

THE ROLE OF KNOWLEDGE ASSETS ON ACTUALIZING COMPETITIVE ADVANTAGE

ABSTRACT

This research reviews the literature pertaining to the assessment of knowledge assets. Since knowledge assets are critical resources to sustainable competitive advantage. Unfortunately, the measurement of intangible assets is difficult.

INTRODUCTION.

The popular use of terms in following list hint at the increased importance knowledge assets have in organizations: Intellectual Capital, Knowledge Capital, Knowledge Organizations, Learning Organizations, Organizational Learning, Information Age, Knowledge Era, Information Assets, Intangible Assets, Intangible Management, Hidden Value and Human Capital.

These terms and others are part of a new dictionary descriptors belonging to a paradigm where sustainable competitive advantage tied to individual workers and organizational knowledge, leveraging knowledge is the key reason attributed to corporate success such as the tremendous overvaluation of high-tech and Internet companies.

As we are living in an emerging global information society with global economy that increasingly dependent on creation, management, and distribution of information resources over interconnected global networks like Internet .So information and knowledge are basic resources in today's society.

This research paper tries to highlight this **importance** issue through understanding and evaluating knowledge asset and making interrelationship between knowledge assets and competitive advantage.

The main **objective** of this paper is to study the role of knowledge assets as it -intangible assets, which is not less important than tangible - on actualizing competitive advantage and how can be measure and evaluate it ?.

This paper will contain two chapters: First: Understanding and evaluating knowledge assets and the Second: Knowledge management & competitive advantage. Then there is an explanation to knowledge based economy and the role of the Jordanian government in protection property right.

UNDERSTANDING AND EVALUATING KNOWLEDGE ASSETS

What are the differences between Knowledge and Information and Data?

Data: the basic compound is data-measures and representation of the world around us.

Information: change the condition by looking at relationships and patterns that occur in data overtime, assigning meaning to what we see and we we've got information.

Knowledge: mix-in how to use all that information to something we've got knowledge

Finally, add experience to the mix and we've got **wisdom** or learning

Data	Information	Knowledge	Wisdom
Representation of facts	Data plus -meaning - understanding of patterns relationship	Information plus -beliefs -assumptions -commitment -design for application	Knowledge plus -application -adaptation after application

(Sarvary ,1999, P 59) added more: knowledge is information plus the causal links that help to make sense of this information.

Knowledge is critical for any firm & is often called the intellectual capital of the firm beyond brand name & physical assets, corporation gains knowledge yearly of experience in such things as, manufacturing, engineering, and sale, this cumulative experience, together with information to gather from outside sources, constitutes one of firm's critical resources.

Two important areas in particular have contributed to the birth of modern knowledge management system:

communication (or Network Technology) and relational databases.

Knowledge Management is a business process, it's the process through which firm creates and uses their institutional or collective knowledge; it includes three sub-processes;

1. *Organization learning*; the process through which the firm acquires information and /or knowledge.
2. *Knowledge production*: the process that transforms & integrates raw information in to knowledge, which in turn is useful to solve business problems.
3. *Knowledge distribution* –the process that allow members of the organization to access and use the collective knowledge of the firm.

Knowledge has become the central, key resource that know no geography, it underlies the most significant and unprecedented social phenomenon of this century.

(Awad& Chaziari,2004,p2) added more about Knowledge Management it's a newly emerging, business model that has knowledge within the framework of an organization as its focus, Its rooted in many disciplines, including business, economics, psychology, and information management. Its the ultimate competitive advantage for today's firm .Knowledge management involves people, technology, and process in overlapping.

Some characteristic of the modern information society would include:

1. The development of information as a central strategic resource in industrial and economic development on management and application of which individual units (companies, nations, geographical regions) are increasingly dependent for their competitiveness.
2. The very rapid growth in information of the economy which allows closer links between regional, national and international economies.
3. The development of global information net work on which what castles refers to as the “network society “is based.

4. The globalization of capitalism which is facilitated by and is dependent upon those networks, permitting, economic decision –making on the world scale in real time.
5. The reduction in the constraints of space information networks tend to break down the hierarchical of structures example (JIT) method are used where by the supplier constantly tops up a minimal amount of stock held by the manufactures or supermarket .

Approaches of knowledge assets:

This research will deal with three approaches: *Human Resource Accounting, Organization Learning, Intellectual Property:*

1. Human Resource Accounting. (HRA)

As knowledge assets have traditionally resided in the heads of employee, proponents of HRA argue that expenditures for recruiting, salary, and training create human resource assets that should be included on the balance sheet.

Three general approaches have been proposed to estimate this value of financial accounting proposes:

1. Acquisition costs value the human assets by accumulating all of associated costs incurred before the time the firm can realize the benefits of the employee it could include recruiting costs, hiring costs, and training costs associated with new employee. This approach is somewhat analogous to the accounting treatment of costs of acquiring fixed assets.
2. Records replacement value, an estimate of the costs of replacing an employee with someone of equal value. The advantage of this approach is That it attempts to include a market estimate of the employee's value.
3. The third approach is to discount the expected future salaries of employees to the present and report it as an asset.

