



EMPLOYABILITY SKILLS FOR IT GRADUATES: INDUSTRY SURVEY ON IMPORTANCE AND ASSESSMENT PROCESSES

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Abstract

Employability Skills are key components of any professional programme offered by any higher education institutions institutes. It is of prime importance for any HEIs to identify key employability skills required for a particular programme, so that these skills can be embedded in the curriculum components and transected through teaching-learning method. This quantitative descriptive study explores the views of the employers on the importance of employability skills required by fresh IT graduates. The study also aims to identify key methods of assessing these employability skills among the graduates. The results of the survey indicated that 'Team Work' and 'Professional and Ethical Behavior' are most important skills by the industry during selecting the fresh IT graduates and interview was the most preferred method to assess these employability skills. The study will be helpful for the HEIs to focus on developing these relevant skills among their graduates. The study will also be helpful for the IT graduates looking for the job to enhance their skills as per the expectations from the employers. The study becomes more contemporary and relevant during COVID-19, where these skills become more vital to gain, retain and sustain the employment.

Key Words: Employability Skills, Employers, IT Graduates, Higher Education,

INTRODUCTION AND RATIONALE

Employability Skills are key components of any professional programme offered by any Higher Education Institutions (HEI). However, the theoretical and empirical evidences suggest that HEIs have been unable to inculcate employability skills among their graduates (Blom & Saeki, 2011; Suleman, 2018; Wye et al., 2009). HE system has always been criticized for its ineffectiveness to identify and embed the generic as well as program specific employability skills in its graduate programme. This phenomenon becomes more critical for professional graduate programme belonging to Science, Technology, Engineering, and Management (STEM), where employers face difficulty to find job-ready graduates (Mcgunagle et al., 2020). Studies done on assessing the employability skills among Indian graduates reveals that the learners graduating from Indian Higher education system are not fully employable and there is the need of continuous research and policy level interventions to address this issue (Blom & Saeki, 2011; Miglani et al., 2018; Patwardhan, 2019; Varghese, 2019). Employers are prime source of information about relevant employability skills and the methods they are using to assess these skills among learners during the hiring process. However; there is communication gap between academia and the industry and due to this the industry requirements are not being translated into academic curriculum leading to generation of employability skill gap. Employability skills are group of transferable set of skills, essentially required for all the job profiles at all the levels. These skills are required to attain and successfully retain the employment (Rosenberg et al., 2012; Suarta et al., 2018; Tymon, 2011). The employability skills have been used with varying terminologies in different countries and the same is illustrated in the table below:

Table 1: Terminologies for Employability skills

Country	Terms Used
United Kingdom	Core Skills, Key Skills, Common Skills
New Zealand	Essential Skills
Australia	Key Competencies, Employability Skills, Generic Skills
Canada	Employability Skills
United States	Basic Skills, Necessary Skills, Workplace Know-How
Singapore	Critical Enabling Skills
France	Transferable Skills
Germany	Key Qualifications
Switzerland	Trans-Disciplinary Goals
Denmark	Process Independent Qualifications

Source: Australian National Training Authority (2003) retrieved from (Kenny, 2007)

Employers and learners are two key stakeholders of HE system and they both are dependent this system to meet each other's requirement. Higher education is responsible to identify the relevant employability skills (with inputs from employers) and transfer these skills among their graduates. At the same time graduates are also responsible to keep them updated with relevant skills to make them marketable and sustain in the competitive job market. However, studies report that there is no symmetry between the perceptions of employers and learners (Mcgunagle et al., 2020; Rosenberg et al., 2012). This difference is creating the employability skill gap which needs to be

bridged by strategic interventions by the higher education. The employability skills gap is a major concern in India (Awadhiya, 2020a) and impacted the IT industry more severely (Singh & Singh, 2017). The literature suggests lack of dialogues between academia and industry to transfer the true requirements of employability skills to the graduates and leading to creation of employability skills gaps. Employers are the key stakeholders to inform about the required employability skills among the graduate and how they assess these skills during recruitment process (Mcgunagle et al., 2020; Rosenberg et al., 2012; Suarta et al., 2018; Tymon, 2011). Considering the above a survey was conducted to identify the contemporary status of importance of employability skills required by the IT graduates. The study provides the latest status of requirement of employability skills and help the higher educational institutes to act accordingly. The study will also inform the learners to understand about the current market demand and help them to prepare themselves as per the requirements of the industry.

METHODOLOGY

This descriptive study used survey method to explore the views

of the employers about the importance of employability skills required by fresh IT graduates. The study also aimed to identify key methods of assessing these employability skills during selection process. The key employability skills required by the IT graduates (Awadhiya, 2020b) were presented to the survey population (employers of Delhi NCR region who employ fresh IT graduates) via online survey questionnaire to identify the level of importance of these employability skills on Likert 5-point scale along with the questions related preferred methods of recruitment process. The data obtained from 82 employer respondents was analysed using descriptive statistical methods.

