


Measuring Employability Skills of Budding IT Professionals in India

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ABSTRACT

The purpose of this study is to identify employability skills among aspiring engineering graduates and develop measurement scale to assess their skill sets. This research has been conducted in two phases: Phase 1 covers the scale development process and Phase 2 covers exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and validation. The findings of EFA resulted in ten factors of employability. Subsequently, CFA identified nine different factors: leadership, critical thinking, numeracy, sociability, using technology, planning and organizing, problem-solving, teamwork, and emotional intelligence skills. The values of CFA met the acceptance level of different fit indices and thus, resulted in a good model fit. Further, the internal consistency of the total scale yielded Cronbach's alpha value ($\alpha = 0.82$). The threshold values of CR, AVE, and MSV also met the required criteria. Thus, it received a valid and reliable 26-item measurement scale of employability which can prove to be useful for academia, students, and employers in computer science and information technology.

KEYWORDS

Attributes, Computer Science, Employability, Employability Scale, Engineering Students, Information Technology, Quantitative, Skills

INTRODUCTION

Globally, the problem of employability of graduates is a serious concern (UNESCO, 2012). In India, there are several reports such as *Aspiring Minds*, 2016; Federation of Indian Chambers of Commerce and Industry (FICCI) et al., 2017; *India Skills Report*, 2019; *Aspiring Minds*, 2019 that have highlighted the concern of graduate employability due to lack of required skills. An ongoing mismatch of skills is evident between the graduates existing skills and those expected by the employers (Archer et al., 2008). Moreover, employers want graduates to be work-ready as soon as recruited (Confederation of British Industries with UK universities (CBI), 2008). Conceding this, the government, academia, and employers have initiated the consistent effort concerning the employability enhancement among the graduates.

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The concept of employability is significantly researched in western countries that have their own generic employability frameworks, for e.g. United States (Accord, 2013); Canada (McLaughlin, 1995); Australia (E. Mayer & Australian Education Council Committee, 1992). Likewise, a developing country like India that is churning out graduates who are working throughout the world, the Indian government has also taken some preliminary steps regarding its awareness and enhancement. Still, more efforts are required.

In India, lack of required employability skills among IT professionals is creating problems for the recruiters to select and retain the best talent. The employers are finding gaps in diverse skill sets and attributes among students while hiring them for specific job roles at entry-level in the field of Information technology. The demand for IT professionals is huge because of the expanse of business activity and has become an important strategic tool in the organizational context. Besides it is equally important in higher education research, and teaching (Khouja et al., 2018).

The paradigm shift due to technological revolution has triggered the economy that was earlier a knowledge-based economy into the skill-based economy. This is described by the U.S. Department of Labour (1999) that “we are living in a new economy powered by technology, fuelled by information, and driven by knowledge”. As a result, this will not only be good in enhancing employment but will be equally helpful in increasing a nation’s economic growth (Brewer, 2013). The growth of information technology (IT) organizations is rapidly generating mammoth employment opportunities. Today’s employment market is becoming skill-intensive, thereby enhancing the issue of employability among the youths.

Since the qualification cannot be the only parameter to decide the candidate’s capabilities, as rightly pointed out by Harvey (2001) that ‘obtaining a degree is not sufficient for the student’, graduate attributes are of greater value. The graduates are experiencing tough competition to get employment of their choice that is entirely dependent on eligible skills and attributes as per the industry’s prerequisites.

The entry-level graduates are unaware of the kind of skills they possess and the industry-required skills (Peddle, 2000). The employers have also observed a lack of skill awareness in employees too (Brown et al., 2003); the lack of employability skills in students (Buck & Barrick, 1987; Evers et al., 1998; Bridgstock, 2009; Wilton, 2011).

Additionally, the list of skills identified by the researchers kept varying to ascertain the effective employability skills; Bhaerman & Spill (1988) suggested work maturity skills, pre-employment job-specific skills, and basic education skills as higher-order categories. Likewise, Cotton (1997) recommended basic skills and other higher-order skills as effective employability skills that employers look for among the job seekers. This lack of clarity among researchers, on what constitutes employability, makes the life of employers even more difficult to design a selection process in an automated environment to identify the best talent out of a large pool of available graduates.

The above views present the primary concern of employers to identify and hire individual’s having such combination of skills and attitude that can help them to prepare the organization in facing competition in the market (Lin, et al., 2012; Batra, 2010). The lack of strong empirical research in the above context, fails to evolve an important framework of employability skills. Even though consulting organization like Gallup (2010) conducted research in other nations identified some of the important skills and capabilities considered as important by employers at the time of hiring (e.g. the highest-ranked capability was foreign language). Likewise, in South Africa, Coetzee (2012) has identified eight employability dimensions. In Canada, Finch, Hamilton, Baldwin, & Zehner (2013) have identified few factors and developed higher-order skill categories like soft-skills, problem-solving, job-specific functional skills, pre-graduate experience and academic reputation.

Recently, a study was done in Australia by Gunawan et al. (2018) that resulted in the identification of six dimensions of employability. Another study conducted in Canada by Chhinzer & Russo (2018) has indicated skills that employers consider while hiring graduate students are generic skills (management of time, teamwork, attention to details), willingness to work, general mental ability, responsiveness to feedback, subject-specific knowledge, attitudes and behaviours. Likewise, some

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