This approach assumes a definite relationship between an employee's future salary and his value to the firm. Which in an efficient labor market may accurate and his tenure with the firm.

Clearly to the extent than human resource assets have value, it is some how related to the knowledge of the employee. It should be noted that with artificial intelligence and in particular expert systems. Making it possible for firms to capture and deploy the knowledge of their best employees, (Wegen, 1997, p561).

(Ul-Haq, 1995, pp3-19) mentioned that human capital is measured neither quantitatively nor qualitatively. The recent experience of the

OPEC nation is an illustration. Human capital human institutions and skills were missing in most of these nations and without it their vast windfall gains could not be translated into real development.

In the human dimension in development planning. Most development plans would look very different if their preoccupation were with people rather than with production. *They would contain at least five distinct elements conspicuously lacking in most plans today:*

1. They would start with a human balance sheet, what human resources exist in the country, How educated are its people? What is the inventory of skills? Once the importance of the human factor is recognized, adequate investment must be made in compiling comprehensive balance sheets in human terms.
2. Plan targets must first be expressed in basic human needs and only later translated into physical targets for production and consumption.
3. An essential corollary of incorporating the human dimension into development planning is that both production and distribution objectives should be integrated and given equal emphasis>
4. A human development strategy must be decentralized to involve and community participation and self-reliance.
5. Development plans must contain a human framework for analyzing their performance.

These elements should appear in every economic plan of the developing countries .He added that people are both the means and the ends of development; people are not regarded as mere instruments for producing .Commodities-through an augmentation of “human capital”.

There are *four essential components* in the human development paradigm:

- 1.**Equity**, People must enjoy equitable access to opportunities.
2. **Sustainability**: It is sustainability of human opportunities that must lie at the center of our concerns, which is means sustaining all forms of capital-physical, human, financial and environmental.
3. **Productivity**: which requires investments in people and an enabling macroeconomic environment for them to achieve their maximum potential.
4. **Empowerment**: human development must participate in the activities, events and processes that shape their lives.

What is a management skills? (Daft, 2001, PP 18-19)

1. **Conceptual skills**: The ability to see the organization as a whole and to see how its parts are related. Conceptual skills are necessary for appreciating how each member of an organization contributes to total quality, customer satisfaction and organizational performance.

2. **Human skills:** the ability to work with and through other people and to work effectively as a group member. For examples human skills are effectiveness in leading motivating, communicating and resolving conflates.

3. **Technical skills:** the ability to understand specific tasks and to perform them proficiency.

Daft, added more on (p.622) when he talks about technology advances: Both manufacturing and service organization are using new technology to improve productivity, customer service, and competitiveness. Mass production and distribution techniques are being replaced by new computer-aided systems that can produce on of a kind variation at a cost previously unimagined.

Companies find that because technology changes so rapidly, they must constantly evaluate and upgrade systems, adopt new ways of doing business and train employee in new skills, because products can be made and sold anywhere in the word, communications are instant, and product development of life cycles are shorter than ever before, inanition financial basis of today's economy is becoming information rather than such tangible assets as land, buildings and capital, This means that the primary factor of production has become human knowledge rather than machines, increasing the power of employees. One significant area of technological change for organization is the Internet and e-commerce.

Technology also plays a key role in the trend toward knowledge management and the sharing of information within and between organizations. Recognizing that intellectual capital what employees know matters more than any other asset today companies seek to manage knowledge just as they manage cash flow or raw materials. Organizations have to make changes in their human resource practices to attract and retain diverse employee, as well as to meet the changing needs of highly skilled knowledge workers.

Arab human development report (UNDP, 2002: p19) mentioned that acquisition of knowledge has intrinsic value by itself, but more importantly, it is an important dimension of human development because as it is a critical means of building human capability. It is now generally accepted that knowledge is a core factor of production and a principal determinate of productivity and human capital.

There is thus an important synergy between knowledge acquisition and the productive power of society; this synergy is especially strong in high value-added productive activities, which are becoming increasingly based on both intensive knowledge and the rapid obsolescence of know-how and capabilities.

In today's world it is knowledge gap rather that the income gap that is likely to he must critical determinant of the fortunes of countries

across the world. At the beginning of the third millennium knowledge constitutes the road to development and liberation, especially in a world of intensive globalization.

The human capabilities in the region are relatively weak and poorly utilized one proxy for using human capabilities markedly in relation to knowledge acquisition. One proxy for access to knowledge in this age of connectivity is the number of Internet hosts per 1,000 people. The Arab region has the lowest level of access to ICT of all regions of the world even lower the sub-Saharan Africa.

