Chapter 5
Employers' Perception on the Antecedents of Graduate Employability for the Information Technology Sector

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Abstract This chapter aims to analyze the perceptions of the employers in the Information Technology (IT) sector in India on the antecedents of graduate employability. With an increased emphasis on organizational flexibility in today's volatile and complex business environment, the employability of the workforce has gained crucial significance. Flexibility has been acknowledged as a predictor of organizational performance (Sushil, Global J Flex Syst Manag 16(4):309–311, 2015) and its strategic driver (Sharma et al., Global J Flex Syst Manag 11(3):51–68, 2010). Flexible strategies and business plan often demand the need to scale up the quality of manpower or shift the required skill set to swiftly adapt to the market changes accordingly. This flexibility is not confined to the quantity of manpower only but also encompasses the quality of skills deployed by the manpower (Srivastava, Global J Flex Syst Manag 17(1):105–108, 2016). Therefore, it is imperative for the potential job seekers to understand and continuously adapt to the changing knowledge and skill requirements of the employers to develop and maintain their employability. The employers in this dynamic sector demand a range of knowledge, skills, and other attributes from potential job seekers. However, the graduates passing out of higher education institutions fail to meet these expectations of the employers. Therefore, the sector is struggling with the challenges of talent crunch and qualitative demand—supply mismatch of manpower. The identification of factors that influence graduate employability is based on literature review. This chapter is empirical and examines the perceptions of the employers on the factors that impact employability and validates the association between the research constructs. Opinion surveys are used to elicit responses from a sample of 236 respondents, i.e., technical/HR personnel at the middle-level/upper middle-level management positions spanning across 71 reputed IT companies in India. These respondents are actively involved in the staffing of graduates seeking technical jobs in IT sector. The perception of these employers has been

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investigated using bivariate and multivariate analysis techniques. The key insights drawn in this chapter enable potential job seekers to clearly understand the employer demands in the IT sector and equip themselves with the required knowledge and skills. This also contributes to enhancing the manpower flexibility in organizations. The chapter has significant implications for the policy-makers and key stakeholders to bridge the employability gap in this sector.

Keywords Employability gap · Employer perceptions · Information technology sector · Skill gap

5.1 Introduction

The world of work has witnessed radical changes in recent times and has become far more demanding and challenging for graduate job seekers. The term "employability" has gained crucial significance in the corporate landscape which is characterized by constant changes like globalization, technological advancements, and intense competition. These fast-paced changes demand the need of such organizational structures that can support an organization's flexibility and adaptability, and hence imply new requirements concerning the competencies and adaptability of the workforce (Van Dam 2004).

Though employability is a multidimensional construct, it can be defined in simple terms as "having the capability to gain initial employment, maintain employment and obtain new employment if required" (Hillage and Pollard 1998). There has been an increasing thrust by the companies to hire graduates who possess the necessary knowledge, skills, and competencies that aid their effortless transition in jobs and meets the demands of the competitive business world. Hence, it has become essential for these graduate job seekers to couple their academic degrees with significant skills, competencies, and attributes that make them employable for the job market and meet the rising talent demands of the recruiters.

Although graduate employability is crucial to ensure a steady supply of skilled manpower to companies, yet, Indian economy is witnessing a growing skill gap and demand–supply mismatch across many sectors. The Information Technology (IT) sector manifests a more pronounced gap. Though the IT sector has made an enormous contribution to the growth of the Indian economy, however, the sector is struggling with the challenges of employability gap and talent supply mismatch to compete globally. Staffing IT professionals in India and retaining them has become complex and challenging due to the shortage of competent professionals (Kummamuru and Murthy 2016). Furthermore, the constant and volatile technological advancements and the changing skill demands of the employers are further broadening this gap. The vital factors like talent crunch, demand–supply mismatch, and the changing manpower needs of this sector along with the changes in technology underline a strong need for the organizations to manage flexibility to cope up with the human resource challenges. The flexibility to adapt to challenges, particularly in terms of people,

processes, and offerings, has become crucial for today's IT companies (Raghuveer et al. 2014). Hence, it becomes imperative to understand the paradigm change in the perceptions of the recruiters in this sector. The National Association of Software and Service Companies (NASSCOM 2012) reports that the IT sector in India is confronting a significant employability gap. NASSCOM (2014) further reports disparity in terms of demand and supply of manpower. The research study reveals that only around 25% of the candidates who seek jobs in areas like IT Services, research and development, engineering, software products, and allied fields are deemed employable by the sector.

With the backdrop of this widening skill gap, perception and expectation gaps have been revealed by various research studies. These disparities in perceptions subsist both in general and in the context of the IT sector. Through a comparison of the perceptions of the different stakeholders in the context of Sri Lanka, Wickramasinghe and Perera (2010) found that the three key groups, i.e., university graduates, faculty, and employers prioritize the importance of various employability skills differently. In the US context, Dupre and Williams (2011) identified a gap in the competency areas that are sought by the employers and the student beliefs of their abilities in those areas. Concerning the IT/IS sector, Lee et al. (2002) found that with reference to the skills required from graduates, there exist significant differences in the perceptions of IS academics and practitioners. Through the data collected from IS managers, IS consultants and IS professors, Trauth et al. (1993) inferred a gap between the needs of the industry and the abilities of the graduates. Highlighting these perception gaps, McMurtrey et al. (2008) indicated that understanding the skill set expected from IT employees is significant for both academia and industry. The dynamic changing and fast-paced nature of this sector bring about a change in technology and the IT practices, and in turn, this alters the skills required from IT professionals.

