Influence of Knowledge Cartels in promoting Knowledge Monopoly in Medical Field

An empirical study in Baghdad hospital

الكارترات المعرفية في تعزيز الاحتكار المعرفي

(دراسة ميدانية في مستشفى بغداد العام)

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Introduction:

There is no doubt that the era that we live in is the knowledge era, and In the last few years the knowledge has been increasingly recognized as the core factor of the knowledge economy and it considered to be the source of nowadays society that called (knowledge society). And knowledge plays a pivotal role in many areas. Nowadays some people monopolizes the knowledge , in order to maximize their benefits ,moreover they form group works together and not participates with their knowledge for anybody out of this group that what called (knowledge cartels) , which work to eliminate the competition.

Problem statement:

In many cases most trainee doctors Suffers from the problems like knowledge monopoly resulting from knowledge cartels (most of specialists doctors) ,who works together and monopolize the knowledge and not allow or share their knowledge with others easily. (♣)

Research questions

The main research question was formulated as follows:

What is the relation and impact of Knowledge Cartels on the Knowledge Monopoly of doctors in Baghdad Hospital?

Research Model

Figure (1) shows the research model which includes two key variables as follows:

1) **Independent variable**: Knowledge Cartels (KCS):Includes (Disruptive Innovation (DIS), Techno-Strategy (TEC), Phrenology (PHR))
2) **Dependent Variable**: Knowledge Monopoly (KMO).

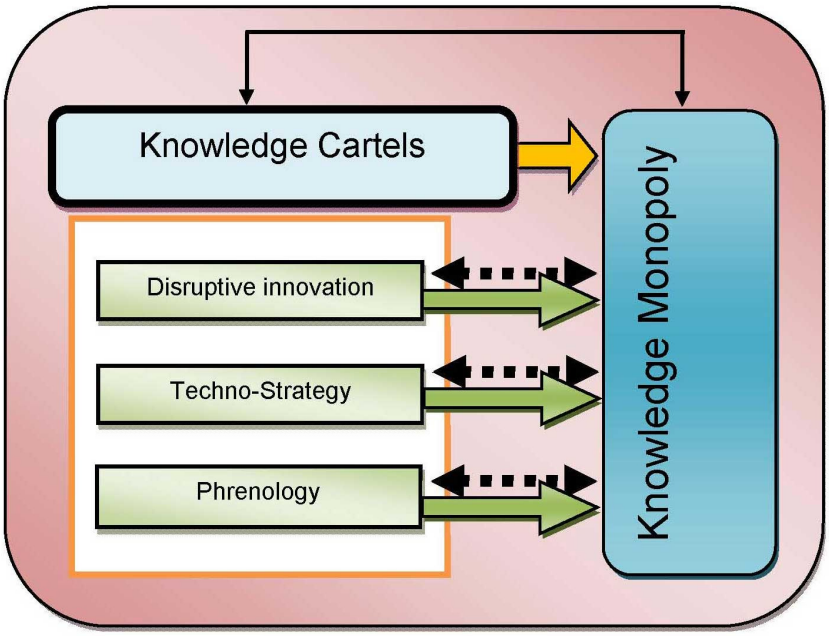


Figure (1) Research Model (under test)

Research hypotheses

From the research model we can formulate the following hypotheses :

Main hypothesis (1): There is a statistically significant relationship between Knowledge Cartels and Knowledge Monopoly, and it has Sub-hypotheses as follows:

- **Sub-hypotheses (1-1)** : There is a statistically significant relationship between Disruptive Innovation and Knowledge Monopoly
- **Sub-hypotheses(1-2)**: There is a statistically significant relationship between Techno-Strategy and Knowledge Monopoly
- **Sub-hypotheses(1-3)**: There is a statistically significant relationship between Phrenology and Knowledge Monopoly

Main hypothesis (2): There is a positive significant influence of Knowledge Cartels on Knowledge Monopoly

- **Sub-hypotheses (2-1)**: There is a positive significant influence of Disruptive Innovation on Knowledge Monopoly
- **Sub-hypotheses(2-2)**: There is a positive significant influence of Techno-Strategy on Knowledge Monopoly
- **Sub-hypotheses(2-3)**: There is a positive significant influence of Phrenology on Knowledge Monopoly

Statistical techniques

In this research, Kronbach alpha test has been used in order to clarify the reliability of questionnaires, regression correlation coefficient test for considering relationship between KCS and KMO and structural equation model (SEM) test for considering the effect of the variables .

Research Society & sample

Research community Consists of all doctors working in Baghdad Teaching Hospital, which is one of the largest hospitals in Baghdad, one of the hospitals of the (Baghdad medical city), and offers a variety of services for(General Surgery, Gynecology & Obstetric , Medicine, Renal disease & kidney dialysis, CCU, RCU) and educational institutions in various branches of medicine, comprising a group of private clinics, and also provide

training for students of the Faculty of Medicine and Graduate Studies, Works in the hospital (491) Doctors (♣)

Research Measurements and coding

Table (1) shows the Research Measurements and coding

Table (1) Research Measurements and coding

Variables	dimension	Code	items	Measurement
Knowledge Cartels		KCS	16	David,2012 ,SHIV,2012
	Disruptive innovation	DIS	5	Christensen,1997 ,Hang,2010 , Dan & Chang,2009
	Techno-Strategy	TEC	5	Nick & Nick ,2008 ,Nik et al., 2008,Adner & Levinthal, 2002 ,Hadrawi,2010
	Phrenology	PH	6	Charles ,William,2001, Peggy,2012,Edward,2003
Knowledge Monopoly		KMO	6	Innis ,2007 ,Innis,1980, Naru & Grace,2010, Heyer,2003, Blair,2011, Babe,2000, Paul,1997

BACKGROUND

• Knowledge

In literature relevant with knowledge, The question, “What is knowledge?” can be given a simple answer: Knowledge consists of the "elements" and "relationships" of our worlds--real and imagined--that we "represent" in language (talk, text, or graphics) , If we are to share these elements and relationships with each other, they must be set out in plain view (Michael,2013 :3) and then we can say that is "knowledge".

Knowledge is commonly distinguished from data and information, Data represent observations or facts out of context, and therefore not directly meaningful, Information results from placing data within some meaningful context often in the form of

a message.(Michael,1999 :48) Data represents the basic individual items of numeric or other information, garnered through observation (Chaim,2007 :481) and Information is data that has been processed into a form that is meaningful to the recipient (Davis & Olson, 1985 :5). while Knowledge is that which we come to believe and value based on the meaningfully organized accumulation of information (messages) through experience, communication or inference (Michael,1999 :48). also we can say that Knowledge is what has understood and evaluated by the knower." (Shifra Baruchson–Arbib) (Chaim,2007 :481) and Table (2) shows some research contributions to knowledge definition.

