

Aspects of Effectiveness of Applying Knowledge---New Realities

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Abstract

The modern world is changing at breakneck speed: new contours are outlined and the old ones are abandoned. Fundamental changes are happening on every avenue of public life. It is highly developed human resources, not natural resources, which are becoming the basis for the riches and welfare of a country. The main form of capital in the 21st century is knowledge, not money. Knowledge is the main factor determining and accounting for the competitiveness of an individuals and organizations. Intellectual assets are valued higher than material ones. The knowledge deficit is becoming ever more noticeable, amid revolutionary breakthroughs in ITC and MIS. Technology immediately calls for knowledge and adequate changes. The process of transformation from “technology” to “tecknowlegy” is speeding up with each passing day.

The definition of the concept of knowledge has always been an issue. We'll touch upon not the main philosophical concepts (Western, Indian, Chinese) knowledge but the issues of the concept of knowledge, relationship between education and knowledge, acquisition, accumulation and use of knowledge, and education effectiveness in the light of modern economics.

In Management theory and practice of the 21st century, Information Management yields leading positions to Knowledge Management.

The entry of a liberal market in Georgia in the last decade has resulted in anarchy in all areas of life. The quality of education dropped dramatically. Unnecessary education took on a wide significance – the education acquired does not correspond to the knowledge necessary.

Key Words: Effectiveness, Human resources, Knowledge, Management Theory

Knowledge is a targeted and coordinated action, solely evidenced in the quality of its demonstration. Knowledge is the achievement of the goal. Knowledge answers the question “Why?” Why did I receive knowledge? Modern educational system management answers the questions “What?” “How?” – what particular specialized education am I receiving, with what program and infrastructure? The educational system is completely focused on the specialist who needs higher education at best.

Why? What? How? – are integral parts of the educational system which calls for a holistic conceptual approach and management.

The critical precondition for the development of a state and society in the post-industrial epoch is transformation of the workforce into a “knowledgeable” workforce. Otherwise, it is impossible to address the problem. The economic recessions of 1997-1999 in developed countries hardly affected the areas focused on knowledge.

The main criterion against which education effectiveness is judged is the quality of transformation of education in knowledge. Knowledge can take a lot of forms. There are 5 forms of knowledge singled out in modern science (Nonaka & Takeshi, Warnel & Witzel):

1. **Macro-micro.** Macro-level knowledge is provided with public education resources. Micro-level knowledge is specialized knowledge possessed by a certain group of individuals.
2. **Built-in, Stand apart.** Built-in knowledge is one of the main components of a product or service. Stand apart knowledge may exist separately, independently from a product or service. It is used independently from them.

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3. **Market – Non-market.** This sort of knowledge shows whether knowledge has any value on the market.
4. **Personal – Group.** Personal knowledge is specific for a certain individual that he/she uses to solve a problem. Group knowledge is possessed by a group of individuals.
5. **Transferable – Non-transferable.** This sort of knowledge shows the extent to which one individual may transfer knowledge to another, and how effectively the latter can use such knowledge.

Knowledge classification makes it possible to determine the directions of transformation of education in knowledge, often called knowledge transformation process: acquisition, management and use of knowledge.

Knowledge has revolutionary implications and, therefore, its life cycle is short. Knowledge grows old very fast. Permanent learning is its main asset. The institution of training in developed countries is a critical component of knowledge management. Employment policy has shifted to an accent on training and retraining, from the creation of new jobs and maintaining the level of revenues. Labor market challenges are basically related to workforce training that falls within the sphere of government regulation. Training costs in USA amount to 100 billion USD per year. The labor market structure, in turn, influences training. The professional market stimulates skilled workers to change jobs in order to achieve success in their careers, not have only one employer and a guarantee of emplacement.

Training and retraining is an organic part and strategy of the education system management in any country.

Training is a systemic, ongoing process used by corporations for the development of the knowledge of employees in order to increase their role in the achievement of corporate goals. Training is provided by the state and by corporations.

Training management consists of the following stages:

1. Analysis of demand for training;
2. Training implementation;
3. Training evaluation.
 - a) Evaluation of trainees;
 - b) Evaluation of training level;
 - c) Training application quality;
 - d) Results.