The perceptual differences between the key stakeholder groups on the predictors of employability call for a need to measure the perceptions of these stakeholders and further understand the gaps between them. Such an analysis aims to reach the ground roots of "perceptions" to explore the employability gap that evolves out of it and further investigate its nature and cause rather than scanning this issue at the surface or macro-level. With this backdrop, this chapter aims to capture the perceptions of employers that constitute a key stakeholder group, on the employability skills deemed significant for graduates in IT and allied areas. The conceptual model of research drawn from the qualitative review of the literature has been empirically validated from the standpoint of employers, and their perceptions on the predictors of employability have been captured and further examined.

This chapter has been organized into different sections. Section 5.2 highlights the antecedents of graduate employability in context of the IT sector, Sect. 5.3 elucidates the research approach, Sect. 5.4 discusses the findings of the study, Sect. 5.5 discusses the implications for academia, practitioners, and policy-makers, and Sect. 5.6 underlines the conclusions of this study.

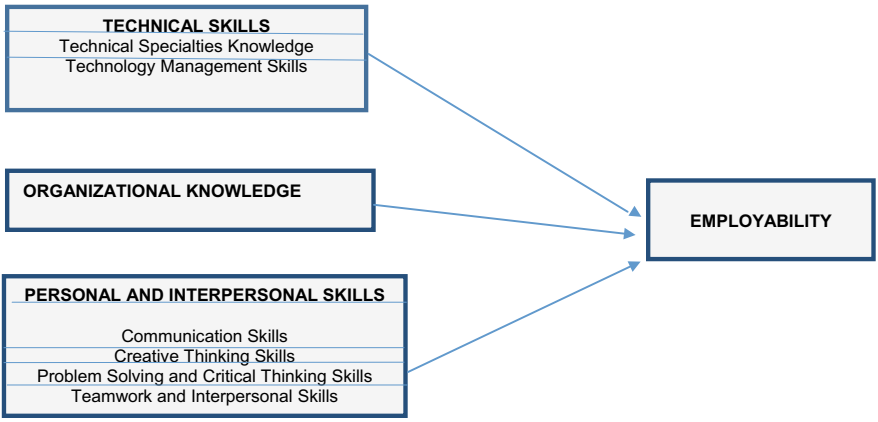


Fig. 5.1 Conceptual model of research. *Note* Adapted from "Predictors of graduate employability in the Indian information technology sector" by Sehgal and Nasim (2017), Copyright 2017 by Inderscience

5.2 Antecedents of Graduate Employability for the IT Sector

The significance of the various predictors of employability from the perspective of employers in IT sector has been apprehended by deploying the sector-specific conceptual model of the factors that influence employability advocated by Sehgal and Nasim (2017). The model highlights that three key knowledge and skill areas, i.e., Technical Skills, Organizational Knowledge, and Personal and Interpersonal Skills influence employability. Employability is thus the dependent variable, and the three identified knowledge and skills areas are the independent variables at the macro-level that predict employability. Various other knowledge and skill areas constitute these macro variables. Majority of these independent variables have also been highlighted by Byrd and Turner (2001) as the determinants of IT infrastructure flexibility. The authors reveal that the flexibility of IT infrastructure can be measured in terms of technical and human IT infrastructure. The measures of the human side of IT infrastructure flexibility include technology management, business knowledge, management knowledge, and technical skills dimension (Byrd and Turner 2001). The model is shown in Fig. 5.1 which illustrates the association between the variables.

Further, the research variables in the conceptual model are illustrated below (Table 5.1).

Table 5.1 Macro and micro variables of research

Macro variables	Micro variables	References
Technical skills	Technical Specialities knowledge	Lee et al. (1995)
	Technology management skills	Nelson (1991), Trauth et al. (1993), Yen et al. (2001), Lee et al. (2002), Aasheim et al. (2009, 2012)
Organizational knowledge		Nelson (1991), Yen et al. (2001), Bassellier and Benbasat (2004), Fang et al. (2005), Aasheim et al. (2009)
Personal and interpersonal skills	Problem-solving and critical thinking	Yen et al. (2001), Lee et al. (2002), McMurtrey et al. (2008), Tesch et al. (2008), and Wickramasinghe and Perera (2010)
	Communication skills	Lee et al. (1995), Woratschek and Lenox (2002), Fang et al. (2005), McMurtrey et al. (2008), Tesch et al. (2008), Aasheim et al. (2009), Eom and Lim (2012)
	Creative thinking	Yen et al. (2001), Lee et al. (2002), McMurtrey et al. (2008), Tesch et al. (2008), Wickramasinghe and Perera (2010), and Aasheim et al. (2012)
	Teamwork and interpersonal skills	Teamwork skills: Woratschek and Lenox, (2002), Fang et al. (2005), Bailey and Mitchell (2006), McMurtrey et al. (2008), Tesch et al. (2008), Aasheim et al. (2009, 2012), and Interpersonal skills: Nelson (1991), Trauth et al. (1993), Bassellier and Benbasat (2004), Aasheim et al. (2012), Rosenberg et al. (2012)
Employability		Hillage and Pollard (1998), Harvey (2001), Fugate et al. (2004), Heijde and Van der Heijden (2006), Dacre Pool and Sewell (2007), Fugate and Kinicki (2008), Bridgstock (2009)

