

# Concerning the etymology and the essence of diffusion of innovations

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*The etymology and the origin of concepts diffusion, diffusion of innovations, their essence and interpretation by various authors are explored in the paper.*

Key words – diffusion, diffusion of innovations, innovations, communications.

## I. Introduction

Fundamental theoretic aspects of innovations with moments of diffusion of innovations have been investigated in papers of foreign and domestic researches such as I. Ansoff, Y. Bazhal, H. Birman, T. Vasylieva, S. Illiashenko L. Kavunenko, L. Kantorovych, B. Tviss, R. Foster, Ia. Khonka, N. Chukhrai, V. Shapiro, L. Sharshukova, J.A. Schumpeter, Y. Yakovtsia and others. The essence of diffusion of innovations was explored by foreign scientists E.M. Rogers, V. Ruttan, R. Baiers, J. Coleman, J. Poupe and others. In Ukraine this subject did not find so many supporters, but N.I. Chukhrai predicted the diffusion of innovations in business activities [1] and logistics accompanied this activity [2], N.O. Matvychuk-Soskina analyzed the usage of instruments of diffusion of innovations in marketing management [3] and H.M. Shamota investigated the state of diffusion of innovations at the present stage in Ukraine [4]. As can be seen, questions of innovative development have been explored by foreign and domestic scholars in a wide range of research, but the diffusion of innovations hardly paid attention and there are different interpretations of this concept. In addition, existing studies of diffusion of innovations sufficiently separated, discordant and doesn't have common understanding of this phenomenon. Therefore, this issue needs special attention.

## II. Scientific part

For this purpose, it is appropriate to examine firstly the etymology of the term “diffusion of innovations”, especially in Ukrainian language. The term “etymology” emerged in ancient Greek philosophy (from Greek etymon - truth [5] and logos-word, teaching) and in the scientific circulation this term was brought by Stoics - representatives of Greek philosophical schools (IV century BC – II century AD) [6].

According to Ukrainian etymological dictionary the term “diffusion” is borrowed in Ukrainian language from West European languages (English and French – “diffusion”, which is originated from the Latin “diffusion” - spills, extension, distribution) [7].

It is worthwhile to consider the understanding of the term “diffusion” (Latin – *diffusio*, from the parts *dis* i *fundere* – pour). This is: 1) detection, dispersion,

distribution, fragmentation; 2) mixing two liquids, despite the different proportion of each; 3) diffusion of light. Scattering of light rays in all directions while they fall on the rough surfaces [7].

The diffusion can be explained from the view of scholars which do researches in physics. The diffusion (Latin – dispersal, spreading) is mutual penetration of substances into each other due to thermal motion of particles of matter. The diffusion occurs in the direction of reducing the concentration of the substance and leads to the even distribution of matter at all volume it occupies (to equalize the chemical potential of the substance) [4].

It is accepted that the concept of “diffusion of innovation” has been proposed firstly by G. Tarde. In 1903 he proposed a logistic curve to describe the diffusion of innovation and the role of opinion leaders in this process [8].

According to the theory of J.A. Schumpeter the diffusion of innovations is a process of cumulative increasing of imitators (followers) that implement the innovation behind innovators, expecting higher profits. It is necessary to note that the process of diffusion of innovations can be conducted both by intercompany channels of independent foreign companies and through internal channels of multinational corporations in the case of innovation in any their branches located in other countries. Diffusion of innovation is defined as the process of transfer technology to companies from different countries, taking into the account time, resulting innovations penetrate in various industries and increasing consumers [9].

The study of diffusion of innovation started in some independent intellectual group of 40-50 years of the twentieth century. Each group of researchers studied a particular type of diffusion of innovations: for example, dissemination of new pedagogical ideas in teachers' groups was analyzed in education, and diffusion of agrarian innovation among farmers was studied in sociology [10].

Everett M. Rogers did first steps in researching of diffusion of innovations. This theory is related to the names of many researchers in the distribution of new products and services in various segments of society.

In Everett M. Rogers's opinion, diffusion is a process in which an innovation over time through certain channels distributed among the members of a social system [10].

Diffusion is a special type of communication in which transmission of the message is applied to the new idea. The specific nature of diffusion provides by novelty of idea embedded in the content of a message. Novelty means that there is a bit of incertitude in diffusion. The incertitude is a number of alternatives concerning the occurrence of an event and the relative probability each of them. Information is a difference of matter-energy that affects upon incertitude in a situation where is a choice among a set of alternatives [11].

Diffusion is the process of transferring innovations in communication channels among members of a social system over time. Innovations can be ideas, technologies, etc., which are new to a business entity. It means that

diffusion of innovations is a spread had once developed and implemented innovations in new conditions [4].

Everett M. Rogers in his theory identified a key to diffusion of innovations dividing consumers into five groups depending on the time which they need for acceptance of innovations:

- 1) innovators (2,5%);
- 2) early adopters (13,5%),
- 3) early majority (34%);
- 4) late majority (34%);
- 5) laggards (16%) [10].

From the view of the marketing the first group it the most important because it includes people which leads to success of innovations or denial. Consumers who first accept innovations are friendlier and they are called "opinion leaders".

The percentage of five groups of innovations receivers is represented at the curve. E. Роджерс called this curve as S-similar curve. It is formed cumulative distribution of the frequency diffusion of innovation, despite the fact that 16% of the line that marks the boundary between innovators and opinion leaders on the one hand, and other consumers - on another, clearly coincide with the point where the S-curve begins to increase rapidly. E. Роджерс founded that the key of diffusion of innovation in society is spreading it out among opinion leaders. Thus E. Rogers putted forward a theory of diffusion of innovation standards ("standards 16%").

American marketing consultant Geoffrey A. Moore doubted E. Rogers's theory concerning the diffusion of innovations, where the key to the distribution of the product is to capture the acceptance of it by opinion leaders. In the book "Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers" [12] he studied high-tech industries and considered that there is a hidden gap that prevents the diffusion of innovations to bigger markets, lower the aggregate distribution frequency of diffusion of innovations highlighted in the E. Rogers's theory.

## Conclusion

The dissemination of innovations can be called as diffusion because this phenomenon has never fully cover society simultaneously. They gradually spread across various population groups, channels of communication. Studies have shown that part of society easily incorporated into new processes, and some, on the contrary, is quite conservative. So it makes no sense to influence the whole society, but must first convince the most active, innovative part of society.

Continuity of innovative processes determines the speed and limit diffusion of innovations.

It should also be noted that the diffusion of innovations concerns the entire social system. If the innovation's adaptation process occurs at the individual level, the process of diffusion of innovation can take place both at this level and at the level of the whole society and regards to the totality of individuals.

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