RESULTS AND DISCUSSION

1. Importance of Employability Skills: In this question the employers were asked to provide their perception on importance level of the employability skills on five-point Likert scale with criterion as 1= 'Not at All Important', 2= 'Less Important', 3= 'Not Sure', 4= 'Important' and 5= 'Very Important'. The question also had the provision to provide additional employability skills considered important by the respondents. Responses to this question are provided in the table below.

Table 2: Employers rating on Importance of Employability Skill

Sr. No.	Employability Skills		Very IMP	IMP	Not Sure	Less IMP	Not at All IMP	Total	Mean	SD
1.	Communication Skills	N	51	29	0	2	0	82	4.6	0.6
		%	62.2	35.4	0.0	2.4	0.0	100		
2.	Problem-solving Skills	N	57	23	2	0	0	82	4.7	0.5
		%	69.5	28.0	2.4	0.0	0.0	100		
3.	Decision-Making Skills	N	23	43	7	9	0	82	4.0	0.9
		%	28.0	52.4	8.5	11.0	0.0	100		
4.	Critical Thinking and Innovative Skills	N	23	49	7	3	0	82	4.1	0.7
		%	28.0	59.8	8.5	3.7	0.0	100		
5.	Team Work	N	63	19	0	0	0	82	4.8	0.4
		%	76.8	23.2	0.0	0.0	0.0	100		
6.	Professionalism and Ethical Behavior	N	55	27	0	0	0	82	4.7	0.5
		%	67.1	32.9	0.0	0.0	0.0	100		
7.	Self-Management	N	36	40	4	2	0	82	4.3	0.7
		%	43.9	48.8	4.9	2.4	0.0	100		
8.	Planning and Managing Skills	N	28	42	7	5	0	82	4.1	0.8
		%	34.1	51.2	8.5	6.1	0.0	100		
9.	Overall Importance	N	42	34	3.4	2.6	0	82	4.4	0.6
		%	51.2	41.5	4.1	3.2	0.0	100		

Data from the above Table -2 is described below:

Communication Skills: Total 62.2% respondents have rated The Importance level of the communication skills as 'Very Important'. Total 35.4% respondents have indicated communication skills as 'Important'. However, total 2.4% respondents rated it as 'Less Important'. No respondent has selected the category 'Not Sure' and 'Not at All Important'. Accordingly, it is observed that total 97.4% employers have considered the communication skills as very important or important thereby generating the mean value (M) as 4.6.

Problem solving Skills: The Importance level of the problem-solving skills have been rated 'Very Important' by 69.5% respondents. Total 28% respondents have indicated problem-solving skills as 'Important'. However, total 2.4% respondents are 'Not Sure' about the importance level of Problem-Solving Skills. No respondent has rated this skill as 'Less Important' or 'Not at All Important'. Accordingly, it is observed that total 97.5% employers have considered the Problem-Solving Skills as very important or important thereby generating the mean value (M) as 4.7.

Decision-Making Skills: The Importance level of the decision-making skills have been rated as 'Important' by maximum 52.4% respondents. Total 28% respondents have indicated this skill as 'Very Important'. Total 8.5% respondents are 'Not Sure' about the importance level of decision-making Skills. However, 11% respondents rated it as 'Less Important'. No respondent has selected the category 'Not at All Important'. Accordingly, it is observed that total 80.4% employers have considered the decision-making skills as very important or important thereby generating the mean value (M) as 4.0.

Critical Thinking and Innovative Skills: The Importance level of the Critical Thinking and Innovative Skills have been rated as 'Important' by maximum 59.8% respondents. Total 28% respondents have indicated this skill as 'Very Important'. Total 8.5% respondents are 'Not Sure' about the importance level of Critical Thinking and Innovative Skills. However, 3.7% respondents rated it as 'Less Important'. No respondent has selected the category 'Not at All Important' for this skill. Accordingly, it is observed that total 87.8% employers have considered the Critical Thinking and Innovative Skills as very important or important thereby generating the mean value (M) as 4.1.

Team Work: The Importance level of the team work skill have been rated 'Very Important' by 76.8% respondents. Total 23.2% respondents have indicated team work skills as 'Important'. No respondent has selected the importance level of team work skills as 'Not Sure' or 'Less Important' or 'Not at All Important'. Accordingly, it is observed that total 100% employers have considered the team work Skills as very important or important thereby generating the mean value (M) as 4.8.