Table (2) Definitions of knowledge

Serial Number	Definitions of Knowledge	Reference
1	Knowledge is a factor of production	Nonaka & Takeuchi (1995)
2	Knowledge resides in the head of the individuals ... knowledge is that which is known	Grant(1996)
3	Knowledge consists of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how.	Wiig(1993)
4	Knowledge is information in context coupled with an understanding of how to use it	Davenport& Prusak(1998)
5	Knowledge is information combined with experience, context, interpretation, and reflection.	Davenport& Long(1998)
6	Knowledge is reasoning about information to actively guide task execution, problem-solving and decision-making in order to perform, learn and teach	Beckman(1997)
7	Knowledge is defined as understanding the effects of input variables on the output.	Bohn(1994)

8	**Knowledge as new or modified insight or predictive understanding.**	**Kock & Queen(1998)**
9	**Knowledge is the whole set of insights, experiences, and procedures which are considered correct and true, and which therefore guide the thoughts, behaviors, and communication of people**	**Van der Spek & Spijkervet (1997)**
10	**Knowledge is justified personal belief that increases an individual's capacity to take effective action**	**Alavi & Leidner(1999)**
11	**Knowledge refers to an individual's stock of information, skills, experience, beliefs and memories.**	**Alexander & Schallert(1991)**
12	**Knowledge originates in the head of an individual (the mental state of having ideas, facts, concepts, data and techniques, as recorded in an individual's memory) and builds on information that is transformed and enriched by personal experience, beliefs and values with decision and action-relevant meaning. Knowledge formed by an individual could differ from knowledge possessed by another person receiving the same information.**	**Bender & Fish(2000)**

Source: Apurva A. and Singh M.D. ,Understanding Knowledge Management: a literature review , International Journal of Engineering Science and Technology (IJEST),Vol. 3 No. 2 Feb 2011 ,p 928

- **Types of Knowledge**

Based on the foundations of positivist epistemology, the majority of the contemporary knowledge literature develops typologies that distinguish between different types of knowledge (Ilkka,2013 :119) And although philosophers and writers may

differ on how many different types of knowledge are there , they agree that we claim to have knowledge of different things, What they may have in general that we can say there are two common types of knowledge tacit or explicit (Nonaka,1997 :2)(and also that we are interested in, is between tacit and explicit knowledge).

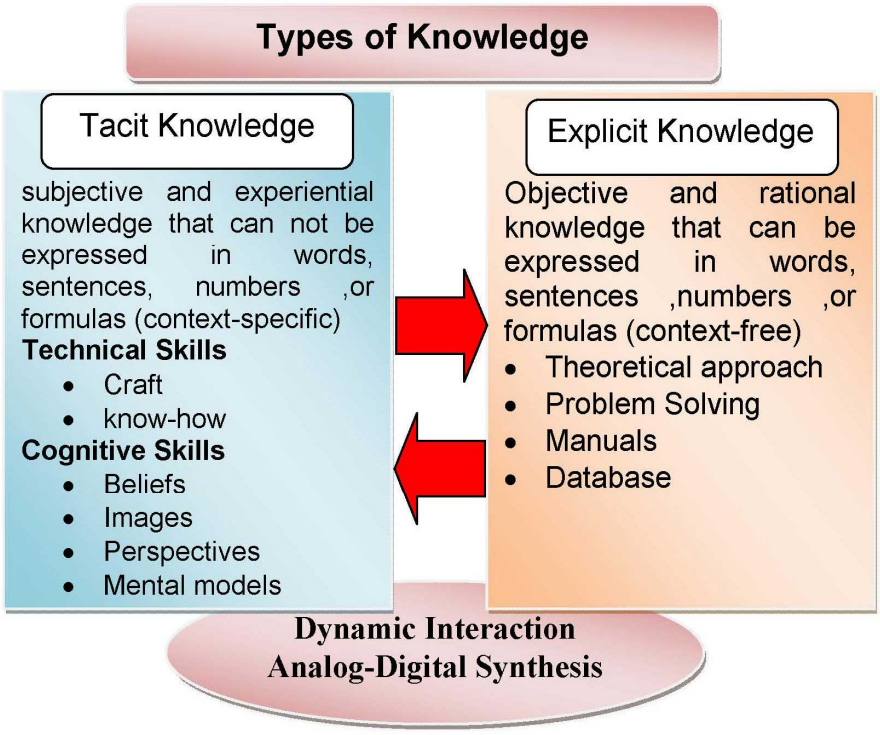


Figure (2) Types of Knowledge

Source: APO,Asian Productivity Organization, Knowledge Management Report, Tokyo, 2013 ,apo-tokyo.org

• Tacit knowledge

Tacit knowledge is automatic, requires little or no time or thought and helps-determine how organizations make decisions and influence the collective behavior of their members (Liebowitz and Beckman, 1998). The philosopher Polanyi (1967) described tacit knowledge as knowing more than we can tell, or knowing how to do something without thinking about it,

like ride a bicycle. (Elizabeth,2001 :314) Tacit knowledge is subconsciously understood and applied, difficult to articulate, developed from direct experience and action, and usually shared through highly interactive conversation, story-telling and shared experience. (Michael,1999 :48)

- **Explicit knowledge**

Most explicit knowledge is technical or academic data or information that is described in formal language, like manuals, mathematical expressions, copyright and patents. This ''know-what,'' or systematic knowledge is readily communicated and shared through print, electronic methods and other formal means.(Elizabeth,2001 :314) Explicit knowledge, in contrast, can be more precisely and formally articulated. Therefore, although more abstract, it can be more easily codified, documented, transferred or shared. Explicit knowledge is playing an increasingly large role in organizations, and it is considered by some to be the most important factor of production in the knowledge economy.(Michael,1999 :48)

There are many schools of thought in the area of knowledge management , One of the most popular theories is proposed by (Nonaka) , As knowledge is intangible and essentially resides within individuals (as tacit knowledge), the challenge in KM is how to capture and harness individual-based knowledge to make it explicit and common knowledge for use across the entire organization. (Nonaka) argues that a successful KM program needs to convert internalized tacit knowledge into explicit (codified) knowledge to share it and make new knowledge and value for the organization.(APO Report,2013). There are four basic patterns for creating knowledge in organizations (Nonaka, 1991): Elizabeth,2001 :316)

(1) From tacit to tacit - learn by observing, imitating and practicing, or become '' socialized'' into a specific way of doing things, like learn from mentors and peers. Knowledge is not explicit in this stage.

(2) From explicit to explicit - combines separate pieces of explicit knowledge into a new whole, like using numerous data sources to write a financial report.

(3) From tacit to explicit - record discussions, descriptions and innovations in a manual and then use the content to create a new product. Converting tacit knowledge into explicit knowledge means finding a way to express the inexpressible (Stewart, 1997). To illustrate, moving from tacit to explicit involves stating one's vision of the world - what it is and what it ought to be.

(4) From explicit to tacit - reframe or interpret explicit knowledge using a person's frame of reference so that knowledge can be understood and then internalized or accepted by others. A person' s unique tacit knowledge can be applied in creative ways to broaden, extend or reframe a specific idea. Tacit knowledge does not become part of a person's knowledge base until it is articulated and internalized.

