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New technology in personnel selection: How recruiter characteristics affect the adoption of new selection technology

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ABSTRACT

The aim of the present field study is to expand the understanding of how characteristics of recruiters relate to their adoption of new selection technology. In two studies, among 198 recruiters, we used the Technology Acceptance Model (TAM), together with two measures of personality (i.e., openness to experience and neuroticism), two information technology specific individual differences (i.e., personal innovativeness in information technology and computer self-efficacy), and reactions to and actual usage of new technology. Both studies showed that all recruiter characteristics (except openness to experience) relate to perceptions of usefulness and ease of use, and that these perceptions relate to intentions to use new selection technologies. Study 2 showed that recruiter characteristics predict perceptions of usefulness and ease of use over and above established predictors of the TAM. Perceptions of usefulness and ease of use were better predictors of intentions to use new technology than perceptions of face validity, predictive validity, and fairness. Thus, when it comes to the adoption of new selection technology, recruiter characteristics, and perceptions of usefulness and ease of use play an important role.

1. Introduction

There has been a rapid growth in the use of new technology in personnel selection practice. New technologies, like computer-based testing, internet-based testing, telephone-based interviews, video-conference job interviews, and multimedia simulation tests, allow organizations to test large numbers of applicants at the same time and help saving time and money (Anderson, 2003). This has prompted the interest of researchers regarding the effects of new technology upon testing-related issues such as validity, applicant reactions, and subgroup differences (e.g., Lievens & Sackett, 2006; Richman-Hirsch, Olson-Buchanan, & Drasgow, 2000). Thus far, research has shown that organizations not only benefit from using new technology in terms of efficiency, but also in terms of validity (Lievens & Sackett, 2006) and acceptance by candidates (Chan & Schmitt, 1997). Yet, there is scant research on how the recruiters themselves perceive these new technologies. In 2003, Anderson already noted that "we currently know next to nothing about recruiter reactions to, expectations of, and willingness to adopt new technology for selection" (p. 133). Not much has changed since then. In fact, the extant research on the adoption of new selection technology has focused entirely on the candidate (Hausknecht, Day, & Thomas, 2004; Wiechmann & Ryan, 2003) and almost completely has ignored the recruiter. This is surprising as recruiters are the ones responsible for the adoption of new technologies into the personnel selection practice. The absence of research on recruiter reactions evidently limits the current understanding of the effects of new technology in personnel selection.

Therefore, the aim of the present study is to expand the understanding of the effects of new technology in personnel selection, by examining how recruiter characteristics relate to the adoption of new selection technology. Because individual characteristics such as personality factors play an important role in human cognition and behavior, it is reasonable to expect that these variables will influence the adoption of new technology as well. Yet, for many years, the issue of individual characteristics has received little attention in the technology adoption literature in general (Devaraj, Easley, & Crant, 2008). By using the Technology Acceptance Model (TAM; Davis, 1989), the effects of personality (i.e., openness to experience and neuroticism) and information technology (IT) specific individual differences (i.e., personal innovativeness in IT and computer self-efficacy) on reactions to and actual usage of new technology in the personnel selection practice will be examined in two field studies. Furthermore, the present study will examine to what extent findings from the applicant

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reaction literature could be generalized to recruiter reactions. More specifically, in selection research it is known that selection-specific characteristics of an instrument play a role in applicant reactions (Hausknecht et al., 2004). When it comes to adopting new selection technology in selection and assessment, it is a relevant question to test whether technology-based perceptions (e.g., is the software easy to use) have an effect over and above selection-specific characteristics (i.e., face validity, predictive validity, fairness). This will be tested in Study 2. Below we will first provide more details about the TAM.

1.1. The Technology Acceptance Model

Davis (1989) introduced the TAM to explain the process of technology adoption by individuals. The TAM is influenced by the Theory of Reasoned Action developed by Fishbein and Ajzen (1975), which states that individuals' intention for a certain behavior is influenced by their attitude toward that behavior and their subjective norms. TAM posits that the intention to use technology is mainly influenced by two specific attitudes or reactions, i.e., the perceived usefulness and ease of use. Perceived usefulness is defined as the degree to which a person believes that using a particular system will enhance his or her job performance. Perceived ease of use is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). We choose the TAM to examine the relationships of recruiter characteristics and the adoption of new technology for several reasons. First, the TAM is well-accepted and validated, with a history of extensions that have been well-summarized by Venkatesh, Morris, Davis, and Davis (2003). Second, the basic concept underlying the model places significant focus on individual reactions to technology, in which factors such as personality and computer self-efficacy can be expected to play a role (Devaraj et al., 2008). Finally, the Theory of Reasoned Action (Fishbein & Ajzen, 1975), which is the basis for the TAM, explicitly incorporates individual characteristics as an external variable affecting an individual's beliefs.