The report added more on (pp73-74) Information and communication technology (ICT), a product of R&D and an increasingly important factor in the knowledge economy of twenty-first century can be both a unifying and a divisive force: (digital divide) which refers to the differences between those who have digital access to knowledge and those who lack it.

*Full cycle of knowledge acquisition, which consists of five stages: **accessing information, organizing information, extracting knowledge, applying knowledge and generating new knowledge.***

Arab countries need a different model to take them into the information society: The components of the information industry, the content, processing and distribution of information. True knowledge is about life and knowledge as away of life Arabs represent 5 percent of the world population but only 0.5 percent of Internet users.

- 1- ICT is highly susceptible to monopoly and merger.
- 2- Transition to the knowledge economy has reinforced the role of profits in knowledge-production process, leading in turn to a rise in the cost of orbiting information resources.
- 3- Building infrastructure for the information super-highways is costly.
- 4- A growing brain drain, both actual emigration and virtual (through the Internet).
- 5-the fast pace of change in ICT increases the important tech planning.

2-Organizational learning

What is the difference between organizational learning & learning organizations?

Organizational learning: the process through which managers seek to improve organizational members, capacity to understand and manage the organization and its environment so that they can make decisions that continuously raise organizational effectiveness. Organizations are racing to develop new and improved core competencies that can give them a competitive advantage.

Types of organizational learning:

1. *Exploration*: organizational member's search for and experimentation

With new kinds of forms of organizational activities and procedures.

2- *Exploitation*: organizational members learning of ways to refine and improve existing organizational and procedures.

Learning organization: An organization that purposefully designs and constructs its structure, culture, and strategy so as to enhance and maximize the potential for organizational learning to take place.

In order to create a learning organization, managers need to encourage learning at four levels:

1- Individual: organization. should empower individuals and allow them to experiment and create and explore what they want. The goal is to give employees the opportunity to develop an intense appreciation for their work that translates into a distinctive competence for the organization.

2- Group: encourage learning by promoting the use of various kinds of groups such as self-managed or cross functional teams so that individuals can share or pool their skills and abilities to solve problems.

3- organization: managers can promote organizational learning through the way they create an organization's structure and culture the importance of building shared vision.

4- Interorganizational: learning is important because organizations can improve their effectiveness by copying and imitating each other's distinctive competencies such as system thinking.

Daft (2001, pp27-28) defined: **learning organization**: "An organization in which everyone is engaged in identifying and solving problems, enabling the organization. to continuously experiment, improve, and increase its capability"

Developing a learning organization means making specific changes in the areas of leadership, structure, empowerment, communications, Information sharing, participative strategy, and adaptive culture: each is described in the following:

1- Leadership: leadership is only means through which a company can change into learning organization. They control with others by building relationships based on a shared vision and shaping the culture that can help a change it.

2- Team-Based structure: Self-directed teams are the fundamental unit in a learning org.

3- Employee Empowerment: means giving employees the power, freedom, knowledge, and skills to make decisions and perform effectively.

In learning org. people are a manager's primary source of strength, not a cost to be minimized. Companies that adopt this perspective believe in

treating employee well by providing competitive wages, good working conditions and opportunities for personal and professional development and provide employee ownership by sharing gains in productivity and profits.

4- Open Information learning organization is flooded with information, to create what managers call an "information" a transparent organization that provides people access to information for all its members.

Wegen (1997, P57) mentioned that organization learning (as to how economic activity is structured and organized to achieve higher performance) embodied by the experience curve (the relationship between cost and experience) has rarely been ignored in HRA discussions.

One of the initial attempt to document the value of experience were studies conducted to measure the relationship between direct labor hours required per unit of production and cumulative units produced in airframe manufacturing. These studies showed that labor required went down at approximately constant multiplicative factor with each doubling of cumulative volume later studies focused upon the relationship between manufacturing costs and cumulative value showed a similar mathematical relationship A 15% reduction in costs with a doubling of cumulative value (a so-called 85% experience curve) represents the median of a large number (97) of academic studies.

One advantage of the experience curve is that the cost savings attributable to learning can be measured, and could conceivably be capitalized as a knowledge assets it is more difficult to measure the value of learning that does not cut costs, which aids the organization in other ways (such as allowing the company to charge higher prices for its products, Nevertheless, organizational learning does provide away to objectively measure the value of certain kinds of experience and knowledge.

3-Intellectual Property:

Intellectual property refers to any product of the human intellect, such as an idea, invention, expression, business method, or industrial process, which has some value in the marketplace.

Intellectual property law attempts to determine when and law a person or firm can capitalize on a creation depending on the type of property, different branches of intellectual property law way be relevant and way include: patent law, trademark law, copy right law, trade secret law, and unfair competition law.

Generally Accepted Accounting Principles (GAAP) and the Statements of Financial Accounting Standards (SFAS) provided by the

financial Accounting standards Board specify the treatment of intellectual property "assets" not be carried on a balance sheet unless acquired.