Note Adapted from "Predictors of graduate employability in Indian information technology sector'" by Sehgal and Nasim (2017), Copyright 2017 by Inderscience

Table 5.2 Summary of hypotheses for macro variables

Independent macro variable	Associated with variable	Hypotheses code
Technical skills	Employability	HATE
Organizational knowledge	Employability	HAOE
Personal and interpersonal skills	Employability	HAPIE

5.3 Research Methodology

This is an empirical study that captures the perceptions of employers in the IT sector on the antecedents of employability. Opinion surveys have been used to collect data from the respondents. These surveys, on one hand, gauge the opinions of the employers on the antecedents of employability and on the other hand, empirically validate the relationship between the research constructs that have been anticipated in the research model from the standpoint of employers. The data that has been gathered from the employers is further statistically examined. Statistical Package for Social Sciences (SPSS) has been used for analysis. Hypotheses of association formulated for further investigation have been tested through correlation and regression analysis techniques.

5.3.1 Hypotheses Formulation

The hypotheses of association have been envisaged to capture the perceptions of employers. These have been formulated as below:

Hypotheses of Association for Macro Variables

Null hypotheses: One macro independent variable is not a predictor of the dependent variable.
Alternate hypotheses: One macro independent variable is a predictor of the dependent variable.

This is elaborated below:

HATE: Technical skills are predictors of employability.
HAOE: Organizational knowledge is the predictor of employability.
HAPIE: Personal and interpersonal skills are predictors of employability.

The hypotheses for macro variables have been summarized in Table 5.2.

Hypotheses of Association for Micro Variables

Null hypotheses: One micro independent variable is not a predictor of the dependent variable.

Table 5.3 Summary of hypotheses of association for micro variables

Independent micro variable	Associated with dependent variable	Hypotheses code
Technical specialties knowledge	Employability	HAT1E
Technology management skills	Employability	HAT2E
Problem-solving and critical thinking skills	Employability	HAPI1E
Creative thinking skills	Employability	HAPI2E
Communication skills	Employability	HAPI3E
Teamwork and interpersonal skills	Employability	HAPI4E

Alternate hypotheses: One micro independent variable is a predictor of the dependent variable.

Based on the same, the alternate micro-hypotheses with technical skills factor may be formulated as follows:

HAT1E: Technical specialties knowledge (T1) is a predictor of employability.
HAT2E: Technology management skills (T2) is a predictor of employability.

The alternate micro-hypotheses are formulated as follows:

HAPI1E: Problem-solving and critical thinking skills (PI1) is a predictor of employability.
HAPI2E: Creative thinking skills (PI2) is a predictor of employability.
HAPI3E: Communication skills (PI3) is a predictor of employability.
HAPI4E: Teamwork and Interpersonal Skills (PI4) is a predictor of employability.

The summary of hypotheses for micro variables is depicted in Table 5.3.

5.3.2 Questionnaire Design and Pretesting

The questionnaire for the opinion survey of employers has been designed using a five-point Likert scale to capture the perception of the respondents and test the hypotheses of association listed in the preceding section. Using the Likert scale, the respondents were asked to specify their degree of agreement or disagreement with the enumerated statements in the questionnaire on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). These statements recorded the perceptions of the respondents on

the importance of the different factors that are deemed crucial for employability. To enhance the clarity of the designed questionnaire and avoid ambiguity, the questionnaire has been pretested using Questionnaire Appraisal System (QAS) developed by Research Triangle Institute. It is a check-list-based method with different dimensions for recognizing and plugging in the flaws before the survey is fully administered. An informal discussion with the respondents was done on their feedback, and the expert comments from the questionnaire appraisal form were taken into consideration for finalizing the questionnaire. The reliability of the questionnaire has been measured using Cronbach's alpha. The value of Cronbach's alpha is high (greater than 0.9) for all macro and micro variables indicating high reliability. The validity of the designed questionnaire has been tested through Exploratory Factor Analysis (EFA). Factor loading for all items was found to be greater than 0.6, and hence none of them was dropped. KMO index was found to be greater than 0.5 for all macro variables. Furthermore, the significance value for Bartlett's test of sphericity was found to be 0.000 for all macro variables. The values of univariate statistical analysis were all found within range and data were normally distributed.

5.3.3 Sample Design

The designed questionnaire was administered to the employers in the IT sector that hire graduates for technical jobs. The employers chosen for this study largely include NASSCOM member companies in Delhi/NCR region in India. Among the others, these include top IT companies that employ a vast majority of the workforce. Data has been collected from HR and technical personnel at the middle-level/lower middle-level/upper middle-level positions in these companies who are actively involved in the staffing of graduates. This includes HR personnel, Project Managers, IT Managers, Group Managers, Delivery Managers, Senior HR Executives, Assistant Manager, Consultants, Group Team Leaders, Team Leaders, Senior Team Leaders, and allied positions depending on the designation schemes adopted by different companies.

