
A People – Centric approach in adoption of Innovation: A review and directions for future research

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ABSTRACT

Growing complexity and uncertainty in the causal texture lead organizations toward innovation. Innovation refers to the creation and implementation of “new combinations”. These new combinations can be related to new products, services, work processes, markets, delivery systems and policies. So adoption of innovation has become a vital thing for organizational productivity and survival. The adoption process is a sequence of stages, a potential adopter of an innovation passes through before acceptance of a new product, service or idea. There is a misconception about adoption of innovation. Usually management forces employees to accept innovation disregarding the adaptive or the resilience capacity of the employees. As a result, organization suffers from another uncertainty like damage of machines or equipments for unknown reasons, high wastage, absenteeism, accident, turn-over and finally strike and lockout. This situation can be avoided if innovation is strategically introduced in the organization, and as a result, innovation will be well-adopted. This study reviews articles on adoption of innovation from research journals. The Academy of Management Journal, Journal of Business Research, Journal of Economic Literature, Administrative Science Quarterly, & Journal of Applied Psychology were thoroughly reviewed. Based on the review the study proposes a people – centric approach in innovation-adoption. This approach suggests I-P-A model, where I indicates innovation, P indicates people characteristics, and A indicates adoption. In other words innovation-adoption relationship is moderated by individual characteristics of employees on whom innovation is going to be imposed. The paper discusses about various dimensions of the individuals’ characteristics which seem to be the determinants for adoption of innovation. The paper concludes with a discussion of emerging issues, new research directions, and practical implications of people-centric factors for innovation adoption research.

Key words: Innovation, adoption of innovation, I-P-A Model.

1. Introduction

The increased turbulence, complexity and competitiveness of organizational environments have made the identification, evaluation and adoption of innovations critical determinants of organizational productivity, competition and survival. Innovation is generally considered to be one of the key drivers of corporate success (Cardozo et al., 1993). Cumming (1998, 22) defined innovation as “the first successful application of a product or process” for a potential adopter. A perception of newness matters, not the absolute newness of a product. (Damanpour & Evans,

1984; Lyytinen & Rose, 2003, 559). In present markets, introductions of new products and services have increased enormously. However, it should be noticed that not all the innovations that enter the market are diffused at the same speed. Sometimes it seems to take an amazingly long time for new technologies to be adopted by those who seem most likely to benefit from them. In order for a firm to be successful in bringing innovations, an understanding of the target adopters and the factors influencing their adoption decision is important. Research on the adoption and diffusion of innovations offers significant contributions to such understanding. Adoption refers to the decision of any individual or organization to make use of an innovation, whereas diffusion refers to the accumulated level of users of an innovation in a market (Rogers, 1995). The adoption process is always based on the decision of an individual or on consensus of a decision making unit (Van de Ven 1986, Khalfan *et al.* 2001). Two types of organizational adoption decisions can be identified, i.e. the decision made by an organization and the decision made by an individual within an organization (Frambach & Schillewaert, 2002). The central focus of this paper is to identify and integrate the people-centric factors that have been found to influence innovation adoption decisions. A model of innovation adoption (I-P-A model where I indicates innovation, P indicates people characteristics, and A indicates adoption) has been conceptualized, to explore role of people characteristics in adoption of innovation.

2. Innovation

Schumpeter (1934) is generally considered to be among the first to recognize the process of innovation in organizations. He described innovation as the creation and implementation of 'new combinations'. These new combinations can be related to new products, services, work processes, markets, delivery systems and policies. Due to innovation, one can create added value, not only to the firm itself but also to its stakeholders and to society. Except that an innovation apparently is 'something new', innovation has some more characteristics (King & Anderson, 2002). The features of innovation are:

- An innovation is new to the social setting within which it is introduced (*e.g.*, a service firm) although not necessarily new to the co-worker introducing it.
- An idea is a necessary condition for an innovation. It is the starting point, but it cannot be called an innovation in itself.
- An innovation is aimed at producing some kind of benefit. Apart from financial to the service firm, possible benefits might be personal growth, increased satisfaction, improved cohesiveness, or better interpersonal communication. It also includes the creation of new ideas not to benefit the role, group or organization but to benefit the wider society.
- Innovation is restricted to intentional attempts to derive anticipated benefits from change. Suppose that a service firms' co-workers cannot use e-mail due to a breakdown of their computers. It appears that they increase their sales results because they pick up the phone more often to communicate with customers. This would not be an innovative action. If, however, the service firm takes the same action in order to improve client relations, one could describe it as innovative.