Professionalism and Ethical Behaviour: The Importance level of professionalism and ethical behaviour skill has

been rated 'Very Important' by 67.1% respondents. Total 32.9% respondents have indicated this skill as 'Important'. No respondent has selected the importance level of this skill as 'Not Sure' or 'Less Important' or 'Not at All Important'. Accordingly, it is observed that total 100% employers have considered the professionalism and ethical behaviour Skills as very important or important thereby generating the mean value (M) as 4.7.

Self-Management: The Importance level of the self-management skills have been rated as 'Important' by maximum 48.8% respondents. Total 43.9% respondents have indicated this skill as 'Very Important'. Total 4.9% respondents are 'Not Sure' about the importance level of self-management Skills. However, 2.4% respondents rated it as 'Less Important'. No respondent has selected the category 'Not at All Important'. Accordingly, it is observed that total 92.7% employers have considered the self-management skills as very important or important thereby generating the mean value (M) as 4.3.

Planning and Managing Skills: The Importance level of the planning and managing skills have been rated as 'Important' by maximum 51.2% respondents. Total 34.1% respondents have indicated this skill as 'Very Important'. Total 8.5% respondents are 'Not Sure' about the importance level of planning and managing skills. However, 6.1% respondents rated it as 'Less Important'. No respondent has selected the category 'Not at All Important'. Accordingly, it is observed that total 85.3% employers have considered the planning and managing skills as very important or important thereby generating the mean value (M) as 4.1.

Overall Importance Level: The overall importance level for all the skills have been calculated by averaging the values of each skill. Accordingly, the table describes that average 51.2% respondents have rated all eight skills as "Very Important". Average 41.5% respondents have rated all eight skills as "Important". Average 4.1% respondents are 'Not Sure' about the importance level for all eight skills. However, 3.2% respondents rated all eight skills as 'Less Important'. No respondent has selected the category 'Not at All Important'. Accordingly, it is observed that average 92.7% employers have considered these eight skills as very important or important thereby generating the average mean value (M) as 4.4. Accordingly, it is evident from this discussion that employers have given due importance to all the employability skills presented to them.

Findings of this study are in congruence with other studies (Anicic & Buselic, 2020; Baird & Parayitam, 2019; Bhatnagar, 2020; Matsouka & Mihail, 2016; Sarfraz et al., 2018; Suleman, 2018; Wickramasinghe & Perera, 2010) which have similar views of employers on importance to these employability skills.

Ranking of Employability Skills by Employers: The following Table depicts ranking of the employability by employers as per their mean value.

Table 3: Ranking of Employability Skills by Employers as per mean value

Ranking	Employability Skills	Mean	SD
1	Teamwork	4.8	0.4
2	Professionalism and Ethical Behaviour	4.7	0.5
3	Problem solving Skills	4.7	0.5
4	Communication Skills	4.6	0.6
5	Self-Management	4.3	0.7
6	Critical Thinking and Innovative Skills	4.1	0.7
7	Planning and Managing Skills	4.1	0.8
8	Decision Making Skills	4.0	0.9

As per the table above, the mean values of all the employability skills range from minimum 4.1 to maximum 4.8. This indicates that these skills are of very important consideration for the employers while selecting the IT graduates. The tabulated data also indicates that top five skills rated by the employers were team work ($M=4.8$), problem solving skills ($M=4.7$) and professional and ethical behaviour ($M=4.7$), communication skills ($M=4.5$) and self-management skills ($M=4.3$). On other hand, Critical Thinking and Innovative Skills ($M=4.1$), Planning and Managing Skills ($M=4.1$) and Decision-Making Skills ($M=4.0$) were among low rated skills by the employers. Looking at the top five skills rated by the employers it can be concluded that these skills are most preferred by the employers. These are very basic skills an employee needs to have to enter in to the workforce and execute any entry level jobs. However, the three skills rated low (although they are also very important) are actually higher-level skills and develop in due course of time with experience. Also, these three skills are needed at very initial level for the entry level graduates, since they are not involved in decision making, planning and critical processes. This ranking is very important for the HEIs of IT graduates because this information will help them to imbibe these employability skills among their graduates. HEIs need to assess these skills among their graduating year learners and see in which skills they are lagging behind. Accordingly, institutes can council and train their learners to enhance their competency level. The same is applicable for the learners of IT programmes looking for jobs. Learners need to upgrade these skills so that they meet the expectations of the employers. Again, it is very imperative to mention that importance level of these skills varies from time to time, industry sector, type of job profile, geographical locations etc. Accordingly, HEIs needs to be in constant touch with the employers to cope up with the industry-requirements and prepare their learners accordingly. Similarly, learners should also track the important skills specific for the job-profile they are preparing and gain competency in these skills to increase their chance of getting and retaining

the job. On other hand responsibilities of employers cannot be ignored here. Employers should regularly communicate with the academia for their requirement regarding specific employability skills (besides technical skills). This will help them to get the suitable resumes equipped with their desired employability skills.