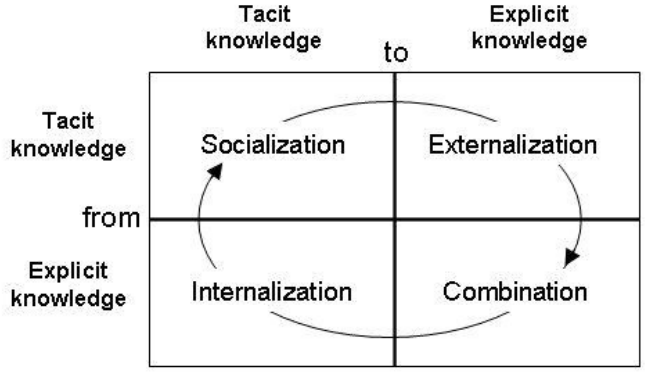


Figure (3)

The knowledge conversion processes according to Nonaka and Takeuchi

Source: Nonaka I, Takeuchi H.The knowledge-creating company. Oxford, UK: University Press; 1995.

Knowledge management is a formal, directed process of determining what information a company has that could benefit others in the company and then devising ways to making it easily

available'' (Liss, 1999, :1). Steps in this process include how knowledge is captured, evaluated, cleansed, stored, provided and used (Chait, 1998 :3). In Polanyi's theory tacit and explicit Knowledge are related to two different kinds of awareness, subsidiary awareness and focal awareness respectively (Ilkka,2013 :120). As a result, knowledge have been fundamentally perceived as the most critical industrial resource that businesses should embrace since it is considered to be a valuable organizational survival kit in this present knowledge-economy era.(Ling,2011 :328) according to (Drucker 1995)The nature of knowledge, even though may somehow seem to be complex, continues to be defined and explained by numerous scholars and researchers in various fields and backgrounds. In Managing in a Time of Great Change, (Ling,2011 :328)

- **Knowledge Cartels**

A cartel typically consists of a voluntary and temporary agreement among firms in the same industry to follow common policies instead of competing with each other. These policies can include agreements on prices, market shares, quota systems (limiting production to certain quantities), and conditions of credit. From the perspective of these firms, the main reason for the voluntary formation of cartels is to avoid excessive competition that can lead to price wars that decrease profits for all firms in an industry. This is a departure from the conventional understanding that a competitive market of unfettered supply and demand (Robert,2007 :1).

Cartels are a clear and ever-present violation of market economics (see Verboven and van Dijk 2007). Catching cartels is a key function of governments around the world. But to catch them, it helps to understand them. To understand how cartels work, it is of first-order importance to analyse which issues cartels aim to solve and how.(Ari &, Frode,2013 :1) In Information Feudalism:

Who Owns the Knowledge Economy, Peter Drahos and John Braithwaite argue that "the relentless global expansion of intellectual property systems rather than the individual possession of an intellectual property right" possesses a significant danger not only to the free flow of information but more importantly to liberty itself (Drahos & John,2002 :3)

As Drahos and Braithwaite demonstrate, the expansion of intellectual property rights has led to a system whereby a small number of corporate players control a disproportionately large amount of intellectual property. Because the exchange of information and knowledge is "fundamental to the way a democracy works," the expanding intellectual property right regime threatens not only individual liberty but our current democratic balance (FACM,2012 : 2). The authors label these corporate players "knowledge cartels," organizations who profit from control over resources, and who often benefit precisely by restricting access rather than providing it to the largest possible audience.(David ,2012 :3) .

Business cartel may be defined as, , an organization or individuals of independent enterprise from the same or similar area of economic activity, formed for the purpose of promoting common economic interests by controlling competition between them.(OECD ,1998 :2)

The term “cartel” refers to the worst kind of such communication, as it deals with the creation of agreements to fix prices of goods and services at an artificially high level. Objective of cartel is to raise prices above the competition levels, resulting in injury to the consumers and to economy. Cartel formation effects consumers as it results in higher prices, poor quality and less or restricted choice. (SHIV,2012 :8)

A cartel is a formal (explicit) "agreement" among competing firms. It is a formal organization of producers and manufacturers that agree to fix prices, marketing, and production (Sullivan & Steven,2003 :171) ,Over a period of time the concept of cartels

has evolved and has attained great precision, fuller content and a more regulatory meaning. (SHIV,2012 :8)

Cartels usually occur in an oligopolistic industry, where the number of sellers is small (usually because barriers to entry, most notably startup costs, are high) and the products being traded are usually homogeneous. Cartel members may agree on such matters as price fixing, total industry output, market shares, allocation of customers, allocation of territories, bid rigging, establishment of common sales agencies, and the division of profits or combination of these. The aim of such collusion (also called the cartel agreement) is to increase individual members' profits by reducing competition. (Wikipedia,2012)

One can distinguish private cartels from public cartels. In the public cartel a government is involved to enforce the cartel agreement, and the government's sovereignty shields such cartels from legal actions. Inversely, private cartels are subject to legal liability under the antitrust laws now found in nearly every nation of the world. Furthermore, the purpose of private cartels is to benefit only those individuals who constitute it, public cartels, in theory, work to pass on benefits to the populace as a whole. Competition laws often forbid private cartels. Identifying and breaking up cartels is an important part of the competition policy in most countries, although proving the existence of a cartel is rarely easy, as firms are usually not so careless as to put collusion agreements on paper. (Khemani, Shapiro ,1993 :19))

The three ingredients to constitute “cartel” are (Divakara & Rajasekhara, 2011:255:

(1) An agreement which includes arrangement or understanding whether formal or informal;

(2) Agreements is amongst producers, sellers, distributors, traders or service

providers, i.e. parties who are engaged in identical or similar trade of goods or provision of service;

(3) Agreement aims at limiting, controlling or attempt to control the production, distribution, sale or price of, or trade in goods or production of services.

Over a period of time has evolved the concept of cartels has achieved a great deal of precision, and the content of the most influential in various business organizations , that have come to a new concept called knowledge cartels.

The knowledge cartels can be defined as a group of individuals or organizations that work on the knowledge monopoly , so as to ensure no leakage of knowledge, knowledge sharing and knowledge transfer to others, and use that to achieve higher returns and benefits.

According to (Smith ,1776) : People of the same trade seldom meet together, even for merriment and diversion but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

It is impossible indeed to prevent such meetings, by any law which either could be executed, or would be consistent with liberty or justice. But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary. (Divakara & Rajasekhara,2011 :252) :

The knowledge cartels consists of various dimensions and components as follows (Balatesht ,2010 :8):

Disruptive Innovation

Disruptive Innovation Theory has created a significant impact on management practices and aroused plenty of rich debate within academia (Dan & Chang,2009 :2).

The concept of disruptive innovations was first raised by Christensen and his colleagues and developed into a theory known as the "theory of disruptive innovation" (Christensen, 1997; Christensen & Raynor, 2003; Christensen, Anthony, & Roth, 2004). According to this theory, there are mainly two types of disruptive innovations: new market and low-end disruptions.(Nabil,2013 :162)

(Christensen,1997) has discussed in his major publications all the fundamental success factors for Disruptive Innovation(Hang,2010 :1271) and he has identified three important elements of disruption(Christensen,2003 :33)

- The rate of improvement that customers can utilize or absorb
- The pace of the technological development.
- The distinction between sustaining and disruptive innovation.(Mikkel, 2010:18).