Below specific definitions and accounting rules for the types of intellectual property:

1. *Copyrights*: these are designed to protect the original expression in a work, but not the underlying ideas. In Us it is exclusive right granted by the government to an individual author, composer, playwright, and the like for the life of the individuals plus 50 years
2. *Patents*: A patent is a right granted in the Us for up to 12 years, by a government to exclude others from manufacturing, using or selling a claimed design, product, or plant law protects "any new and useful process machine, manufacture, or composition of matter".

The value of patent protection was recently evidenced in \$120 million judgment against Microsoft for including data compression in Ms-Dos products that infringed a STAC Electronics patent.

Merck, the world's largest pharmaceutical company, attempts to measure the net present value of its patents using discounted cash flow tied to the cost of capital. Merck, uses numbers to make sure it investing enough in R&D to replenish its intellectual property. In Jordan there is patent law : No,32,for the year 1999,to protect the patent right.

3. *Trade secrets*: is any information design, device, process, composition, technique, or formula that is maintained as a secret which affords its owner a competitive business advantage.

Trade secret law protects these secrets against unauthorized use or disclosure. Under GAAP trade secrets are not capitalized whether acquired or developed internally. The coca-cola company has kept the formula for its syrup secret since in the invention of "7W" formulation in 1891. In Jordan the law amending the trademark law ,No,34/1999

4. *Mask work*: chip makers can also seek protection under the semiconductor chip protection Act of 1984 which protects a Semiconductor's design or mask work for up to 10years. Under current GAAP, mask works are assets if acquired by purchase. If developed internally, the development costs are expensed when incurred. In Jordan: the protection of layout-design of integrated circuit law ,No,10/2000.Its necessary to mentioned that is The scope and value of intellectual property protection have changed significantly over time.

Measurement of knowledge Assets

There are some models to measure knowledge Assets:

1. The Skandia: Navigator the Swedish insurance company skandia is one of the leaders in trying to make visible the non-monetary assets of a company. Skandia first developed its IC (Intellectual capital, report internally in 1985 and become the first company issue an IC addendum accompanying its traditional financial report to shareholders in 1994. According to skandias model, the hidden factors of human and structural capital comprise intellectual capital when added together.

Human capital is defined as the combined knowledge skill, innovativeness and ability of company's individual employees to meet the task at hand. It also includes the company's values, culture and philosophy.

Structural capital is the hardware, software, databases, org. structure, patents, trademarks, and everything else of organizational capability that supports those employees productivity structural capital also provides

Customer capital, the relationship developed with key customers. Intellectual capital equals the sum of human and structural capital According to Evinsoon and Malone, IC encompasses the applied experience organizational technology, customer relationships and professional skills and that provide skandia with competitive advantage in the market.

2. IC-Index

IC-Index is an example of second-generation practices that attempt to consolidate all different individual indicators into a single index and to correlate the changes in Intellectual capital with changes in the market.

3. Technology Broker:

Brooking defined IC as the combined amalgam of these four components: market assets, human centered assets, intellectual property assets and Infrastructure assets.

4. MVA and EVA

Economic Value Added (EVA(TM)) was introduced by stem Stewart as a comprehensive performance measure that uses the variables of capital budgeting, financial planning, goal setting, performance measurement shareholder communication and incentive compensation to account properly for all ways in which corporate value can added or lost. EVA is intended to offer improvements to the market value added (MVA(TM)) calculation MVA represents the spread between the cash that

a firm's investors have put into the business since the start up of the present value of the cash that they could get out of it by selling their shares by maximizing this spread, corporate managers maximize the Wealth of the company's shareholders relative to other uses of capital.

(Wegen 1997,p64) mentioned that is the value of a knowledge Assets = the sum of the cost based value and the added value, summed over all relevant process in which it is resource.

Each model has strengths and weaknesses and operationalization. Intangible assets have a substantial implication for a knowledge organization. vision while visible financing consisting of equity, short-term, and a few long-term loans, is usually simple to calculate, it is more difficult for knowledge org. because of a lack of tangible collateral.

The effort to create human resources costing and accounting systems have not considered the full rang of intangible assets that can exist, nor have they been practically useful as management information systems monitoring the daily progress of business.

They have tended to adopt a manufacturing or industrial perspective yet service companies now account for two-thirds of the employment in the industrialized world. Even more compelling the wealth of knowledge-intensive org. is now surpassing the manufacturing sector in most global economies (Bontis, Nick, 2001, (PP 1-22)).

CH2

KNOWLEDGE MANAGEMENT AND COMPETITIVE ADVANTAGE

What is competitive advantage?

(Daft, 2001, pp12-14) mentioned that, competitive advantage is a mean by which organizations can create value better than current and potential competitors over the long term. Resources can be considered to provide a relative advantage if they are:

1. **Valuable:** The resource should benefit the organization in some way.
2. **Rare:** The resource should be in limited supply, or else it doesn't provide an advantage because all organizations would have it.
3. **Inimitable**-there must be no practical way to copy the resource.
4. **Nonsubstitutable**-If organization can't substitute something else for resource, the organization that has it has an advantage. People as human resource brings talents, knowledge, and experience to their work. If the organization know how to acquire and use them wisely, it has the potential to sustain a competitive advantage for long term. This knowledge, of course, comes largely from an understanding of organizational behavior.

