig 1: Research Model

### Dimensions of Intellectual Capital

Intellectual Capital Development: It is a concept explains exerted efforts and expenses by organization in order to develop its intangible assets and knowledge inventory, through brain storming this knowledge and put it into practice and utilize them. This variable consists of the following dimensions (Abu Al- Ghanam and Khaled, 2012; Kotler and other, 1987) [32].

1. Attracting intellectual capital: it is the exerted organization's efforts in investigating for individuals with high abilities and skills that match with its activities and operations nature.
2. Making intellectual capital: It refers to policies and practices taken by organization in making its intellectual capital, through using many methodological procedures such as training programs and courses and social relations programs development between organization staff.
3. Intellectual capital activation: It is a set of policies and procedures adopted by organization and means and methods it has to help in developing intellectual and cognitive employees have which enable them to cope up with changes and developments in work environment through brainstorming innovation and creativity powers they have.
4. Intellectual capital maintaining: It is the total managerial policies and procedures taken by organization in order to maintain its cognitive inventory of skills, expertise and knowledge.
5. Interest in customer's Capital: This dimension reflects means and methods adopted by organization to develop its capital relations, through taking in consideration customers views and their aspirations, and suggestions.

### 7.2 The dependent Variable

Quality services Define by alhaddad (2001), it is the benchmark for the degree of conformity of the actual performance of the services with the expectations of the recipients of the service or the actual relationship of the services or the difference between the expectations of the customers and service. Asali (2006) [7] defined it as providing

services in a safer and easier way and continues to satisfy the recipients of the service which generates a positive view of the health services provided. Schroeder (2007) [45] defined it as services that meets or exceeds current and future customer expectations.

### Dimensions and quality characteristics of health institutions

Health services quality: it refers to actual performance compatibility and harmony of a hospital in providing health services with service recipients expectations which is expressed by respondents responses mean of the questionnaire paragraphs that measure this variable, and it has several dimensions (Bakri and Thamer, 2008; Sultan and Wafaa, 2012) [15, 50].

1. Reliability: where quality is achieved through providing on time and promised with the required speed in order to solve beneficiaries' problems.
2. Responsiveness: it refers to employees special skill within the system which enables them to contact the public and speed response when a service applicant face a problem.
3. Trust and Safety: service quality is achieved through promises fulfillment during service providing and keep up with advances in service and recipients feelings of service trust and full satisfaction with the service offered.
4. Transparency: it refers to governmental service enjoyment with the utmost clarity and simplicity and should be delivered with high accuracy and credibility.

### 8. Conclusion

The study aimed to clarify the impact of intellectual capital on the quality of health services provided in public hospitals in Jordan. The method used is descriptive method such as newspaper, articles, and information from Jordanian Ministry of Health. The researcher found that there is an impact of intellectual capital on the quality of health services in government hospitals in Jordan and to a high degree. According to the researcher, this is due to the degree of knowledge available to intellectual capital and its ability to use its self-acquired skills, researcher recommends increasing

attention to the development of intellectual capital in health and non-health organizations, and conducting more researches dealing with intellectual capital and quality of services from different dimensions.

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