Trainings include all the employees of all levels of a corporation. A modern corporation is characterized by a high level of mobility and rotation. A High level of rotation calls for extension of knowledge and skills, which can be provided by trainings.

New information technologies fundamentally change economic activity. The 21st century is the epoch for new network economics. Modern knowledge in this sphere will be useless in future. Many aspects of traditional economic sciences are becoming unfit for network economics.

New economics is governed by new rules. [New Rules for the New Economy, Kelly, 1998]. The following are the main rules:

1. **Cover the mass.**

Network management is much more effective than centralized management. The autonomous network of autonomous structures is the basis for the new economy.

2. **Increasing returns.**

The new economy operates by the law of increasing returns, not by the law of diminishing returns.

3. Profit, not deficit.

New technologies create profit, not deficit.

The hallmark of the new economy is opportunity maximization, not profit maximization.

4. Provide free consumption.

The basis of a profit-focused economy: Better is cheaper, the best – virtually free.

5. Provide network above all.

Rejection of network is tantamount to suicide

6. Surrender tops.

Do not wait for a slump, make advance preparations to change the situation. Move to a new place. “Creative Destruction” is part of the creation process.

Instead of making changes, establish new in old.

7. From territorial place to space.

Territorial proximity, perception of geographical place is replaced with spatial sense – wherever, however.

8. No harmony, everything is in constant motion.

Chaos means harmony – challenges must be developed, not established.

9. Relationship technology.

Development of relationships is the main economic phenomenon. Ensuring relationships is the cause of increased performance in any organization. Production and consumption join into one economic process: “prosuming” (producing and consuming together). Interdependence is a new economic phenomenon. It is on its basis that mutual trust develops that, in turn, serves as the basis for free market.

10. More opportunities than effectiveness.

Opportunity is the source of wealth. Better to introduce innovations ineffectively than effectively solve obsolete standard challenges. It is effective to form new opportunities, not to optimize the existing ones. Therefore, performance in its classical sense is the wrong goal to solve challenges in the new economy. The new economy is the economy of opportunities. Higher performance in fulfilling unnecessary works is much worse than lower performance in fulfilling necessary works.

The rules of the 21st century economy substantially change the education effectiveness evaluation model. The education effectiveness must be evaluated in view of the following main aspects:

Reintegration of labor and jobs. From labor distribution to labor reintegration. Isolation of education from these processes and its extreme specialization causes its loss.

Proceeding from the network relationship principle, the effect of any activity is determined by the economic and market added value (product sales proceeds minus all production costs) and not by a single-dimension parameter such as ROA, ROI, ROE (revenue/expenses).

Human capital theory and education costs were first addressed by Adam Smith in his *Wealth of Nation*. The effectiveness of the investment made in human Capital, namely in education, is still determined by Adam Smith's formulation: Education costs produce revenues in future. They are identical with the effectiveness of investment in equipment and are calculated by correlating revenues with expenses.

The effectiveness of education costs is determined in view to individual students and on a national scale (public effectiveness).

The effectiveness of a student's university education costs is determined by the formula:

$$NPV = \sum_{i=21}^{60} \frac{income_i}{(1+r)^{i-21}} - \sum_{j=18}^{21} \frac{costs}{(1+r)^{j-18}}$$

Where

NPV – is net present value, the difference between the present revenue earned in future and present costs of education.

r – return on investment ratio of the country.

The government makes considerable investments in the nation. What's more effective – investing in education or in other alternative programs? The above methodology is employed on a public scale as well, but with the following adjustments: costs include the entire public subsidy in education, and revenues – social return to be earned by improving the population's educational level.

The effectiveness of education costs is determined by the revenues/expenses principle.

The modern theory of human capital development must be based on the new economy and labor market operation principles. It is necessary to consider effectiveness in the aspect of knowledge, not in the aspect of the higher education acquired.

The main problem is to determine effectiveness of an added value. Education effectiveness study must be a priority in the management of the national education system. Having a clear and full insight into the public costs of education and return from it make it possible to make the right decisions.

The national education system management requires orientation to new economic rules.