Note that disruptive innovations introduce a new value proposition as they either create new markets or reshape existing markets (Christensen,2003 :3). This is why we can distinguish two types of disruptive innovations: (Kohlbacher & Hang ,2007 :1916)

1) Low-end disruption: there are customers at the low end of the market who would be happy to purchase a product with less (but good enough) performance if they could get it at a lower price.
2) New-market disruption: there are customers who had not had the money, time etc. to use/ consume certain products and services.

That led to New-market disruption occurs Range of Performance That Customers Can Utilize that called (The Disruptive Innovation Model) as shown in figure (4)

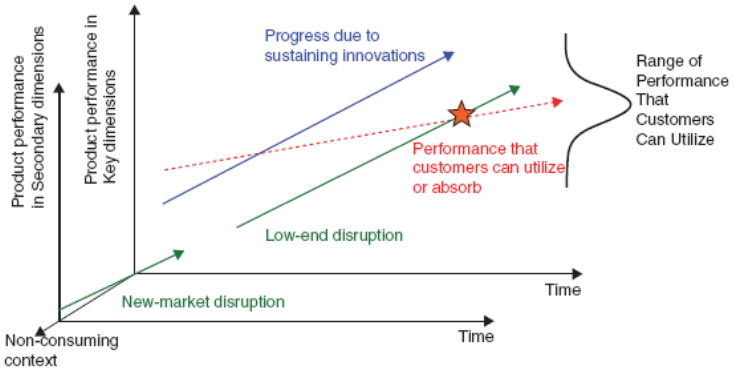


Figure 2. The Disruptive Innovation Model.

Figure (4) The Disruptive Innovation Model

Source: Dan Yu & Chang Chieh Hang ,A reflective review of Disruptive Innovation Theory, International Journal of Management Reviews ,2009 :2.

It pointed out clearly the threat to successful incumbents which may over-focus on the necessary sustaining innovation and hence could fail to capture the new opportunity presented by an emerging disruptive innovation (Hang,2010 :1270)

So organizations and individuals should to work for using disruptive innovations with carefully, because it is the doors of excessive competition, which ultimately lead to the eliminate of competitors and keep them away from space work

Techno-strategy

In the past, the job with IT function was to understand the business' strategy and then looking for new technology ,while in the present is different matter , it has to involve the technology with strategy at the formulation that what called later (Techno-Strategy)

Techno strategy was found by many researchers as a way to improve competitiveness. Failure to develop and integrate technology strategy and business strategy is a major contributing

factor to the decline of firm's competitiveness.(Nick & Nick ,2008 :97)

Nowadays Techno-strategy become an important source and major key of success that supports the user by information (Pal & Pantaleo , 2005 :73) This will mean changing Organizations current top-down method of formulating and implementing strategy and include technology within it .(Heather et al.,2007 :51) that what many literatures also indicated that techno-strategy played an important role in determining firm performance (Nik et al., 2008 :97)

Techno-Strategy might be defined by considering the emergence of new technologies, changes in the dominant strategies and structures of other firms, and shifts in the nature of competition between firms (Adner & Levinthal, 2002 :53) Techno-Strategy is an operation strategy and interpreted as organization general strategy on technology context, a prior situation or gaining long run objectives assigned by technology development (Robert et al. ,1998) And it be formed from Decision regarding to investment, development, applying technology of production and processes (Mazlomi , et al , 2011 , 519)

We can identify four stages in the technology strategy process of , Initially, the firm must recognize the dynamic of the context in which it operates, so that it knows the different kinds of strategies that are possible to undertake. The next step is the change of the structure in order to implement the strategies. Finally, the firm must find a mechanism to protect the profits (Campos, et al , 2009 : 47)

One of the earliest concepts of technology strategy was provided by (Maidique & Patch,1978), They conceptualize technology strategy based on dimensions, (1) type of technology (2) level of competence (3) timing of technology introductions (4) level of investment; (5) organization and policies, and (6) source of technology (Nik et al., ,2008 :97)

Phrenology

The term "Phrenology" was founded by (Franz Joseph Gall,l758)), although he accepted the term reluctantly, preferring to view himself as a student of the anatomy and physiology of brain (charles ,1985 :1645)

Phrenology, in its simplest form, is a study of the brain, based on the belief that: (Peggy,2012 :2)

- The mind is composed of distinct character traits, each centered in a physical area of the brain .
- The power of character traits physically shapes the brain ;
- The brain shapes the skull.

Therefore, the skull can be “read” as an accurate gauge of character.

The central tenet of "phrenology" is that intellectual abilities and personality traits are correlated with cranial morphology with bumps on the head (charles ,1985 :1645)

Phrenology was based on the idea that the brain was the center of thought and will power in the human being, and in this regard (Franz Josef Gall), (who established phrenology as a science), argued that the brain was made up of 27 organs each of which was responsible for a different personality trait or “penchant” (McGrew & McGrew,1985 :3). and the size of these organs determined the strength of the trait.(Selena,2013 :1)

In The "New Phrenology", (William R. Uttal ,2001) explores the fundamental assumptions underlying the attempt to localize cognitive functions in specific brain areas (what Uttal refers to as the “localizationist approach”).(Edward,2003 :23)

As a result of the foregoing, the physiognomy plays a significant role in changing the angles of thinking, to achieve the creative madness of individuals, distinguishes them from others, and reflected on their decisions, their work and their creative achievements, and lead to achieve a competitive advantage.

Knowledge Monopoly

In this era most of big organizations did the knowledge monopoly, which are related to the domination of nature and these, in turn, are related to risk management, In combination, there is the possibility that they can result in poor or failed risk communication and can actually precipitate ‘events’ or crises (Paul,1997 :2)

This is kind of (Knowledge Monopoly) ,About this term it has ancient Egyptian root as a practice , an example of this occurs in ancient Egypt where a complex writing system conferred a monopoly of knowledge on literate priests and scribes. Mastering the art of writing and reading required long periods of apprenticeship and instruction, confining knowledge to this powerful class. (innis ,2007 :44)

While as a term was found by the Canadian (Harold Innis)when he developed the concept of knowledge monopoly in his later writings on communications, he did suggest that he was extending the concept of monopoly in the field of economics to knowledge in general (Easterbrook & Watkins ,1984 :2).