- Innovation is not a routine change. The appointment of a new member of staff to replace one who retired cannot be considered an innovative change. The creation of an entirely new post could.
- Innovation involves an application component, so just developing something new cannot be regarded as an innovation unless it is used.
- By summing up the above mentioned features of innovation in organization, it can be said that “Organizational innovation” is the concrete expression of particular set of beliefs and values – about people, organizations and ultimately about society.

2.1 Organizational adoption process of innovations

According to Longman Dictionary of Contemporary English the term adoption means to take and use of one’s own. For example Company A purchases computer but very few people use it. On the other hand, Company B purchases the same and trains its people about computer application and finally all the members use computer in all sorts of activities. Here company B adopts the computer technology as it develops favorable attitude towards the technology. The adoption process is a sequence of stages a potential adopter of an innovation passes through before acceptance of a new product, service or idea (hereafter product). Rogers (1995, p. 21) defines the adoption process as “the process through which an individual or other decision-making unit passes from first knowledge of an innovation, to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.” With respect to innovation adoption, two main stages may be distinguished: initiation and implementation (e.g., Zaltman et al., 1973). The adoption decision occurs between the initiation and the implementation stage. In the initiation stage, the individual becomes aware of the innovation, forms an attitude towards it, and evaluates the new product; it encompasses awareness, consideration, and intention sub stages. Figure 1. represents the innovation decision process of Rogers (1995). After the initiation, innovation is either adopted or rejected. The decision to adopt is a decision to make full use of the innovation as the best course of action available (Rogers 1995). In the implementation stage, the organization decides to make use of the innovation. Thereafter, the innovation is first implemented on a trial basis, and if this is successful, the implementation of the innovation will continue and the innovation becomes systematically used (Zaltman *et al.* 1984).

From a supplier’s perspective, the innovation process can only be considered a success when the innovation is accepted and integrated into the organization and the target adopters demonstrate commitment by continuing to use the product over a period of time (Bhattacharjee, 1998).

Adoption of innovations in an organization implies that adoption should occur at the individual level. This is known as the intra-organizational acceptance (Frambach & Schillewaert, 2002). Organizational innovations that have to be incorporated in the work processes of an organization are of little value if they are not used or complied with by the employees of organization. The employees, who are the target user group, must accept innovation. Hence it is important to examine the acceptance of innovations within organizations because, if there is no acceptance among the target group, the desired consequences cannot be realized and the organization may eventually discontinue the intended adoption.

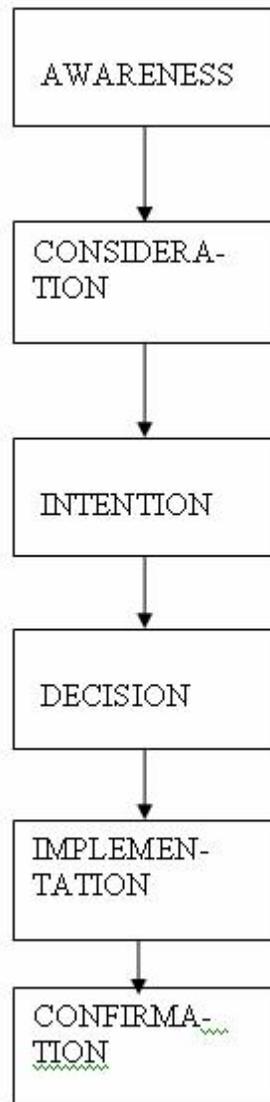


Figure 1: Model of stages in the innovation-decision process (Rogers 1995)

For analyzing the individual level adoption of innovation a people centric approach is important. Reviewing The Academy of Management Journal, Journal of Business Research, Journal of Economic Literature, Administrative Science Quarterly, & Journal of Applied Psychology, the I-P-A model has been conceptualized, where I indicates innovation, P indicates people characteristics, and A indicates adoption.

