

Full Length Article

Assessing personal disposition of individuals towards technology adoption

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Abstract

The present study has attempted to explore personal disposition of individuals towards technology adoption through the development of an index named as Technology Adoption Index. For developing the index, exploratory factor analysis approach has been employed on the sample of 1201 responses collected from the residents of 12 different cities in India. Accordingly, the results of the index have indicated significant role of seven personal traits, namely, optimism, innovativeness, self-efficacy, risk taking propensity, habit, social influence and psychological resilience while manifesting personal disposition of individuals towards technology adoption, i.e., the technology adoption propensity of the individuals. Further, an attempt has also been made to explore the socio-economic characteristics of the individuals possessing distinct level of personal disposition towards technology adoption. Accordingly, the results have unveiled that the personal disposition of the individuals towards technology adoption increases with enhancement in their income and qualification but decreases with enhancement in their age. As a measurement tool, Technology Adoption Index can be used as ready-recknor by practitioners for the identification of technology adoption propensity of the individuals. This will facilitate organizations in developing and designing new products and services which can be readily accepted by the individuals.

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1. Introduction

Enhanced proliferation of technology into the business operations for providing better quality output to the customers has brought more sophisticated technologies on board (Wood & Moreau, 2006). Although introduction of the latest technologies have aimed at enhancing convenience of the customers, yet researchers have found that not all the customers adopt technology in the same pattern owing to the differences in their personal disposition towards

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technology adoption (Godoe & Johansen, 2012; Limayem, Hirt, & Cheung, 2007; Ratchford & Barnhart, 2011). Considering this, considerable research attempts have been made in the past to explore personal disposition of the customers towards technology adoption. In this regard, Parasuraman (2000) has explored significant role of four personal traits, namely, optimism, innovativeness, insecurity and discomfort in shaping the personal disposition of the customers through the development of TRI. Further, Ratchford and Barnhart (2011), through the development of TAP index, have explored optimism, proficiency, dependence and vulnerability as significant personal traits that manifest the personal disposition of the customers towards technology adoption. Although TAP index (Ratchford & Barnhart, 2011) claimed to overcome the limitations of TRI, yet it has been found that the former index lacks in assessing wider applicability in different settings for which the recent entry of the index in the technology adoption literature may be one of the plausible reasons. Whereas, TRI has shown wider applicability in different contexts and settings (Badri et al., 2013; Godoe & Johansen, 2012).

Both TRI as well as TAP index have been framed on the premises that the personal traits of the customers reflect their personal disposition towards technology adoption. But none of the studies in the literature has examined personal disposition of the customers comprehensively taking into consideration all the plausible personal traits that may play significant role in the technology adoption dynamics of the customers. Even though, different streams of research have highlighted significant role of different personal traits, such as, self-efficacy, habit, etc. in the technology adoption decision of the customers.

Taking this into consideration, the present composition has aimed to explore the contribution of distinct personal traits in the personal disposition of the customers towards the adoption of the technology and the same has been reflected through the development of an index named as Technology Adoption Index (TAI). Accordingly, the next section highlights the existing research in the field of technology adoption followed by the description of the index development methodology. Further based on the results of the index, technology adoption propensity of the individuals and their socio-economic profiling has been analyzed. Finally, the paper concludes with discussion on the findings of the study followed by some probable avenues for the future research.

2. Theoretical foundations of the study

The focus of the present composition is to explore the personal traits which manifest personal disposition towards technology adoption which is nothing but the technology adoption propensity of the customers as explained by Ratchford and Barnhart (2011). Therefore, the review of the literature was focused on the studies focusing on personal traits of the customers. Accordingly, the extensive review of the relevant literature has unveiled numerous personal traits which affect the technology adoption behavior of the individuals in different settings and contexts, e. g., optimism, innovativeness, insecurity, discomfort, self-efficacy, perceived behavior control, social circle, subjective norms, trust, perceived risk, social influence, habit, psychological resilience, etc. All such traits have been scrutinized for the associated applicability, relevance, etc. For instance, perceived behavior control has been criticized based on its conceptual framework and modification has been recommended and considered (Venkatesh, Morris, Davis, & Davis, 2003). Perceived behavioral control has been referred as the perceived ease or difficulty involved in performing behavior (Ajzen, 1991) and it has been found to be inclusive of two factors, i.e, self efficacy and facilitating conditions. As discussed earlier also, self-efficacy is a customer-specific attribute, whereas, facilitating conditions are the factors prevailing in environment (such as, technical support, manual support, etc.) that eases the operation of the technology. Likewise, the personal trait, namely, subjective norm has been criticized on the basis of its narrow scope (Venkatesh et al., 2003). Subjective norms have been found to include acceptance of the technology by the people important to the customers (Ajzen, 1991; Davis, Bagozzi, & Warshaw, 1989). Whereas, social influence has been found to encompass the acceptance of the technology by the reference group to which the customers want to associate (Thompson et al., 1991). Further, social influence has also been found to include impact of technology adoption on the social status of the customers (Moore & Benbasat, 1991). Further, the traits, such as, perceived risk, trust, safety, security, etc. are found to focus on one common aspect, that is, the risk involved in operating the technology.

Accordingly on the basis of the review of all the personal traits explored by researchers at different point of time, seven personal traits have been proposed in the present study for the development of the index. The traits include optimism, innovativeness, self-efficacy, social influence, risk taking propensity, habit and psychological resilience. The review of such studies is presented in forthcoming paragraphs.

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