It is quite evident that the population for this group is very large and thus was assumed unknown. Response from a sample of 236 respondents from across 71 reputed IT companies has been elicited for this study. Out of these 71 companies, data has been captured from multiple locations where these companies have their branches. This aggregates to 81 companies spread across multiple locations from where the sample for the opinion survey of employers has been drawn. Barlett et al.(2001) argue that for using multiple regression analysis, the number of observations should be greater than five times the number of independent variables. However, Halinski and Feldt (1970), Miller and Kunce (1973) suggest a conservative ratio of ten observations for each independent variable. The chosen sample size is justified from the perspective of statistical techniques, i.e., correlation and regression that have been used for the data analysis. The KMO (Kaiser–Meyer–Olkin) measure of sample

adequacy has been tested. It has been found to be within the acceptable range (0.5–1). A combination of judgmental, convenience, and snowball sampling techniques has been used for sample selection.

5.4 Findings

The data collected through the opinion surveys have been analyzed using correlation and regression analysis techniques. Correlation analysis is a technique used to measure the nature of the relationship among the variables of the study. The correlation coefficient is a measure of a linear relationship among variables. Karl Pearson's correlation coefficient is one of the extensively used measures of linear dependence among variables. This Pearson's coefficient has been used to analyze the relationship among the proposed variables. The coefficient value ranges from -1 to $+1$. A negative value of the correlation coefficient signifies that the variables are inversely related, whereas a positive value of the correlation coefficient indicates a direct relationship between the variables. The following subsections discuss the results of the same.

5.4.1 Results of Correlation Analysis

At the macro-level, the results of correlation analysis reveal the association between the dependent and independent variables. It can be noted from the results of the correlation analysis depicted in Annexure I that the coefficient of correlation is greater than 0.7 for all macro variables. The strongest association is exhibited by personal and interpersonal skills (0.84) closely followed by technical skills (0.83) and organizational knowledge (0.78). Hence, the values of the correlation coefficient signify that all independent macro variables possess a strong positive correlation with the dependent variable of study, i.e., employability.

With regard to the micro variables of technical skills, it can be noted that technical specialties knowledge bears the strongest relationship with employability (0.805) closely followed by technology management skills (0.795). Also, in the category of personal and interpersonal skills, communication skills (0.735), problem-solving and critical thinking skills (0.775), and teamwork and interpersonal skills (0.795) exhibit strong relationships with employability. Further, the multi-collinearity test (Annexure III) indicates that Variance Inflation Factors (VIF) is well within the acceptable range (<10).

5.4.2 Results of Regression Analysis

The data has been analyzed using regression analysis, and the results have been discussed in the subsections below.

5.4.2.1 Regression Analysis for Macro Variables

It can be noted from the results of a regression analysis for macro variables (Annexure II) that the coefficient of determination, R-square, for the independent macro variables is 0.755. This shows that 75.5% of the variation in employability can be accounted from the variability in the independent macro variables. The results indicate validation at 95%. The beta values of personal and interpersonal skills (0.354), technical skills (0.349), and organizational knowledge (0.210) are all found significant.

5.4.2.2 Regression Analysis of Micro Variables

The findings from the regression analysis of the micro variables are discussed below.

Regression Analysis of Technical Skills
It can be noted from the regression analysis results for the micro variables of technical skills (Annexure II) that the coefficient of determination, R-square was found to be 0.705. This shows that 70.5% variation in employability is accounted from the variability in technical specialties knowledge and technology management skills. The results indicate validation at 95%. The beta values for technical specialties knowledge (0.467) and technology management skills (0.414) are found significant.

Regression Analysis of Personal and Interpersonal Skills
The regression analysis results for the micro variables of personal and interpersonal skills (Annexure II) show that the coefficient of determination, R-square is 0.712. This implies that 71.2% variation in employability is accounted from the variability in micro variables of personal and interpersonal skills. The results indicate validation at 95%. Beta values for teamwork and interpersonal skills (0.259), problem-solving and critical thinking skills (0.281), communication skills (0.228), and creative thinking skills (0.158) are found significant.

Regression Analysis of Controlled Impact of All Independent Micro Variables
Regression analysis is undertaken with the employability and its predictors (Annexure II). The R-square for the variables together is 0.758. This indicates that 75.8% variation in employability is accounted from the variability of all the micro variables taken together. The results indicate validation at 95%. For all micro variables except creative thinking skills, the beta values are found to be significant.

Table 5.4 Results of testing macro-hypotheses from employer perspective

Independent variable	R-Square	Beta value	Significance	Hypotheses code	Status of alternate hypotheses
Personal and interpersonal skills	0.755	0.354	0.000	HAPIE	Accepted
Technical skills		0.349	0.000	HATE	Accepted
Organizational knowledge		0.210	0.001	HAOE	Accepted

Dependent variable: Employability

5.4.3 Summary of Results for Hypotheses Testing

The preceding section discusses the findings of correlation and regression analysis. The subsections below summarize the obtained results.

5.4.3.1 Summary of Results of Hypotheses Testing for Macro Variables

It can be concluded from the preceding section that all the three macro independent variables, i.e., personal and interpersonal skills, technical skills, and organizational knowledge influence employability. The results of testing the macro-hypotheses of association are presented in Table 5.4.