Viewing human resources as a source of competitive advantage is essential for managing a new kind of worker. Modern organization rely more and more on "knowledge workers" whose primary contribution to the organization is not manual labor but they know about customers or a specialized body of knowledge.

(Jones, 2001, p11) added more, *Competitive advantage*: The ability of one company to outperform another because its manageress is able to create more value from the resources at their disposal competitive advantage. *Core competencies* springs from: Managers skills and abilities

in value-creating activities such as R&D. *Strategy*: The specific patterns of decisions and actions that manager's take to use core competencies to achieve a competitive advantage and outperform competitors.

Like money, technology, and equipment, people are a resource of an organization. They have the potential to give an organization the benefits of their training, skills, experience, intelligence judgment, and relationships successful organizations therefore a good at managing human resources: acquiring them, keeping them, increasing their value and deriving the benefits of their efforts.

A successful TQM effort depends on instilling the core values of the organization, empowering employees to make changes, motivating people to improve constantly and inspiring people to focus on customer needs.

(Scheraga ,1998, pp1-2) mentioned that :Experts say that to prevent knowledge from going to waste, companies must implement a knowledge management cycle that shapes useful knowledge, from ideas through actual practice. Attention must be paid to the knowledge's creation, identification, collection, organization, sharing, adaptation and use although technology facilitates this, the success or failure of knowledge management cycle rest more heavily upon the company's ability to manage and motivate its employees as people are at the heart of the knowledge management philosophy.

(Sarvary 1999,p1)added more :the power of a KM system critically depends on how its content is used in the specific business situation. When property used, a KM system can build competitive advantage ,when evaluating a KM systems potential for building competitive advantage one should also evaluate the ways in which it will be used by the members of the management .

(Dillich 2000,p1) argue that the gap between what is learned &how quickly that knowledge is applied is going to be an enterprises competitive advantage of the future ,the advent of enterprise e-learning is providing the employees with more means to use what they've learned more quickly .

(Obrien 1999,pp26-27) added that the strategic information systems use information technology to develop products, services ,processes ,and capabilities that give a business a strategic advantage over the competitive forces in its industry .Information technology can play a major role in implementing such strategies ,this might include :cost strategies, differentiation strategies ,innovation strategies .for example using corporate intranets to dramatically improve the speed and ease of collaboration of cross-functional product development teams .numerous studies have argued that improvements in various aspects of management information systems (MIS) should crate competitive advantages for firm,

for example (JIT) inventory system may generate competitive advantages with lower inventory costs and better quality control .

(Peffer&Sutton, 2000,pp83-107) talks that each year more than \$60 billion is spent on training in and by organization particularly management training, much of this training on subject such as TQM, customer loyalty, &organization change based on knowledge to improve organization practices.

TURNING KNOWLEDGE INTO ACTION

There are eight guidelines for action:

1-Why before how: Philosophy is important?

Toyota, Honda, and other company's set of core assumptions about people that it tries to implement in its management approach that people 1-are creative thinking individuals capable of learning 2-are responsible \$can be held accountable 3-are fallible 4-desire to make positive contributions to society &like a challenge 5-are unique individuals deserving of respect, not number of machines.

2-Knowing comes from doing and teaching others how

Teaching is of knowing &so is doing the work trying different things, experimenting ,if you do it then you will know.

3-Action counts more than elegant plans &concepts

4- There is no doing without mistakes, what is the company's response?

In building a culture of action ,one of the most critical elements is what happens when things go wrong reasonable a culture of forgiveness in keeping with the firm's values &beliefs .

5-Fear foster knowing –doing gaps, so drive out fear, fear starts or stops at the top.

6-Beware of false analogies: fight the competition, not each other

7-Measure what matters &what can help turn knowledge into action.

Organization tend to measure the past, typical information systems can tell you what has happened –how much has been sold, what has costs have been, how much has been invested in capital equipment –but the systems seldom provide information that is helpful in determining why results have been as they as they have or what is going to happen in the Near future.

8-What leaders do how they spend their time and how they allocate resources, matters.

(Zack ,1999,pp125-130) added more knowledge can be considered the most important strategic resource, and the ability to acquire integrates, store, share, and apply it the most important capability for building

& sustaining competitive advantage. What is about knowledge makes the advantages sustainable? Knowledge tends to be unique and difficult to imitate, acquire knowledge through experience takes time and competitors their learning merely through greater investment.

Knowledge -based competitive advantage is also sustainable because the more a firm already knows, the more it can learn. Learning opportunities for an organization that already has knowledge advantage may be more valuable than for competitors having learning opportunities but starting off knowing less. All of these represent what economists call increasing returns, knowledge provides increasing returns as it is used, the more it is used, the more valuable it becomes creating a self reinforcing cycle.

