

# Innovation Generation and Innovation Adoption

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## INTRODUCTION

The growing level of global competition is forcing organizations to make dramatic change and improvements in order to compete, prosper, and survive (Kotter, 1996). During the past three decades, the world has witnessed some spectacular changes that have provided a totally new environment for organizations. These changes include technological and administrative innovations that organizations are dealing with in different areas of their operations such as manufacturing process, operation technologies, and information systems (Shields, 1997). It can be argued that the growing level of global competition has led to the adoption of technological evolution, which may also require the adoption of complementary administrative innovation (e.g., Baines & Langfield-Smith 2003). Given this information, to keep pace with other competitors in the global market, the adoption and the diffusion of latest ideas, techniques, practices, and processes has become a key factor for success in organizations. Therefore, this places a greater emphasis on the innovation generation and innovation adoption in organizations in order to compete, prosper, and survive.

## BACKGROUND

According to diffusion theory (Rogers, 2003), we may expect that innovation generation and innovation adoption do not simply emerge and develop full-blown. Some groups of people, some places, or some organizations may have immediate access to the innovation; some may access it later, and some may never access it. As Schumpeter (1934) remarked, an innovation and its diffusion are part of a larger pattern of social, political, and economic activity. Therefore, it is expected that innovation generation and innovation adoption be influenced by a variety of factors.

Mansfield (1961) suggested that innovation adoption is a function of the degree of uncertainty associated with the innovation, the amount of investment required to adopt the innovation, and the extent of economic advantage of the innovation. Other researchers, including Brown (1981) and Robinson and Lakhani (1975), proposed a supply and demand rationale for the explanation of innovation generation and innovation adoption. Obviously, Mansfield's (1961) sug-

gested factors for innovation adoption could be included in such a supply and demand concept. Brown (1981) explained that the market and infrastructure factors provide the supply side of innovation adoption and shape its course. He further emphasized that the central element of a supply framework is the diffusion agency.

Clark (1984) believes that the demand approach in the process of innovation generation and innovation adoption is more diverse and more extensive. It focuses on the adoption of innovations, which are available to everyone. He thinks the supply approach is dealing with cases where the innovation is not universally available due to the fact that the supply is under control. In other words, when every potential adopter of an innovation does not have equal access to an innovation, the supply factor might be considered as an important influencing factor in the diffusion process of that innovation.

The learning perspective has been introduced as another factor affecting the innovation generation and innovation adoption (Sahal, 1981). Expanding the scope of influencing factors, Hagerstrand (1967) proposed an information transfer explanation as another factor influencing the innovation generation and innovation adoption. Other researchers like Sharif and Kabir (1976) considered the diffusion of an innovation as a replacement process and claimed that the dynamics of this replacement process account for the diffusion rate during the diffusion period. However, in some cases, an innovation might be an addition to an employed technique or an ongoing capacity and not a complete replacement.

Surprisingly, continuity of the innovation progress (as an influential factor) is suggested as having a negative impact on the diffusion of an innovation. Brown (1981, p. 158) confirms that "deliberation and slowness in the adoption decision is encouraged by the continuity of the innovation process which results in many improvements during the course of diffusion." Rosenberg (1976) also confirms that there is often a delay in adoption because of the expectation of future improvements in the innovation. He emphasizes that the expectation of continued improvement might lead to a slowing down in the rate of diffusion of an innovation.

Røvik (1996) introduces "fashion" as an influencing factor, which could play an import role in the diffusion process of an innovation. He argues that the process of diffusion of innovation follows selective perception, which adjusts to the social environment and copes with what is in fashion

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and what is out of fashion and usually certain innovations are chosen that seem to be more fashionable. According to Røvik (1996), “fashion” is a human-made and dynamic phenomenon that spreads by drawing attention to it. Fashion can present itself in many ways: as ideas, social organizing, specific structures and processes in organizations, and so forth. Røvik refers to fashion as an institutionalized standard for implementing new ideas, change/innovation in order to organize successfully, be up-to-date, and efficient. According to Røvik (1996, p. 159), fashion also refers to the notion that organizations are torn between “signalling a common identity and belonging to a group of organisations” and “the motive of distinguishing themselves from the other organisations and attracting attention.” From this perspective, fashionable idea and innovations/changes spread by imitation, but, after a while they will be so common that some organizations may wish to demonstrate their uniqueness by developing new ideas (innovation generation) or implementing new innovations (innovation adoption), which in turn become fashionable, and so the process starts all over again.