5.4.3.2 Summary of Hypotheses Testing Results for Micro Variables

The results of hypotheses testing for micro variables show that all the micro variables of technical skills and personal and interpersonal skills strongly influence employability. Table 5.5 summarizes the results of testing micro-hypotheses of association.

The validated models of macro variables, their micro variables, and controlled impact of all the micro variables are included in Annexure II.

5.5 Implications for Key Stakeholders

The results of this perception analysis of employers have implications for the policy-makers and the key stakeholders that include graduate job seekers, academia, and industry. The unemployment of youth is a critical policy issue for any country. Considering the present scenario of qualitative demand–supply mismatch and the changing needs of the IT industry, there is a need for the policy-makers to inte-

Table 5.5 Summary of hypotheses testing of micro variables from employers' perspective

Independent macro variable	Independent micro variable	R-Square	Beta	Significance	Hypotheses code	Status of alternate hypotheses
Technical skills	Technical Specialties knowledge	0.705	0.467	0.000	HAT1E	Accepted
	Technology management skills		0.414	0.000	HAT2E	Accepted
Personal and interpersonal skills	Communication skills	0.758	0.228	0.001	HAPI3E	Accepted
	Problem-solving and critical thinking skills		0.281	0.000	HAPI1E	Accepted
	Creative thinking skills		0.158	0.027	HAPI2E	Accepted
	Teamwork and interpersonal skills		0.259	0.000	HAPI4E	Accepted

Dependent variable: Employability

grate employability development with the course curriculum, contents, and course learning outcomes. Though employability skills are imparted to graduates by the Higher Education Institutions (HEI), however, a more regulated and robust approach is required. The course curriculum can be integrated with work readiness certification encompassing significant employability development modules. Such certification programs can include practical training in areas like soft skills and business functional knowledge that are considered critical for employability by employers. Also, such certifications should be standardized and embedded into the course curriculum with measurable results. This would help in stabilizing the uneven quality of graduates produced by different colleges. Accordingly, employability profile of the student can be developed on completion of the program in collaboration with the industry that may be presented to the prospective employers for securing jobs. This would act as an index for the employability of the candidate upon graduating.

Meeting the skill demands of the industry and further bridging the demand—supply gap calls for a strong, all-encompassing coalition between the academic and professional practitioners. Such a coalition should involve key stakeholders like fac-

ulty, HEI management, students, and industry professionals. The alliance can address crucial areas like curriculum amendment workshops, faculty development programs, research development, student internships, and projects.

The significance of different knowledge and skill areas highlighted in this study implies that the students should make well-informed career decision and choice of higher education institution for studies in line with the demands of the employers. It is important for the students to self-assess themselves and analyze if they possess the fundamental abilities, interest, and the learning capacity to make a career in IT sector rather than just joining the bandwagon. Further, the choice of HEI is indeed a crucial decision while pursuing further studies. As the demand for professional education has increased and public sector has limited access, the higher education sector has witnessed a plethora of entrepreneurs and business organizations that have landed in the education business (Prasad and Suri 2011). The students must assess the course curriculum, teaching methodologies, essential resources, training, internships, placements, and other vital means of industry exposure offered by these institutions. This would ensure that the offerings of the chosen HEI match with the requirements of the industry. Also, once they join a particular HEI, the entire focus should not be to attain a degree. Rather, it is essential for these graduates to focus on their technical skills and also participate in co-curricular activities that offer them robust platforms to develop and nurture their non-technical skills, get corporate exposure and make themselves job ready.

The higher education institutions play a vital role as the breeding grounds for employability. Thus, the study has implications for HEIs. Imparting knowledge and skills in line with the industry demands requires a strong academia–industry collaboration. These HEIs must build close collaboration with the industry in the areas like curriculum design, curriculum revisions and up-gradations, faculty development, student internships, guest lectures, projects, and final placements. Furthermore, it is important that for a volatile and fast-paced sector like IT, the speed of curriculum change must align with the speed of technology change. This may call for frequent curriculum changes in contrast to the present system. The process of acquiring knowledge and education adopted at the higher technical education should be robust enough so that both students and faculty can deliver to best of their knowledge and skills (Bhatia and Bhatia 2008). Also, the faculty should be engaged in regular development programs and industry interaction platforms to upgrade their technical skills, understand the changing demands of the corporate, and enhance their proficiency to further impart it to the students. Analyzing the skills valued by employers at the workplace, there is a need for qualitative improvement in education.

5.6 Conclusion

The study about perceptions of the employers in the Information Technology (IT) sector in India on the antecedents of graduate employability has revealed the following:

- There exists a strong correlation between employability and its identified predictors (three macro variables and six micro variables of research).
- All the three macro variables and six micro variables are perceived significant by the employers. Therefore, the employers deem that these factors have a substantial influence on the employability of graduates.
- Although the employers consider all the macro and micro variables of study significant for employability, however, the level of significance for employability attached to these variables is different.
- As compared to organizational knowledge, the employers consider that technical skills and personal and interpersonal skills are stronger predictors of employability.
- At the micro-level, the employers consider that technical specialties knowledge has a stronger influence on employability as compared to technology management skills.
- The employers perceive that each of the seven independent micro variables is significant for employability when considered separately; however, one of them, i.e., creative thinking skills was not found to be significant when all the micro variables were taken together.
- Analyzing the controlled impact of variables, i.e., when all the micro variables are taken together, highlighted the relatively greater importance attributed to technical specialties knowledge and also the insignificance of creative thinking skills.

