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Chapter 26

The Information Laws

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INTRODUCTION

Mankind progresses in proportion to its wisdom which has roots in practice, acquired skills, available data & information, concepts and knowledge. To be wise, humankind needs to be informed and knowledgeable, otherwise will not survive own failures. Progress in knowledge was painfully slow as long as the racial memory was transmitted only by oral tradition. With the invention of writing and books the process of knowledge discovery and dissemination has been accelerated. Today, computers and their networks speed up that process far beyond our imagination. In 2000's the Information Wave significantly controls the Agricultural and Industrial Waves through millions of computers. IT supports decision-making based on knowledge-oriented systems such as "data mining" that, for example, discovers knowledge about customers, organizational dynamics, and so forth to achieve competitive advantage.

Information and knowledge become the strategic resource as engineering science was in the Industrial Wave. However, the discovery of human cognition potential must be guided by knowledge *s c i e n c e*, which just emerges. One of signs of any science is its set of scientific data, universal rules, laws, and systems of rules and laws. Hence, this paper offers the first attempt to develop main laws of information that should increase our awareness about the Information Wave which is a new stage of civilization's dynamics that is taking place at the beginning of the 3rd Millennium. The chapter also provides the framework for the analysis of the human capital from the information perspective. This set of considerations reflects a new emerging approach which I call macro-information ecology.

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MACRO-INFORMATION ECOLOGY

Macro-information ecology is based on the premise that the growth rate in the new information (knowledge) discovery is the key determinant of macroeconomic activities in the service-industrial-global economy (so called the new economy). This new emerging school of macroeconomics can be called knowledgism.

Macro-information ecology is the study of information (cognition) as a whole and it is concerned with *aggregates* across nations and markets. Macro-information ecology studies the behaviour of society and economy (nationally and globally) — wide measures, such as:

- the value of human capital,
- the potential efficiency of human capital,
- knowledge output,
- economy output driven by knowledge in a given period, and so forth.
- It also studies measures derived from many individual nations:
  - markets such as the price of human capital or
  - the total structure of employed workers by such categories as production workers, in-person service workers, and information workers.

Another interesting facet of this new emerging discipline is the qualitative analysis of civilisation paradigm shifts and the application of civilization tools as a result of increased cognition about us.

To control national output with the development of a global economy, knowledgists stress the need to control the growth of new knowledge discovery. Given the "long and variable lags" of knowledge and information policies and the difficulty in forecasting future economic events (such as recession), knowledgists question the ability of industrial or service-oriented macroeconomics to implement the "correct" economic policy.

The knowledge approach suggests that direct government intervention within the economic system should be guided by the "predicted history of the futures." The knowledge policy is the key to this intervention; in this sense, the knowledge policy is closer to Keynesian interventionists than to "conservative" monetarists.

The supply and demand of information (knowledge) is the most basic model of information ecology (IE). However, prior to this model, we have to examine the stages of the information reservoir development. Figure 1 illustrates this process.

Based on the information reservoir's (IR) dynamics the general information laws will be defined in the following section.