Innis's writings also on communication , explore the role of media in shaping the culture and development of civilizations (Babe,2000 :58) and it became (Innis's theory) ,According to this theory , knowledge monopoly are created in the atmosphere of hostility between time-biased and space-biased , wherein one tradition marginalizes the other, In this context, the term “knowledge” refers to all information and data in addition to the products of literacy and science.(Naru & Grace,2010 :1)

This theory suggests that knowledge monopoly gradually suppress new ways of thinking; entrenched hierarchies become increasingly rigid and out of touch with social realities. Challenges to elite power are often likely to arise on the margins of society, The arts, for example, are often seen as a means of escape from the sterility of conformist thought.[5](innis,1980 :1)

It seems to the knowledge monopoly are nearly impossible in cultures where the dominant mode of communication is the spoken word , although this might be true to a degree ,something a kin to a monopoly of knowledge is possible in an oral culture : for example ,when a given individual knows something the average person does not and controls access to it in an authoritative way , such scenarios although possible ,are exceedingly rare (Heyer,2003 :76)

A defining characteristic of a Knowledge Monopoly is the real or imagined belief that there are some people who know what is best for others(Paul,1997 :2)This causes not accurately determine the knowledge, which largely supports the monopolists, and encourage them to monopolize knowledge that they receive from different sources.

Innis's warnings about knowledge monopoly take on particular urgency in the years immediately preceding his death in 1952. In his later writings, he argued that industrialization and mass media had led to the mechanization of a culture in which more personal forms of oral communication were radically devalued. (Heyer,2003 :80)

And KMO has a big role to eliminate the competition , like what the diagram (5) shows , it reflect the development of the fractal Koch Snowflake Shape equilibrium (Perfect Knowledge) is reached at iteration 4 - where marginal benefit is equal to marginal cost.

knowledge monopoly, the domination of nature and the mitigation of risk to one's own interests (through management of the message) from an inordinate focus on the 'self' over the 'other' that is encountered in daily life. The monopoly situation feeds the apathy, and the apathy feeds the monopoly, as it lowers the threshold for those that do want to be involved in order to advance their position or a particular agenda. Apathy is really an

extreme form of self-indulgence that says to everyone else, "I don't care." (Paul,1997 :123) then we can't find the perfect knowledge .

because Perfect Knowledge, or 'perfect information' is achieved only with free, open, competitive, or unobstructed feedback, Any obstruction to 'iteration' in achieving this equilibrium - due to what may be termed a knowledge monopoly - will produce an incomplete fractal shape, imperfect knowledge, asymmetric information. (Blair,2011 :2)

All that affects in one way or another to encourage others to monopoly in the absence of attention by the people to stop them or confront them, and here the competition will be eliminated dramatically, and then the monopolists are seen "strong" with Perfect Knowledge ,and this consolidates the concept of "knowledge monopoly".

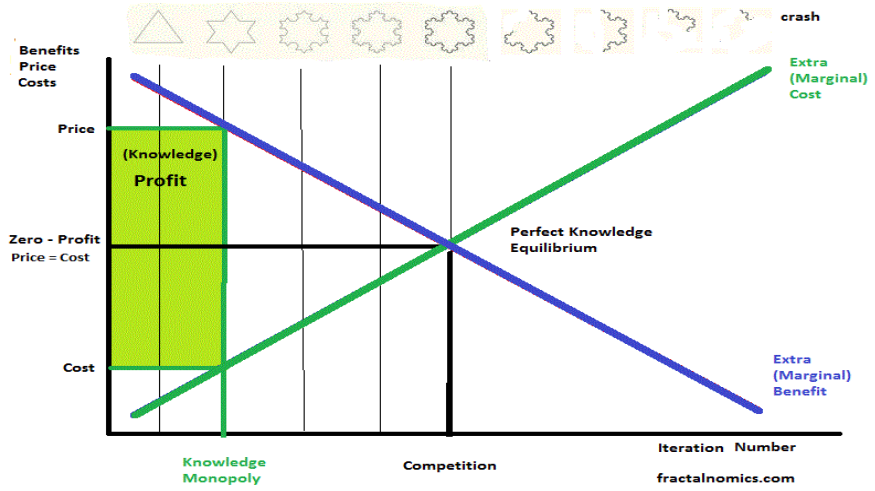


Figure (5)
fractal koch snowflake monopoly vs perfect knowledge competition

source: Blair Macdonald , Fractal Monopoly vs Perfect Competition or Knowledge, Creative Commons Attribution-NoDerivs 3.0, fractalnomics.com, 2011.

There are many types of knowledge monopoly (Rubaee, et al.,2013):

1) Military knowledge Monopoly: for example, attempts to steal the monopolies of knowledge that was during the Cold War between the Soviets and Americans (Mikkonen, 2010: 772)

2) Geographical Knowledge Monopoly: for Example, The Intergovernmental Panel on Climate Change has a monopoly on the provision of climate policy advice at the international level and a strong market position in national policy advice, This may have been the intention of the founders of the IPCC . (Richard, 2011 :827) (♣)

3) Commercial Knowledge Monopoly: A good example of the Japanese model in dealing with knowledge, where the idea of this was based on ((Cartels of the Mind) W.W. Norton & Company, 1997), Who pointed out that the brains enclosed in Japan emphasizes the monopoly of knowledge vital and not made available to non-Japanese when doing business, and this depends on the concept (Japanology) tastier adopted by Japan in its different sectors, and this confirmed by (Ivan P. Hall's) as term gangs or cartels mind and intellect (MIND monopoly)(Ivan,1999 :2)

4) Technological Knowledge Monopoly: products such as Apple, Samsung, Microsoft and Google.

5) Medical Monopoly: monopoly of drugs and medical devices and methods that are used in treating people with dangerous and difficult diseases.

The knowledge monopoly consists of various dimensions and components ,(Innis, 1991: 33) (the knowledge gap, and obstruction of creativity and innovation, and negative thinking)

As a consequence of the foregoing, knowledge monopoly can be defined as the imprisonment of ideas, information and knowledge from others , non-participation with them, and to refrain from talking with tacit knowledge, so as to ensure get high returns.

Survey:-

Likert-scale survey design was used to collect data (Likert-scaled item, ranging from 5 (strongly agree) to 1(strongly disagree)) , data were collected by a questionnaire designed to cover the variables, the research sample includes doctors of the hospital staff surveyed amounting number is (491) Doctors, random sample was selected from among them, where the sample size was calculated according to equation (Steven K. Thompson, 2002: 10), which is calculated from the following equation (Hadrawi, 2013: 2):

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2\right)\right] + p(1-p)\right]}$$

Size of the community	**N**
Standard degree corresponding to the level of significance	**Z**
Margin of error	**d**
rate the property offers a neutral	**p**

Based upon the selection of the sample randomly, and the number of questionnaires distributed (175) forms, has been retrieved (148) forms (where not received 32 forms), and the number of analysis (134) forms, and here became the sample size (n = 148) , which is suitable for the required number, according to the following schedule:

Table (3) shows the details of random sample for the doctors under study

Percentage of responsiveness %		No. of questionnaire gathered		No. of questionnaire distributed	
84.5		148		175	
Age					
41-		31-40		20-30	
%	No.	%	No.	%	No.
32	47	52	77	16	24
Work experience					
11-		6-10 years		1-5 years	
%	No.	%	No.	%	No.
50	74	38	56	12	18

Research findings

Structure Validity

Structural Equation Modeling (SEM) is an appropriate technique for validating a latent higher order construct (Bollen,1989) in order to test the suitability of the model, using the program (LISREL 9.1) .