The above conclusions have been drawn by examining the perceptions of the employers on the key technical knowledge areas and soft skills that are important for graduate employability. Further, there exists a scope to extend the study considering the volatile, uncertain, complex, and ambiguous nature of the information technology sector. The development of disruptive technologies in this dynamic sector is changing the way we work and live. Such developments demand constant shift of skills from the manpower to cope up with the technological and market changes. The factors like the advent of new technologies, changing business scenario, and the fourth industrial revolution necessitate the potential job seekers to be flexible, responsive and adaptive to such fast-paced changes and developments. Hence, the "flexibility" of individuals can have a serious implication on their employability and sets forth a stimulating area of further research.

Appendices

Annexure I: Results of Correlation Analysis

Correlations											
		AVGPISCS	AVGPISPC	AVGPISCT	AVGPISTI	AVGTSTM	AVGTSTK	AVGOK	AVGE	AVGPIS	AVGTS
AVGPISCS	Pearson Correlation	1	0.683**	0.728**	0.773**	0.727**	0.722**	0.721**	0.735**	0.891**	0.761**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGPISPC	Pearson Correlation	0.683**	1	0.808**	0.814**	0.800**	0.770**	0.775**	0.775**	0.884**	0.824**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGPISCT	Pearson Correlation	0.728**	0.808**	1	0.829**	0.852**	0.813**	0.737**	0.766**	0.917**	0.874**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGPISTI	Pearson Correlation	0.773**	0.814**	0.829**	1	0.819**	0.795**	0.772**	0.795**	0.945**	0.846**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGTSTM	Pearson Correlation	0.727**	0.800**	0.852**	0.819**	1	0.817**	0.760**	0.795**	0.874**	0.955**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGTSTK	Pearson Correlation	0.722**	0.770**	0.813**	0.795**	0.817**	1	0.796**	0.805**	0.848**	0.951**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGOK	Pearson Correlation	0.721**	0.775**	0.737**	0.772**	0.760**	0.796**	1	0.785**	0.822**	0.816**

(continued)

(continued)

Correlations

		AVGPISCS	AVGPISPC	AVGPISCT	AVGPISTI	AVGTSTM	AVGTSTK	AVGOK	AVGE	AVGPIS	AVGTS
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGE	Pearson Correlation	0.735**	0.775**	0.766**	0.795**	0.795**	0.805**	0.785**	1	0.841**	0.839**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGPIS	Pearson Correlation	0.891**	0.884**	0.917**	0.945**	0.874**	0.848**	0.822**	0.841**	1	0.903**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
	N	236	236	236	236	236	236	236	236	236	236
AVGTS	Pearson Correlation	0.761**	0.824**	0.874**	0.846**	0.955**	0.951**	0.816**	0.839**	0.903**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	N	236	236	236	236	236	236	236	236	236	236

**Correlation is significant at the 0.01 level (2-tailed)

Annexure II: Results of Regression Analysis

Regression Analysis of Macro Variables

Model summary				
Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.841[a]	0.708	0.706	0.49960
2	0.861[b]	0.742	0.740	0.47028
3	0.869[c]	0.755	0.752	0.45929

[a]Predictors: (Constant), AVGPIS
[b]Predictors: (Constant), AVGPIS, AVGTS
[c]Predictors: (Constant), AVGPIS, AVGTS, AVGOK

ANOVA[d]						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	141.333	1	141.333	566.225	0.000[a]
	Residual	58.408	234	0.250		
	Total	199.740	235			
2	Regression	148.210	2	74.105	335.075	0.000[b]
	Residual	51.530	233	0.221		
	Total	199.740	235			
3	Regression	150.800	3	50.267	238.286	0.000[c]
	Residual	48.941	232	0.211		
	Total	199.740	235			

[a]Predictors: (Constant), AVGPIS
[b]Predictors: (Constant), AVGPIS, AVGTS
[c]Predictors: (Constant), AVGPIS, AVGTS, AVGOK
[d]Dependent variable: AVGE

Coefficients[a]				
Unstandardized coefficients		Standardized coefficients	t	Sig.
B	Std. error	Beta		
−0.033	0.147		−0.223	0.823
0.870	0.037	0.841	23.795	0.000
0.037	0.139		0.269	0.788
0.466	0.080	0.450	5.805	0.000
0.400	0.072	0.433	5.576	0.000
0.043	0.136		0.318	0.751
0.366	0.083	0.354	4.391	0.000
0.322	0.073	0.349	4.387	0.000
0.197	0.056	0.210	3.504	0.001

Regression Analysis of Micro Variables of Personal and Interpersonal Skills

Model summary				
Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.795[a]	0.632	0.631	0.56041
2	0.825[b]	0.681	0.678	0.52311
3	0.840[c]	0.706	0.702	0.50302
4	0.844[d]	0.712	0.707	0.49877