Kanter, Barry, and Todd (1992) stress that executive sponsorship, participation, coalition building, and change agents are critical to the success of change initiatives in the process of implementing organizational change. Change agents should identify and involve opinion leaders, decision-makers on resources, functional experts, and other important persons as early as possible in the project-planning phase. They further emphasize the importance of the involvement of the people in successful implementation of changes in organizations. They suggest that all members of the change team and other employees affected by the change must not feel like as if they are just the tools for change or the subject of change; rather they should be given the chance to become actively involved, to contribute their own experiences. Every employee should feel that his/her contribution to the change process in organizations is important and valued. Thus, people will develop a sense of responsibility and ownership regarding the process of changes, which, in turn may serve as a major source of motivation to facilitate the process of such change(s) in organizations.

Most of contextual factors addressed in the diffusion literature are consistent with other theories in relation to innovation/change such as institutional, contingency, cognition, and expectancy theories. For instance, the influence of institution on diffusion of innovation addressed in diffusion literature (Rogers, 2003) supports DiMaggio and Powell's (1991) suggestion that the power of institutions may play an important role in the diffusion process of innovation. DiMaggio and Powell (1991) see the influence of institutions in almost every aspect of human life, from the way people eat to the way they shake hands and engage in conversation. According to DiMaggio and Powell (1991), institutions can be habits and social protocols right through to cultural templates and frames of meaning that define what

is expected and what is regarded as “rational” or appropriate in a given situation.

Resistance to change has been mentioned by Brown (1981) as another factor, which might result in lags in the use of innovation or a slow rate of diffusion. He also refers to the development of technical skills among users as another influencing factor, which is expected to facilitate the diffusion of an innovation. Another factor influencing the rate of diffusion of an innovation is said to be profitability. Linstone and Sahal (1976) propose that the more profitable the innovation and the smaller the required investment, the greater the rate of diffusion. Profitability of an innovation can be interpreted as cost saving, relative advantage, or cost effectiveness of that innovation. Competition is said to be another factor influencing the diffusion rate of an innovation. Parker (1974) states that some of the early adoption takes place because certain firms wish to gain an advantage over their competitors. Then later adopters follow the adoption either to remain competitive or to take advantage of the innovation.

Innovation generation or innovation adoption is also expected to be affected by the characteristics of the innovation. Rogers (2003) has identified five aspects of an innovation, which affect its rate of diffusion in a population to whom the innovation is relevant. He argues that the high rate of diffusion of an innovation would be a feature of its “relative advantage” over the current practice, its “compatibility” with other aspects of the culture, its “complexity” of understanding, its “trialability” to experience, and its “observability” to see the results.

Despite Rogers (2003), Goss (1979) and Gotsch (1972) argued that there should be less stress on the role of innovation itself (characteristics of innovation) and more on the spatially variable character of society into which innovation is introduced. They believed that the diffusion rate of an innovation depends less on the nature of innovation than on the type of society existing before the innovation, while Rogers (2003) believes that the level of diffusion of an innovation depends more on its characteristics than any other influencing factors.

Yapa and Mayfield (1976) indicates that the availability and distribution of resources or individual access to the means of production and public goods affect the innovation generation and innovation adoption. Examples of resources in this context would include capital, information, public goods or services such as electricity, transportation, water systems, network communications, and education.

Innovation generation or innovation adoption is expected to be influenced by the size of firms, too. In general, large firms have several advantages over smaller firms in terms of innovation generation and innovation adoption. Brown (1981) argued that one of the advantages of large firms is their greater ability to afford capital, to put up with the costs of innovation, and bear the risk of failure. Larger firms are

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