3. I-P-A MODEL

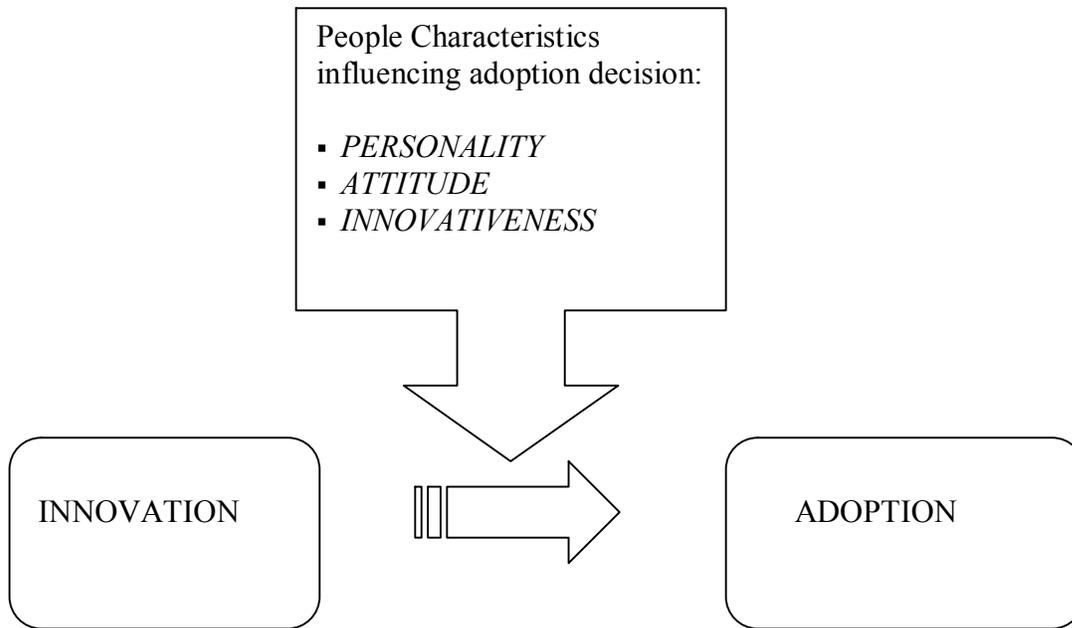


Figure 1b: Model showing the people-centric factors influencing the innovation adoption decision in organization.

In I-P-A model, the innovation adoption relationship is moderated by individual characteristics (personality, attitude, innovativeness) of employees.

3.1 Personality

Personality plays a critical role to accept innovation. According to Allport (1937), personality is the dynamic organization within the individual of those psychological systems that determine the person's unique adjustment to the environment. Personality is described in terms of trait & type theories. Digman (1990) noted five factors of personality – extraversion (refers to one's comfort level with relationships), agreeableness (refers to one's inclination to defer to others), conscientiousness (refers to reliability regarding responsibility), emotional stability (refers to one's ability to withstand stress) and openness to experience (refers to one's range of interests and fascination with novelty). Out of the five factors the workers who possess openness to experience personality trait can adopt the innovation easily, as these people are creative, curious, intellectual, imaginative and artistically sensitive.

These people follow self-disclosure and use of feed-back. Self-disclosure refers to sharing ideas, feelings, experiences, impression, perceptions, and various personal data with others. And use of feed-back refers to being open to what others say on aspect which one may not be aware of. Both are important to accept innovation.

3.2 Attitude

Attitude refers to predisposition or a tendency to respond positively or negatively towards a certain idea, object, person, or situation (Business Dictionary). Innovation is a change in the organization and any change cause stress on the workers. When the workers have favorable

attitude towards the innovative product or idea they adopt it easily. Organization should develop some facilitators, so that workers do not perceive any threat rather assume the innovation as of their own. Several studies indicate that individual usage of innovations not only depends upon attitudes but also on management strategies, policies, and actions (Lucas, 1978; Ives and Olson, 1984; Leonard-Barton and Deschamps, 1988). Depending on the relevance for the innovation, these factors include internal marketing variables such as training and education (Igarria, 1993; Igarria et al., 1989; Mirvis et al., 1991; Clegg et al., 1997), organizational technical support (Davis et al., 1989; Thompson et al., 1991; Igarria et al., 1996), and incentives and control structures (Bhattacharjee, 1998). These influences affect individual's awareness of the functioning and application of innovations, their usefulness and fit with the job. Attitudes can change and be influenced. A person's attitudes mediate the influence of external variables and stimuli. Individual acceptance of innovations is driven by the usage of innovation within their social environment. Thus social influence is considered to be one important external stimulus to change attitude. Such social network influences may stem from two sources. First, network externalities may increase the value of the innovation for individual level adoption. (Frambach & Schillewaert, 2002). In organization science (Markus, 1990; Rice, 1990; Kraut et al., 1998), studies show that network externalities are important when there is a critical mass of users within a person's reference or work group, and innovation usage by others in an individual's social environment is likely to play an important role in all types of innovations. The acceptance of an innovation by an individual's peers, e.g., superiors, colleagues, and customers, may signal its importance and advantages and motivate the individual to imitate. Finally, social norms have been proposed as determinants of acceptance behavior (Davis et al., 1989). These relate to "a person's perception that most people who are important think that he should or should not perform the behavior in question" (Fishbein and Ajzen, 1975, p. 302). The effects of social norms may be direct as when a person feels the need to go along, or indirect through its affects on a person's attitudes, as a result of internalization or identification processes (Warshaw, 1980; Davis et al., 1989). Social persuasion and communication from peers has been suggested also as factors influencing acceptance (Leonard-Barton and Deschamps, 1988; Schultheiss, 1988; Mirvis et al., 1991).