1.2. Recruiter characteristics

According to Rogers (1995), adopting an innovation can be predicted by the perceived attributes of that innovation plus the compatibility with individual characteristics. Yet, only a few studies on technology adoption have actually incorporated individual characteristics. The vast majority of these studies have used student samples (e.g., Devaraj et al., 2008; McElroy, Hendrickson, Townsend, & DeMarie, 2007; Nov & Ye, 2008), limiting their ecological validity. For example, McElroy et al. (2007) found that the Big Five personality traits explained a significant part of the variance in students' use of internet. In their review, Nov and Ye (2008) concluded that openness to experience was positively and neuroticism was negatively related to students' technology adoption. Although several studies examined openness to experience and neuroticism in relation to adopting technology in various fields (Devaraj et al., 2008; Guadagno, Okdie, & Eno, 2008), there are no studies that have tested these relationships in the field of personnel selection. Thus, if we want to know what factors drive the adoption of new technology in this field, studies incorporating recruiter characteristics into the TAM are important. There are several recruiter characteristics, including personality and IT-specific individual differences that we expect to affect the adoption of new selection technology. We elaborate on these expected relationships between recruiter characteristics and the adoption of new selection technology in Sections 1.2.1-1.2.4.

1.2.1. Openness to experience

Openness to experience represents an individual's curiosity, open-mindedness, and their willingness to experiment. Individuals scoring high on openness to experience are imaginative, curious, original, artistic, sensitive, open-minded, and experimental (Barrick & Mount, 1991). Previous studies indicated that individuals scoring high on this personality trait like change and diversity, and adjust quickly to dynamic environments (Devaraj et al., 2008). McElroy et al. (2007) showed that openness is a significant predictor of internet use. Guadagno et al. (2008) proved openness to predict blogging, defined as a relatively new online tool for self-expression. However, Devaraj et al. (2008) showed that openness was not positively associated with beliefs about the perceived usefulness of technology. Yet, they found a direct relationship between this concept and the intention to use technology. In the field of personnel selection, Wiechmann and Ryan (2003) found that candidates who were more open to experience reacted more positively to the use of a computer-based in-basket exercise. Considering the above findings, we expect recruiters' openness to play a relevant role in their adoption of new selection technology.

Hypothesis 1. Openness to experience is positively related to the perceived usefulness (H1a) and the perceived ease of use (H1b) of new selection technologies.

1.2.2. Neuroticism

Neuroticism refers to an individual's tendency to be worried, temperamental and prone to stress, anger, and hostility. Neuroticism is associated with anxiety, depression, anger, worry, and insecurity (Costa & McCrae, 1992). As neuroticism implies negative reactions to work and life situations in general, it is expected to also yield negative beliefs about technology. Compared to individuals scoring low on neuroticism, neurotic people are on average more stressed by the idea of having to use a new technology and are more afraid to try out something new (Devaraj et al., 2008). Devaraj et al. (2008) confirmed this notion by showing that neuroticism is indeed negatively associated with beliefs about the perceived usefulness of technology.

In their research on technophobia and personality subtypes, Anthony, Clarke, and Anderson (2000) found neuroticism to be positively correlated with computer anxiety and negatively correlated with computer cognitions, thus indicating that technophobia is related to neuroticism. In the study conducted by Anthony et al. (2000), technophobia referred to anxiety about computer-related technology, negative attitudes towards computers and negative cognitions concerning computer interactions. Moore and McElroy (2012) found neuroticism to be positively related to time spent on Facebook and the frequency of using Facebook to keep up with others. Based on the above-mentioned findings and taking into account the TAM model and the role of beliefs in adopting new technology, it can be inferred that there is a relationship between neuroticism and technology use.

Hypothesis 2. Neuroticism is negatively related to the perceived usefulness (H2a) and the perceived ease of use (H2b) of new selection technologies.

1.2.3. Personal innovativeness in IT

Personal innovativeness in IT can be defined as the willingness of an individual to try out any new information technology and it is conceptualized as a stable personality trait (Agarwal & Prasad, 1998). According to Rogers (1995), individuals scoring high on innovativeness always search for new information and ideas, manage to tolerate higher levels of uncertainty, and have more positive