[a]Predictors: (Constant), AVGPISTI
[b]Predictors: (Constant), AVGPISTI, AVGPISPC
[c]Predictors: (Constant), AVGPISTI, AVGPISPC, AVGPISCS
[d]Predictors: (Constant), AVGPISTI, AVGPISPC, AVGPISCS, AVGPISCT

ANOVA[e]						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	126.250	1	126.250	401.997	0.000[a]
	Residual	73.490	234	0.314		
	Total	199.740	235			
2	Regression	135.982	2	67.991	248.470	0.000[b]
	Residual	63.758	233	0.274		
	Total	199.740	235			
3	Regression	141.037	3	47.012	185.799	0.000[c]
	Residual	58.703	232	0.253		
	Total	199.740	235			
4	Regression	142.274	4	35.569	142.977	0.000[d]
	Residual	57.466	231	0.249		
	Total	199.740	235			

[a]Predictors: (Constant), AVGPISTI
[b]Predictors: (Constant), AVGPISTI, AVGPISPC
[c]Predictors: (Constant), AVGPISTI, AVGPISPC, AVGPISCS
[d]Predictors: (Constant), AVGPISTI, AVGPISPC, AVGPISCS, AVGPISCT
[e]Dependent variable: AVGE

Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	0.624	0.142		4.389	0.000
	AVGPISTI	0.691	0.034	0.795	20.050	0.000
2	(Constant)	0.358	0.140		2.558	0.011
	AVGPISTI	0.423	0.055	0.486	7.637	0.000
	AVGPISPC	0.345	0.058	0.380	5.964	0.000
3	(Constant)	−0.019	0.159		−0.119	0.906
	AVGPISTI	0.281	0.062	0.323	4.533	0.000
	AVGPISPC	0.308	0.056	0.339	5.479	0.000
	AVGPISCS	0.275	0.062	0.254	4.470	0.000
4	(Constant)	−0.023	0.158		−0.145	0.885
	AVGPISTI	0.226	0.066	0.259	3.404	0.001
	AVGPISPC	0.256	0.061	0.281	4.222	0.000
	AVGPISCS	0.247	0.062	0.228	3.961	0.000
	AVGPISCT	0.140	0.063	0.158	2.230	0.027

[a]Dependent variable: AVGE

Regression Analysis of Micro Variables of Technical Skills

Model summary				
Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.805[a]	0.648	0.647	0.54810
2	0.840[b]	0.705	0.703	0.50278

[a]Predictors: (Constant), AVGTSTK
[b]Predictors: (Constant), AVGTSTK, AVGTSTM

ANOVA[c]						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	129.444	1	129.444	430.889	0.000[a]
	Residual	70.296	234	0.300		
	Total	199.740	235			
2	Regression	140.841	2	70.420	278.577	0.000[b]
	Residual	58.899	233	0.253		
	Total	199.740	235			

[a]Predictors: (Constant), AVGTSTK
[b]Predictors: (Constant), AVGTSTK, AVGTSTM
[c]Dependent variable: AVGE

Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	0.757	0.131		5.765	0.000
	AVGTSTK	0.721	0.035	0.805	20.758	0.000
2	(Constant)	0.444	0.129		3.443	0.001
	AVGTSTK	0.418	0.055	0.467	7.573	0.000
	AVGTSTM	0.358	0.053	0.414	6.715	0.000

[a]Dependent variable: AVGE

Regression Analysis of Controlled Impact of all Micro Variables

Model summary				
Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.871[a]	0.758	0.751	0.46017

[a]Predictors: (Constant), AVGOK, AVGPISCS, AVGPISCT, AVGPISPC, AVGTSTK, AVGTSTM, AVGPISTI

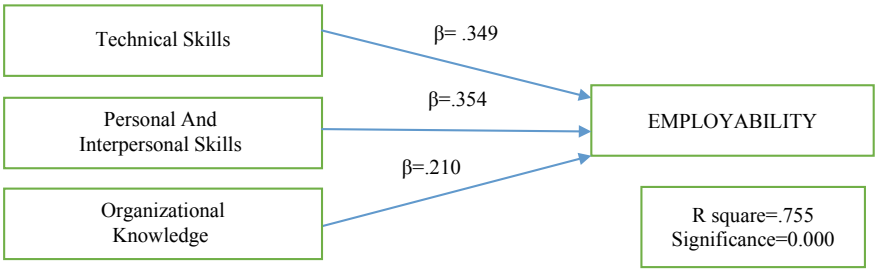
ANOVA[b]						
Model		Sum of squares	df	Mean square	F	Sig.
s1	Regression	151.460	7	21.637	102.181	0.000[a]
	Residual	48.280	228	0.212		
	Total	199.740	235			

[a]Predictors: (Constant), AVGOK, AVGPISCS, AVGPISCT, AVGPISPC, AVGTSTK, AVGTSTM, AVGPISTI
[b]Dependent variable: AVGE