Factor analysis (exploratory and confirmatory) and structural equation modeling (SEM) are statistical techniques that one can use to reduce the number of observed variables into a smaller number of latent variables by examining the covariation among the observed variables.(JAMES et al.,2006 :323)

CFA of a measuring instrument is most appropriately applied to measures that have been fully developed, and their factor structures validated, The legitimacy of CFA application, of course, is tied to its conceptual rationale as a hypothesis-testing approach to data analysis. That is to say, based on theory, empirical research, or a combination of both, the researcher postulates a model and then tests for its validity given the sample data.(Byrne ,2012 :95) all it depend on the fit indicators as in table (4).

Table (4) Fit indices and their acceptable thresholds

Fit Index	Acceptable Threshold Levels	Description
Absolute Fit Indices Chi-Square X2	Low χ2 relative to degrees of freedom with an insignificant p value (p > 0.05)	
Relative χ2 (χ2/df)	2:1 (Tabachnik and Fidell, 2007) 3:1 (Kline, 2005)	Adjusts for sample size.
(RMSEA)	Values less than 0.07 (Steiger, 2007)	Has a known distribution. Favours parsimony. Values less than 0.03 represent excellent fit.
GFI	Values greater than 0.95	Scaled between 0 and 1, with higher values indicating better model fit. This statistic should be used with caution.
AGFI	Values greater than 0.95	Adjusts the GFI based on the number of parameters in the model. Values can fall outside the 0-1.0 range.
RMR	Good models have small RMR (Tabachnik and Fidell, 2007)	Residual based. The average squared differences between the residuals of the sample covariances and the residuals of the estimated covariances.
SRMR	SRMR less 0.08 (Hu& Bentler, 1999)	Standardised version of the RMR. Easier to interpret due to its standardised nature.
Incremental Fit Indices		
NFI	Values greater than 0.95	Assesses fit relative to a baseline model which assumes no covariances between the observed variables. Has a tendency to fit in small samples.
NNFI (TLI)	Values greater than 0.95	Non-normed, values can fall outside the 0-1 range. Favours parsimony. Performs well in simulation studies (Sharma et al, 2005; McDonald and Marsh, 1990)
CFI	Values greater 0.95	Normed, 0-1 range.

Source: Daire H., Joseph C., Michael R. Mullen, Structural Equation Modelling: Guidelines for Determining Model Fit, Journal of Business Research Methods Volume 6 Issue 1 2008 : p58.

Independent Variable (KCS)

KCS consists of three basic dimensions (DIS), (TEC), (PH), and sixteen paragraph, is clear from the form in figure (6) for indicators of (Goodness of Fit) that extracted. that means the model has won good values of Goodness of Fit indicators as follows:

Relative of Chi-square to d.f	270/101 =2.67 <5	x^2/df <5
Absolute Fit Indexes(AFI)		
GFI	0.95	GFI >0.90
AGFI	0.95	AGFI >0.90
RMSEA	0.052	RMSEA between (0.05-0.08)
Incremental Fit Index (IFI)		
NFI	0.92	NFI >0.90
CFI	0.95	CFI >0.95

Statistical Decision: All values are statistically acceptable values (within the area of acceptance), indicators values ranged between perfect and best values to match the model, and they are in conformity with the standards adopted in the statistical table (4).

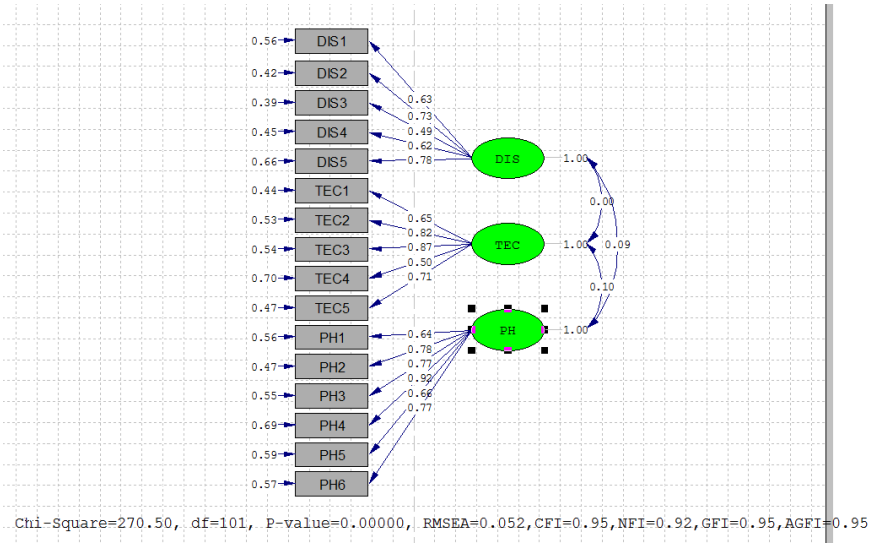


Figure (6)

Structural Equation Model (SEM) for the Independent Variable (KCS)

Dependent Variable (KMO)

KMO consists of six paragraph, (DIS), (TEC), (PH), is clear from the form in Figure (7) for indicators of (Goodness of Fit) that extracted. That means the model has won good values of Goodness of Fit indicators as follows:

Relative of Chi-square to d.f	**37.04/9 =4.1<5**	**x^2/df <5**
Absolute Fit Indexes(AFI)		
GFI	**0.94**	**GFI >0.90**
AGFI	**0.94**	**AGFI >0.90**
RMSEA	**0.054**	**RMSEA between (0.05-0.08)**
Incremental Fit Index (IFI)		
NFI	**0.93**	**NFI >0.90**
CFI	**0.96**	**CFI >0.95**

Statistical Decision: All values are statistically acceptable values (within the area of acceptance), indicators values ranged between perfect and best values to match the model, and they are in conformity with the standards adopted in the statistical table (4).

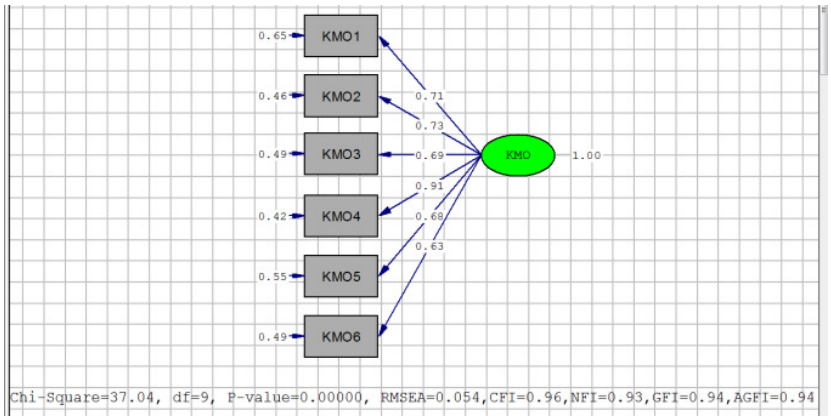


Figure (7)
Structural Equation Model (SEM) for the dependent Variable (KMO)