3.3 Personal innovativeness

Organizations will try to influence subordinates' attitudes towards adoption of an innovation and some individuals more readily accept certain innovations while others do not. Rogers (1995) defines innovativeness as a degree to which an individual is quicker in adoption of an innovation than other members of the same system.

A system's members can be classified into different adopter categories, based upon the relative time at which an innovation is adopted (Rogers, 1995).

4. Categories of adopters

According to Rogers (1995) the adopters of innovations can be classified into five categories: 1) innovators, 2) early adopters, 3) early majority, 4) late majority, and 5) laggards. (Figure 2)

- Innovators (pioneers) have several common characteristics. They can be said to be venturesome. They are interested in new ideas and have an ability to understand and apply complex technological knowledge. They bring new innovations into the social systems (Rogers 1995). Miller and Friesen (1982) state that entrepreneurial firms can be seen to fulfill these premises.
- Early adopters have the greatest opinion leadership in most systems. They are part of the social system and serve as role models for many other members of the social system. Early adopters decrease the uncertainty about a new idea by a communication process. (Rogers 1995)
- Early majority wants some proof that the innovation is feasible before adopting it, but they still do not want to be the last ones. Their innovation decision takes relatively longer than that of former groups. (Rogers 1995)
- Late majority adopts new ideas just after the average member of a system. Adoption for them is both an economic necessity and increasing network pressure. They also have relatively scarce resources, which mean that uncertainties related to the innovation must be considered carefully before the adoption. (Rogers 1995)
- Laggards are the last ones to adopt an innovation. Laggards make their decision according to past experiences. Laggards need to have a stable environment and they are not familiar with uncertainties. Their decisions are entirely rational and they are extremely traditional (Rogers 1995). According to Miller and Friesen (1982), organizations that belong to this category have a very conservative attitude toward new innovations.

Figure 2: Innovation adopter categories (Martinez et al.1998)

On the other hand, Damanpour and Gopalakrishnan (1998) state that organizational adoption can be conceptualized by the speed and rate of the adoption. The speed of adoption is related to the timing of the innovation and reflects the organization's responsiveness and its ability to adopt the

innovation quickly. The rate of adoption relates to the extent of innovativeness of the organization. Martinez et al. (1998) also argue that the adopters can be classified if the speed of adoption is known and if the adopter can be identified. According to Miller and Friesen (1982), organizations are systems of individuals, and according to this their position in the innovation adoption process can be determined. The adoption of a new innovation that emerges in an organization or is adopted outside the organizations, is always strategy driven. An entrepreneurial (innovator) organization that seeks new innovations actively is risk taking, and it is capable to adopt innovations at a high speed and rate. In the other extreme, a conservative (laggard) organization avoids risks and the time-frame of the adoption process is long. According to Frambach & Schillewaert (2002) personal innovativeness (PI) refers to the degree to which members of an organization are receptive of change. It is an important determinant of innovation success (Zaltman et al., 1973; Zmud, 1984). Leonard-Barton and Deschamps (1988) and Agarwal and Prasad (1998) in their studies found the PI to be one of the factor for individual acceptance of innovation. PI is determined by various personal characteristics, e.g., demographics, company and job tenure, and experience within the product class. Previous research also suggests that socio-demographics (Venkatraman and Price, 1990; Steenkamp et al., 1999) as well as personal values affect innovativeness (Steenkamp et al., 1999)

5. Conclusion

This review research paper concludes that I-P-A MODEL identifies and integrates the people centric factors, which are the determinants of innovation adoption at individual level. The basic idea which underlies the people-centric approach is that the employee has specific individual characteristics that influence his or her innovation adoption decision. The individual characteristics which play a major role are personality, attitude and innovativeness.

5.1 Current issues and opportunities for future research

The research paper provides comprehensive frameworks for understanding and analyzing individual factors for innovation adoption. Based on the above discussion there is a need of further empirical research in this area. Studies need to be carried out in different organizational settings and for different types of innovations. By identifying the individual determinants of innovation adoption, such models are of use to practitioners, including both marketers and managers, in marketing innovations to organizations and in gaining acceptance and use of innovations within an organization. Another important issue that requires further research is to identify the individual factors that inhibit adoption of innovation i.e. to identify why people do not adopt innovation.

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