

## Commentary

# Commentary: Applying the Early Adopters Model to Organizations Undergoing Technological Innovation Process

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The development of technology in the 21st century is characterized by the rise of smart technologies that enable high automation and better human/machine integration (e.g., AI, Big Data, Cloud Computing, Social Networks). These smart technologies are expected to generate disruptive effects on each individual organization as well as on the global economy [1]. It has an impact on every aspect of the organization's activity. An organization that wishes to survive in face of the flood of changes in customer requirements, technological innovation and advances [2], disruptive technology, and changing environment must assimilate technological innovation as an ongoing routine by way of carrying out an intensive process of technology scanning and digital transformation. Studies have shown that the digital transformation process affects employees and is not always the best. Consequently, resistance may rise [3]. This might affect the success of the digital transformation in the organization and decline the organizational efficiency of the innovation technology assimilation. Therefore, it requires the support of management and the cooperation of the employees, while planning a realistic, concise, and coordinated timetable for the process.

The original Diffusion of Innovations model (DOI) developed several decades ago by Rogers [4] claims that only 13 percent of employees will be able to cope quickly and at an early stage with integration of new technologies in the organization and to act efficiently and quickly. This DOI model argues that workers with a positive propensity to technology are more likely to become early adopters of digital transformation. This study examined the characteristics needed to become an early adopter worker by comparing the relationship between workers functioning as fractals in a Complex Adaptive Systems (CAS) characteristics work surrounding [5], and the following traits: development of positive attitudes towards technology, ready to use, and involvement in the assimilation process. According to the DOI model, these are the characteristics of early adopters. Such employees are the most significant contributors to the effectiveness of digital transformation.

An empirical study was conducted among 270 subjects who worked in four different organizations in different capacities. The results of the study show that there is a significant correlation between

workers as early adopters and workers as a fractal in a CAS working surrounding. It also shows that the dimensions "ready to use" and "employee involvement in the process" were the most significant and exhibited strong and meaningful relationship. The main conclusion of the study is very significant. It states there is a potential to change the methods of technological integration in organizations that are currently used in conventional bureaucratic organizations. Based on the conclusions of the study, there is a strong belief that the Rogers model (DOI) can be changed so that the number of employees who are "early adopters" in the organization can be significantly increased. This could advance organizations in the integration of new technologies, in the ability to create disruption in the market while initiating and developing innovative solutions in a fast and professional manner. The conclusions of the study also indicate that the transformation of the work surrounding into CAS, as well as the development of workers as autonomic yet connected such as fractals (swarms), will encourage the employees to become early adaptors, hence contribute to an efficient and effective process of digital transformation, and to effectively handling disruptive innovation. Organizations that do not adapt to complex work environments may suffer from problematic consequences, as they will not be able to cope effectively with digital transformation processes and the adoption of innovative (disruptive) technologies that characterize the work environment. Therefore, organizations that wish to cope more effectively are advised to adopt the model proposed in the article, which includes the following components:

- **Transformation to the CAS model and development of employees as fractals:** The organization's transition to a complex adaptive systems (CAS) model and the development of employees who will function as "fractals" (i.e., those with functional autonomy, environmental sensitivity, the ability to integrate and share knowledge, and social and professional connectivity) will encourage employees to become "early adopters".
- **Positive impact on attitudes and use of technology:** Employees who function as fractals in a CAS organization tend to develop positive attitudes towards technology, be

willing to use it, and be involved in the process of assimilation. These are the characteristics of early adopters according to the DOI model.

- **Involvement and readiness to use as significant factors:** The dimensions of “involvement in the process” and “readiness to use” innovative technologies are the most significant in creating a connection between functioning as a fractal and being an early adopter.
- **Supportive work environment:** A work environment that allows employees operational autonomy and knowledge sharing, and in addition, encourages transparency, updating business models and sharing knowledge about changes in the environment and innovative solutions contributes to the development of employees as early adopters.
- **Management support:** Managers must support, encourage and reward employees with characteristics of early adopters.

To achieve these unique capabilities, a “roadmap” is proposed through which organizations can actively influence the change in the rate of early adopters and encourage a significant increase in their number. The proposed model allows the organization to adapt to CAS characteristics and cultivate employees as fractals, while accelerating the process of adopting technological innovation.

## References

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