If an organization can identify areas where its knowledge leads the competition, and if that unique knowledge can be applied profitably in the marketplace, it can represent a powerful and sustainable competitive advantage.

Knowledge map: knowledge can be characterized by type, including declarative (knowledge about), procedural (know-how) causal (know-why) conditional (know-when) and relational (know-with).

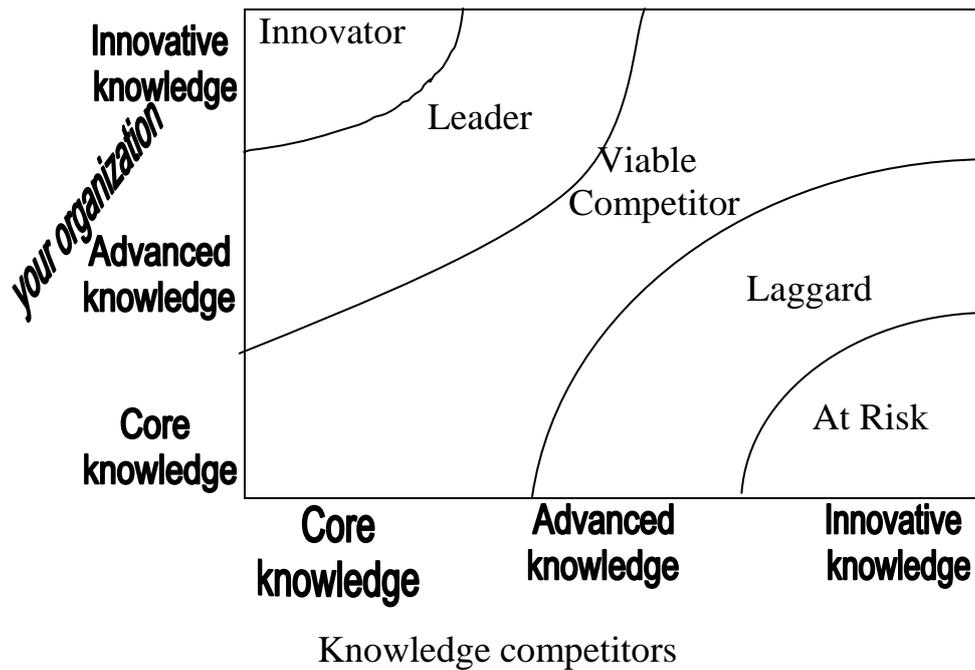
Knowledge can be classified according to whether it is core, advanced, or innovative.

1. *Core knowledge* is that minimum scope and level of knowledge required just to “playing the game” core knowledge tends to be commonly held by members of an industry and therefore provides little advantage other than over nonmembers.

2. *Advanced knowledge* enables a firm to be competitively viable to differentiation.

3. *Innovative knowledge* is that knowledge that enables a firm to lead its industry and competitors and to significantly differentiate itself from its competitors. Innovative knowledge often enables a firm to change the rules of the game itself.

Knowledge is not static what is innovative knowledge today will ultimately become the core knowledge of tomorrow, knowledge is dynamic, the strategic knowledge framework does offer the ability to take snapshot of where the firm is today and where is the competitors. Figure 1. Illustrated.



KNOWLEDGE BASED ECONOMY

(Charles, 2001, pp1-31) mentioned that **Globalization** toward integrated global: trend economic system has been in place for many years. **Globalization** has two main components:

1-The Globalization of **Markets**: refers to the merging of historically distinct and separate national markets into one huge global marketplace. Ex: Coca-Cola, McDonald's.

2-The Globalization of **Production**.: The sourcing of goods and services from different locations around the globe to take advantage of national differences in the cost and quality of factors of production. Ex Boeing 777 contains 132.500 major component parts that are produced around the world by 545 suppliers.

Drivers of Globalization

Two macro factors underlie toward greater Globalization:

1-Declining Trade and investment Barriers: International trade and Foreign direct investment. (GATT),(WTO).

2-The Role of Technological Change: while the lowering of trade barriers made globalization of markets and production a theoretical possibility, technological change has made it tangible reality.

Microprocessors and Telecommunications: Moor's law: predicts that the power of microprocessor technology doubles, and its costs of production fall in half, every 18 months.

The **INERNET** and World Wide Web: By the year 2003 there may be well over 350 million users of the Internet. Helping to create electronic

global marketplace, low-cost jet travel has resulted in the mass movement of people and reduced the cultural distance and made worldwide culture.