Research hypotheses Test

1) hypothesis (1)Relationship between KCS and KMO

In order to test the main hypothesis we have to test the sub – hypotheses as the following :

A. Relationship between DIS and KMO:

The analysis results given in table (5) shows a correlation between (DIS) and (KMO) as the value (0.232) at the level of significance (0.05) and it is significant according to (t-value) and (p-value),Thus the first sub-hypothesis is accepted**.**

B. Relationship between TEC and KMO:

The analysis results given in table (5) shows a correlation between (TEC) and (KMO) as the value (0.751) at the level of significance (0.05) and it is significant according to (t-value) and (p-value. Thus the second sub-hypothesis is accepted

C. Relationship between PH and KMO:

The analysis results given in table (5) shows a correlation between (PH) and (KMO) as the value (0.606) at the level of significance (0.05) and it is significant according to (t-value)and (p-value).Thus the third sub-hypothesis is accepted**.**

D. Relationship between KCS and KMO:

The analysis results given in table (5) shows a correlation between (KCS) and (KMO) as the value (0.537) at the level of significance (0.01). and it is significant according to (t-value)and (p-value).Thus the first hypothesis is accepted**.**

Table (5)
The relationship between KCS and KMO

		KCS Dimensions		
	KCS	DIS	TEC	PH
KMO	0.537**	0.232*	0.751**	0.606**
t-cal	2.36	3.14	3.01	4.15
P-Value	0.001	0.000	0.000	0.000
Decision	H1 Accepted	H1-1 Accepted	H1-2 Accepted	H1-3 Accepted

- **Correlation is significant at the 0.01 level (2-tailed) P≤0.05
- *Correlation is significant at the 0.05 level (2-tailed). P≤0.05

2) Hypothesis (2): There is a statistically significant influence of Knowledge Cartels on Knowledge Monopoly

when we want to measure an effect at any study, and use traditional statistical methods we find that it depends on (effect size, effect direction and effect significant) tests , while at (SEM) tools we find the plausibility of postulated relations from the (goodness of fit index)(Byrne, 2010: 3)

When the program application results were shown in the table (6)and figure(8,9) to path and regression and (t,R2) for the independent variable (KSC) and it's dimensions (DIS,TEC,PH) in the dependent variable (KMO), we have to test (Sub-hypotheses) in order to test the major hypothesis as follows:

A. Hypothesis (2-1):influence of DIS on KMO :

The analysis results shows a statistically influence of (DIS) on Knowledge Monopoly as the (R2=0.053) that means (DIS) interpreted (0.053%) of the variable (KMO), also the Beta value (B=-0.06) that means:

Relatively little influence (Influence non-existent),so (DIS) does not has the effect on (KMO) at the level of significance.

Thus the first sub-hypothesis does not accepted.

B. Hypothesis (2-2):influence of TEC on KMO :

The analysis results shows a significant statistically significant influence of TEC on Knowledge Monopoly as (R2=0.56) that means (TEC) interpreted (56%) of the variable (KMO), also the Beta value (B=0.86) that means one amount (one-unit)of change could expect in (TEC) given a (0.86) change in the value of (KMO), at the level of significance.

Then the regression model (simple linear regression) is represented by the following equation:

$$KMO = \alpha + \beta 1 TEC$$

KMO= 0.37 +0.86 (TEC)

Thus the first sub-hypothesis is accepted.

C. Hypothesis (2-3):influence of PH on KMO :

The analysis results shows a statistically significant influence of (PH) on Knowledge Monopoly as (R2=0.367) that means (PH) interpreted (36.7%) of the variable (KMO), also the Beta value (B=0.73) that means one amount (one-unit)of change could expect in (TEC) given a (0.73) change in the value of (KMO), at the level of significance.

Then the regression model (simple linear regression) is represented by the following equation

$$KMO = \alpha + \beta 1 PH$$

KMO= 0.30 +0.73 (PH) *Thus the first sub-hypothesis is accepted.*

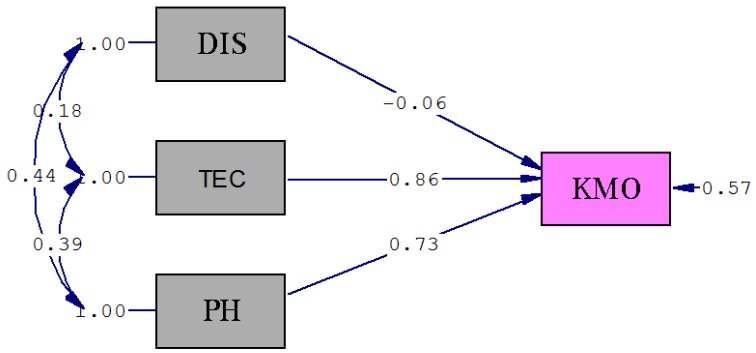
Hypothesis (2):influence of KCS on KMO :

The analysis results shows a statistically significant influence of KCS on Knowledge Monopoly as (R2=.288) that means (KCS) interpreted (28.8%) of the variable (KMO), *Then the regression model (multiple linear regression) is represented by the following equation*

$$KMO = \alpha + \beta 1 DIS + \beta 2 TEC + \beta 3 PH$$

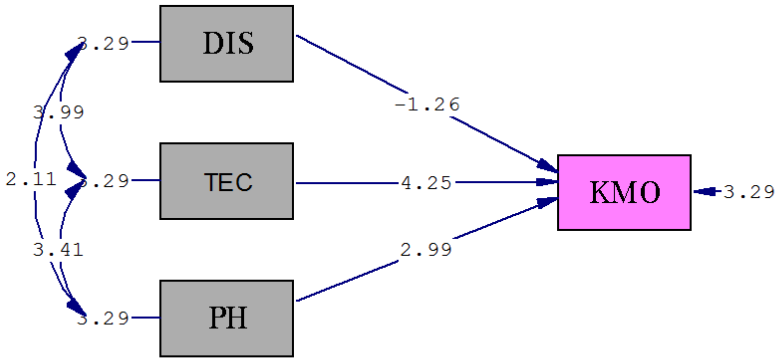
*KMO= 0.36 +**0**+0.86 (TEC) +0.73 (PH) ,*

Thus the second major hypothesis is accepted.



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure (8)
Beta values according to (SEM)



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure (9)
T- Value according to (SEM)

Table (6) Regression coefficients

Hypothesis 2	Path	B	t	R2
H2-1	DIS--->KMO	-0.06	-1.26	0.053
H2-2	TEC---> KMO	0.86**	4.25	0.562
H2-3	PH---> KMO	0.73**	2.99	0.367

** significant at the 0.01 level

* significant at the 0.05 level

Discussion And Conclusions

Actually we faced some limitations related to the difficulties of the dimensions and paragraphs in some respondents, because they found it might be new idioms for them therefore this required to interpret questions for them (without affecting bias), The results of experience and data analysis have considered affecting all dimensions of knowledge cartels on knowledge monopoly with using LISREL software in this study , Eventually whole structural equation model (SEM) confirmed impact of knowledge cartels on knowledge monopoly. below the points that was concluded:

1) The concepts of (KCS) and (KMO) are recent concepts and ancient application at the same time , with limited sources (as far as we know) and need special care because of their significant impact in the possibilities of the organization.