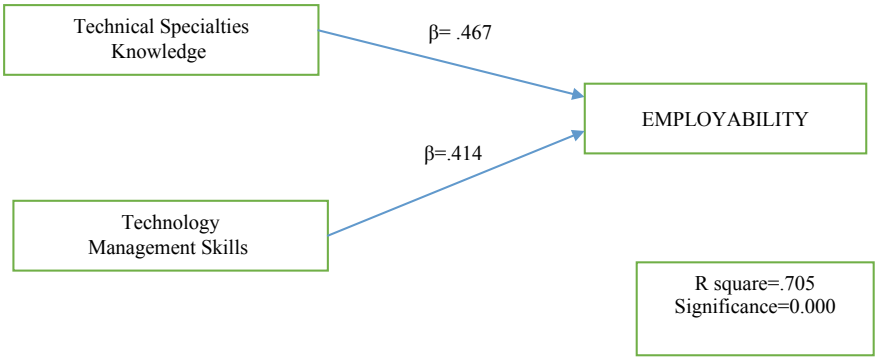
Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	0.018	0.146		0.126	.900
	AVGPISCS	0.138	0.060	0.127	2.297	0.023
	AVGPISPC	0.123	0.060	0.136	2.058	0.041
	AVGPISCT	−0.013	0.066	−0.015	−0.200	0.841
	AVGPISTI	0.121	0.063	0.139	1.909	0.057
	AVGTSTM	0.146	0.063	0.169	2.320	0.021
	AVGTSTK	0.203	0.061	0.227	3.337	0.001
	AVGOK	0.171	0.058	0.183	2.945	0.004

[a]Dependent variable: AVGE

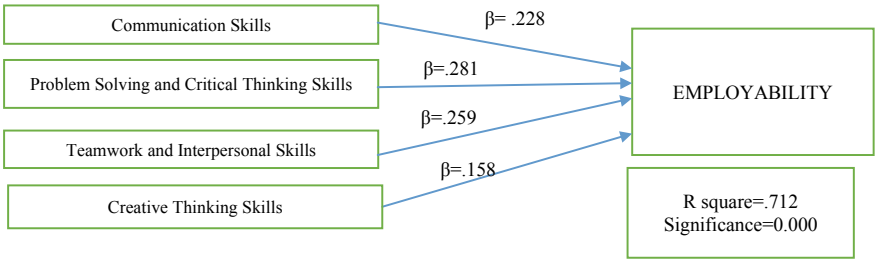
Validated Macro-model of Research from Employers' Perspective



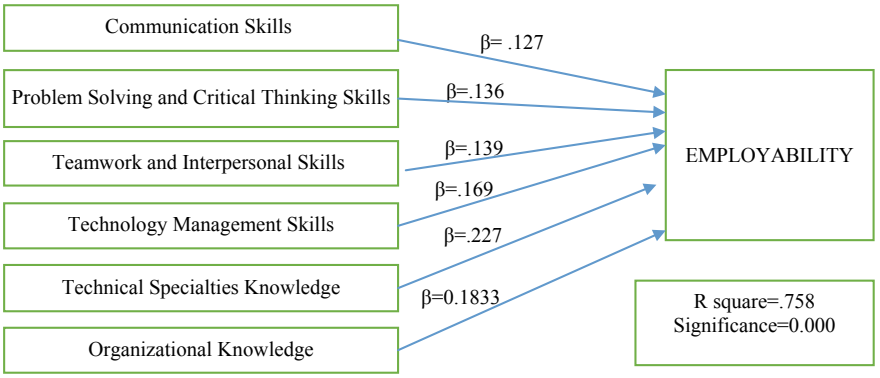
Validated Model of Micro Variables of Technical Skills from Employers' Perspective



Validated Model of Micro Variables of Personal and Interpersonal from Employers' Perspective



Validated Micro-model of Controlled Impact of all Independent Variables from Employers' Perspective



Annexure III: Results of Collinearity

Collinearity Results—Macro Variables

Variables entered/removed[b]			
Model	Variables entered	Variables removed	Method
1	AVGTS, AVGOK, AVGPIS[a]		Enter

[a]All requested variables entered
[b]Dependent variable: AVGE

Coefficients[a]			
Model		Collinearity statistics	
		Tolerance	VIF
1	AVGOK	0.295	3.390
	AVGPIS	0.163	6.153
	AVGTS	0.167	5.980

[a]Dependent variable: AVGE

Collinearity diagnostics[a]							
Model	Dimension	Eigenvalue	Condition index	Variance proportions			
				(Constant)	AVGOK	AVGPIS	AVGTS
1	1	3.937	1.000	0.00	0.00	0.00	0.00
	2	0.044	9.462	0.80	0.09	0.00	0.02
	3	0.014	16.730	0.06	0.90	0.07	0.23
	4	0.005	27.368	0.14	0.01	0.93	0.75

[a]Dependent variable: AVGE

Collinearity Results—Micro Variables

Variables entered/removed[b]			
Model	Variables entered	Variables removed	Method
1	AVGTSTK, AVGPISCS, AVGPISPC, AVGTSTM, AVGPISTI, AVGPISCT[a]		Enter

[a]All requested variables entered
[b]Dependent variable: AVGE

Coefficients[a]			
Model		Collinearity statistics	
		Tolerance	VIF
1	AVGPISCS	0.360	2.780
	AVGPISPC	0.261	3.836
	AVGPISCT	0.196	5.113
	AVGPISTI	0.202	4.939
	AVGTSTM	0.202	4.946
	AVGTSTK	0.253	3.946

[a]Dependent variable: AVGE

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