The Changing Demographics of the Global Economy

The changing world output and world trade picture: US from 40%-20% . Japan 8.3%. China 11.3%. The changing (FDI) picture: China has received greatest volume of inward of FDI. The Changing Nature of the Multinational Enterprise. A *multinational enterprise* is any business that has productive in two or more countries. Non- US multinational, Japanese multinational, growth of mini-multinational. South Korea, China, Latin America

The Global Economy of the 21st Century

The last quarter of 20th century experienced:

- Rapid changes in the global economy.
- Barriers to the free flow of goods, services, and capital- came down.
- Interdependent global economic system.
- A adoption of liberal economic policies
- Privatization
- Deregulation
- Market economy is more favorable to international business.

The knowledge –based economy. (OECD, 1996, pp7-44)

Knowledge based economies –economies that are directly based on the production, distribution and use of knowledge and information.

New growth theory reflect the attempt to understand the role of knowledge and technology in driving productivity and economic growth in this view ,investment is research and development ,education and training new managerial work structures are key .

1. Knowledge –based economy : trends and implication

- 1) The term “knowledge –based economy “results from a fuller recognition of the role of knowledge and technology in economic growth ,knowledge as embodied in human being as “ human capital “and in technology knowledge –intensive service sectors ,such as education ,communication and information ,are growing even faster it is more than 50 percent of GDP in the major OECD economies is no knowledge-based .

Intangible investment in research and development (R&D), the training of labor force, computer software and technical expertise spending on research has reached about 2.3 percent of GDP in the OECD area, education counts for an average 12 percent of OECD government expenditures.

2) Knowledge and economics

Traditional “production function “ focus on labor capital ,material ,and energy ,knowledge and technology are external influence on production ,now analytical approaches are being developed so that knowledge can be include more directly in production functions investment in knowledge can increase the productive capacity of the other factors of production as well as transform them into product and process .

3) Knowledge condition :

In order to facilitate economic analysis, distributions can be made between different kinds at knowledge which are important in the knowledge-base economy:

- Know –what refers to knowledge about facts such as how many people live in New York.?
- Know –why refers to scientific knowledge of the principles and laws of nature such as research laboratories and universities
- Know –how refers to skills or the capability to do something such as skilled worker operating complicated machine tools.
- Know –who involves information about who knows what and who knows how to do what for that knowledge is a much broader concept than information ,which is generally the “know-what “and know –why .learning the four kinds of knowledge takes place through different channels ,while know-what and know –why can be obtained through reading books ,attending lectures accessing databases in practical experience through society ,this led the current era to be characterized as “the information society “

4) Knowledge and learning :

The a knowledge –based economy is characterized by the need for continues learning of both codified information and

the competencies to this information .for that codified knowledge is important than ever in labor markets, learning by doing is more important than learning by education – training is necessary.

5) Knowledge networks :

The knowledge –based economy place great importance on the diffusion and use of information and knowledge as well as its creation, the economy because a hierarchy of networks, driven by the acceleration in the rate of change and the rate of learning.

Innovation is thus the result of numerous interactions by a community of actors and institution, which together form what are termed national innovation system.

The key importance is the knowledge distribution power of the system.

6) Knowledge and employment :

Increasing labor market demand for highly skilled workers, who are also enjoying wage premiums, marks the knowledge –based economy.

Three different hypotheses have been proposed to explain current labor market trends in the OECD countries:

- 1- Globalization and intensified international competition have led to decreased relative demand for less- skilled workers in the OECD countries.
- 2- Technological change has become more strongly biased in favor of skilled workers.
- 3- Changes in firm behavior as the main reason for falling real wages of low-skilled workers in some OECD countries .New high –performance workplace and flexible enterprises stress worker qualities such as initiative, problem-solving and openness to change are willing to pay premiums for these skills.

7) Government policies :

OECD countries continue to evidence a shift from industrial to post-industrial knowledge –based economics, here, productivity and growth are largely determined by the rate of

technical progress and the accumulation of knowledge government policies, particularly those relating to science and technology, industry and education will need a new emphasis in knowledge –based economics. Among the priorities will be

:

- 1- Enhancing knowledge diffusion from missing –oriented to diffusion –oriented .
- 2- Upgrading human capital :to promote broad access to skills and competencies and capability to learn.
- 3- Promoting organization changes translating technological change in to productivity gains to increase flexibility, particularly relating to work arrangement, networking, and multi-skills of the labor force and decentralization.

2. The role of the science system in the knowledge –based economy:

In the knowledge –based economy, the science system contributes to the key functions:

- 1- Knowledge production: developing and providing new knowledge (R&D) financed by industry.
- 2- Knowledge transmission - education and developing human resources, by education and training and R&D.

Knowledge transfer disseminating knowledge and providing inputs to problem solving higher education, university /industry collaboration bring with them opportunities to increase the relevance of the university's educational mission and stimulate new research direction.

Efforts to measure the contribution of scientific knowledge to the economy are difficult for several reasons.

- 1- Because of most scientific knowledge is freely disclosed, it is hard to trace its use and benefit within private economic activities.
- 2- The results of scientific investigation are often enabling rather than directly applicable to technological innovation.
- 3- New scientific knowledge May sure resources that would other wise be spent in exploring scientific or technological dead-ends and these resource saving are not observed.