2) Results of the analysis showed significant correlation relationships
Between all the variables on the main and sub level , at the organization under study.

3) There is a statistically significant influence of Knowledge Cartels(KCS) and it's dimensions(TEC , PH) on Knowledge Monopoly ,except one dimension (DIS) does not has the effect on (KMO) at the level of significance .

4) Proposed model, which has been converted into a tested model according to the structural equation modeling (SEM), has passed the required matching quality indicators, And that means the model is structurally acceptable according to it's indicators, as well as statistically it is acceptable according to the correlations, thus we can adopt this scheme or model.

Recommendations

1) The organization should be more interested in training the doctors and give them more information and knowledge.

2) Emphasis on seminars and networking among all doctors in order to exchange knowledge with each other

3) Design a Website and directing all professors to publish their lectures on the internal site, and facilitate access to it by all students and trainees, and follow-up constantly updated.(and access control by ID and password for each)

4) Facilitate the knowledge sharing within the organization, and encourage individuals who have tacit knowledge to share it with others.

5) It is necessary to understand the importance of methods in which we can face knowledge cartels and knowledge monopoly

6) The research suggests ,importance for deploying the recommendations of research to all Iraqi's hospitals

7) The research suggests for future research ,working on researches related to the dimensions of knowledge cartels , And finding ways to face the knowledge cartels and monopoly prepared in accordance with other organizations

Abstract:

There is no doubt that knowledge plays a big role in the success or failure of business organizations, Modern organizations are increasingly seen as knowledge-based enterprises in which depend on implicit knowledge that important for competitiveness, but the exist of knowledge cartels lead to knowledge monopoly and not share it with others, which affect the services provided by these organizations, and eliminate the Competition.

Purpose : This paper introduces a descriptive framework and model for understanding how could knowledge cartels influence in promoting the knowledge monopoly in Medical Field.

Design/methodology/approach: The research depend on integrates aspects of knowledge cartels and of knowledge monopoly theory. And use statistical Instrument descriptive and structural .

Findings: The results of experience and data analysis have considered affecting all dimensions of knowledge cartels on knowledge monopoly (except one relation) , eventually whole structural equation model (SEM) confirmed impact of knowledge cartels on knowledge monopoly.

Research limitations/implications: Conceptual and empirical research should consider how individuals' knowledge cartels influences on knowledge monopoly, and it important to understand this relation in order to face it.

Practical implications : Organizations should consider evaluating the knowledge level of their members and facilitate knowledge sharing in order to be able to face the knowledge cartels and monopoly . Group tasks should be planned with the mix of individuals' knowledge , These efforts should help to avoid knowledge monopoly.

Originality/value : There are a small number of studies and researches dealt with the relationship between knowledge cartels and monopoly , with tacit or explicit knowledge both ,type and degree of knowledge use when performing organizational tasks.

Keywords: Knowledge Cartels , Disruptive Innovation, Phrenology ,Techno-Strategy ,Knowledge Monopoly.

Paper Type: Empirical Study

المستخلص:ـ

تواجه المنظمات في القرن الحالي تحديات جديدة تختلف عن تلك التي كانت تواجهها خلال العقود المنصرمة ، مما يستوجب الحاجة للحصول على

معرفة وراس مال فكري بمستوى عالي، حيث تلعب المعرفة دوراً كبيراً في نجاح أو فشل المنظمات ، كما وان المنظمات الحديثة تتحول بشكل متزايد إلى المنظمات القائمة على المعرفة، وتستثمر في سبيل ذلك قدرا كبيرا من مواردها، والتي تعتمد على المعرفة الضمنية الداعمة للقدرة التنافسية، ولكن يزداد في الوقت الحالي تكوين كارتلات المعرفة الذي يؤدي إلى احتكار المعرفة وعدم مشاركتها او تقاسمها مع الاخرين، والتي تؤثر بشكل سلبي على الخدمات التي تقدمها هذه المنظمات، وتساهم بشكل كبير في القضاء على المنافسة.

الغرض: يهدف هذا البحث الحالي إلى لتقديم نموذج يوضح كيفية تكوين الكارتلات المعرفية ومدى تأثيرها ومساهمتها في تعزيز احتكار المعرفة في المجال الطبي وتحديدا في مستشفى بغداد التعليمي.

التصميم/ المنهجية/ المدخل: اعتمد هذا البحث على تصميم نموذج لأبعاد الكارتلات المعرفية واحتكار المعرفة، من خلال مجموعة مقاييس ونظريات معتمدة في هذا المجال، واختيار عينة عشوائية بلغت (١٤٨) طبيب، حيث تكونت الكارتلات المعرفية من مقياس من ستة عشر فقرة، والاحتكار المعرفي من ستة فقرات بالاعتماد على نظرية الاحتكار المعرفي، واستخدام بعض الادوات الاحصائية الوصفية ونموذج المعادلة الهيكلية.

النتائج: اثبتت النتائج عن وجود علاقة ارتباط وتاثير للكارتلات المعرفية في تعزيز الاحتكار المعرفي (باستثناء علاقة واحدة غير معنوية)، وثبت تحقق نموذج المعادلة الهيكلية المقترح.

محددات البحث أو توكيداته الأساسية: أن البحوث النظرية والتجريبية تؤكد أهمية فهم الكيفية التي تؤثر فيها الكارتلات المعرفية في تعزيز احتكار المعرفة، لأهمية ذلك في تحديد سبل المواجهة الملائمة.

التوكيدات العملية: ينبغي للمنظمات أن تعمل على تقييم مستوى المعرفة وتسهيل تبادلها ومشاركتها بين أعضائها، من أجل أن تكون قادرة على مواجهة الكارتل والاحتكار المعرفي، من خلال عدد من الإجراءات منها استخدام مجموعات العمل المعرفية.

الأصالة / القيمة العلمية: تبلغ أهمية البحث في ندرة وقلة الدراسات والأبحاث التي تناولت العلاقة بين الكارتل المعرفي والاحتكار المعرفي، مع المعرفة الضمنية أو الصريحة على حد سواء، وعدم مشاركة وتقاسم المعرفة، ونوع ودرجة استخدام المعرفة عند تنفيذ المهام والاعمال.

الكلمات المفتاحية: الكارتلات المعرفية، الابتكارات الكاسحة، الفراسة، الاحتكار المعرفي.

نوع البحث: تطبيقي.

(♣) *Problem statement was formulated according to the official site of ministry of health (www.moh.gov.iq)*

(♣) *for more information please visit the official site of medical city (medicalcity-iq.net)*

(♣) Problem statement (The IPCC is a not-for-profit organization, was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO))(for more information please visit http://www.ipcc.ch).

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