3. Indicator for the knowledge –based economy measuring the performance of knowledge –based economy may pose a greater challenge there are systematic obstacles to the creation of intellectual capital accounts to parallel the accounts of conventional fixed capital, knowledge is particularly hard to quantify and also to price.

There are four principle reasons why knowledge indicators carefully constructed, cannot approximate the systematic comprehensiveness of traditional economic indicators:

- 1- There are no stables formulates or recipes for translating inputs in to knowledge creation in to out put of knowledge.
- 2- Input into knowledge creation is had to map because there are no knowledge accounts analogous to the traditional national accounts.
- 3- Knowledge lacks a systematic price system that would serve, as a basis for aggregating pieces of knowledge that is essentially unique.
- 4- New knowledge creation is not necessarily a net addition to the stock of knowledge, and obsolescence of units of knowledge stock is not documented.

Improved indicators for the knowledge –based economy are need for the following tasks:

- Measuring knowledge inputs.
- Measuring knowledge stocks and flows.
- Measuring knowledge outputs.
- Measuring knowledge networks
- Measuring knowledge and learning ,

All of this measurement framework is not offering reasonable explanation for trend in economic growth, productivity and employment, work must first continue on improvement, extension and new combination of current knowledge indicators relating to R&D expenditures and research personnel particularly to develop a clearer picture of the research and innovation role of the services sector.

The role of Jordanian Government in protection Intellectual Property

There is a department of Ministry of Industry and Trade which called the department of Intellectual property that deal with regulation and legislation of intellectual property and try to apply it .

The following list consist of set of legislation :(mit.gov.jo)

1-Industrial Design &Models Law ,NO,14/2000

2-The companies Law NO.22/1997

3-Patent Law NO32/1999

4-Trademarks law and amending ,NO34/199

5-The protection of Layout –design of Integrated circuits Law ,NO10/2000

CONCLUTIONS

This study confirmed the following results:

1- It shows the importance of knowledge assets on actualizing competitive advantage.

2-It shows the difficulty of the measurement of these assets despite of the standard of measurement.

3-It shows the lowest level of the human capital resources and knowledge assets in the Arab countries.

4-It explains the competitive advantage concept and the role of knowledge management in maintaining, applying, and distributing knowledge.

5-It explains the role of knowledge based economy in Globalization and the economy of the 21st century.

Recommendation

1-The knowledge asset is considered one of the most important subjects, which needs more studies.

2-The measurement of knowledge assets are still under studies and research.

3-The Jordanian government has a very important role in protection intellectual property through out legislation despite of the importance of application.

4- Human capital resource is the most important resource in the human developments that deserve more interests through education and training.

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الخلاصة

نظراً للتحديات الكبيرة التي يشهدها القرن الحادي والعشرين والتي تواجه المنظمات والمجتمعات كماً ونوعاً ومنها التغيرات المتسارعة في مجال تكنولوجيا المعلومات والاتصالات وانفتاح الأسواق العالمية واستخدام التسويق والتجارة الإلكترونية وغيرها .

فإنه يتحتم على منظمات الأعمال والمنظمات العامة على حد سواء الاستجابة لها برؤية واضحة تمكنها من اكتشاف وتنمية الفرص وتجنب التهديدات ، لتتمكن من البقاء وتحقيق النمو في هذه الأسواق ، ومن هذه الفرص برزت فكرة الاهتمام بالموارد المعرفية وعلى رأسها: رأس المال البشري والتعلم التنظيمي والملكية الفكرية ودورها في تحقيق الميزة التنافسية .

وبناء على ما تقدم فقد جاء هذا البحث هادفاً إلى دراسة وتحليل مفهوم الموجودات المعرفية (Knowledge Assets) وأهم المقاييس المستخدمة في قياسها والتعرف على دور إدارة المعرفة في تحويلها إلى دائرة الفعل والتطبيق، لتكسب من خلالها تلك الميزة التنافسية التي تمكنها من البقاء والتقدم وتحقيق القوة والثروة معاً في عالم يشهد تغيرات متسارعة في مجالات شتى . ولكي لا تخرج الدراسة عن سياق المجتمع الذي تعيش فيه هذه المنظمات تمت دراسة وتحليل أهم خصائص مجتمعات المعلوماتية واقتصاديات المعرفة في ظل توجهات العولمة ، كما تمت الإشارة إلى دور الحكومة الأردنية في حماية الملكية الفكرية في الأردن تمثيلاً كذلك مع هذه التوجهات ، واشتمل البحث كذلك على النتائج والتوصيات وقائمة المراجع .

يأمل الباحث أن يقدم بهذا الجهد المتواضع قيمة مضافة تساهم في تعزيز وتكامل جهود زملائه الباحثين .

والله ولي التوفيق .

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كلية العلوم الإدارية والمالية

قسم نظم المعلومات الإدارية

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