Other Important Skills: The respondents were also requested to provide additional employability they perceive as important for fresh IT graduates to have. Some employers provided their inputs which is described below include Deep domain knowledge, Analytical skills, Self-starter, Stress management, collaboration, Pro-activity, Attitude, hands-on technical skills, Knowledge of present IT trends and Ready to learn and do any kind of work, etc.

2. Assessment Methods of Employability Skills During Recruitment: The respondents were asked to provide the assessment method of each employability skills during recruitment. The following table (Table 4) depicts categorized information on assessment method of each employability skills during recruitment.

Table 4: Assessment method of Employability skills

Sr. No.	Employability Skills	N/ %	Assessment method		
			Written Test	Interview	Observation
1	Communication Skills	N	30	75	20
		%	37	91	24
2	Problem solving Skills	N	52	57	22
		%	63	70	27
3	Decision Making Skills	N	29	67	28
		%	35	82	34
4	Critical Thinking and Innovative Skills	N	29	68	32
		%	35	83	39
5	Teamwork	N	14	55	45
		%	17	67	55
6	Professionalism and Ethical Behaviour	N	17	59	45
		%	21	72	55
7	Self-Management	N	14	52	43
		%	17	63	52
8	Planning and Managing Skills	N	20	63	31
		%	24	77	38

Note: Total Value of N is more than 82, because respondents have selected more than one options.

Data regarding assessment methods for each skill from the above table (Table 4) is described below

Communication Skills: Total 91% respondents have selected the assessment method for communication skills as 'Interview'. Total 37% respondents have indicated the assessment method for this skill as 'Written Test' followed by 24% respondents mentioning the assessment method as 'Observation'. As per this discussion we can conclude that "Interview" is the most preferred method for assessment of communication skills.

Problem Solving Skills: Total 70% respondents have selected the assessment method for problem solving skills as 'Interview'. Total 63% respondents have indicated the assessment method for this skill as 'Written Test' followed by 24% respondents mentioning the assessment method as 'Observation'. As per this discussion we can conclude that employers are giving due consideration to "Interview" and 'Written Test' as the most preferred method for assessment of problem-solving skills.

Decision Making Skills: Maximum 82% respondents have labelled 'Interview' as the assessment method for decision-making skills. Total 35% respondents have indicated the assessment method for this skill as 'Written Test' followed by 24% respondents stating the assessment method as 'Observation'. As per this discussion we can conclude that "Interview" is the most preferred method for assessment of decision-making skills.

Critical Thinking and Innovative Skills: Maximum 83% respondents have identified 'Interview' as the assessment method for decision-making skills. Total 35% respondents have specified the assessment method for this skill as 'Written Test' followed by 39% respondents confirming the assessment method as 'Observation'. As per this discussion we can conclude that "Interview" is the most preferred method for assessment of decision-making skills.

Teamwork: Total 67% respondents have stated the assessment method for teamwork skills as 'Interview' process. Total 55% respondents have conveyed the assessment method for teamwork skills as 'Observation' method. Total 17 respondents mentioning the assessment method for this skill as 'Written Test'. As per this discussion we can conclude that employers are giving due consideration to "Interview" and 'Observation' method as the most preferred method for assessment of teamwork skills.

Professionalism and Ethical Behaviour: Total 72% respondents have identified the assessment method for professionalism and ethical behaviour skills as 'Interview'. Total 55% respondents have mentioned the assessment method this skill as 'Observation' method followed by 21% respondents specifying 'Written Test' as the assessment method for this skill. As per this discussion we can conclude that employers are giving due consideration to "Interview" and 'Observation' method as the most preferred method for assessment of professionalism and ethical behaviour skills.

Self-Management: Total 63% respondents have indicated the assessment method for self-management skills as 'Interview' process. Total 52% respondents have identified the assessment method for self-management skills as 'Observation' method. Total 17 respondents mentioning the assessment method for this skill as 'Written Test'. As per this discussion we can conclude that employers are giving due consideration to "Interview" and 'Observation' method as the most preferred method for assessment of teamwork skills.

Planning and Managing Skills: Total 77% respondents have selected the assessment method for planning and managing skills as 'Interview'. Total 38% respondents have indicated the assessment method for this skill as 'Observation' followed by 24% respondents mentioning the assessment method as 'Written Test'. As per this discussion we can conclude that "Interview" is the most preferred method for assessment of planning and managing skills. As per the above description, we can say that 'Interview' is the most preferred choice for the employers for assessing all employability skills identified for this study. However, employers have also given importance to "Observation" method for assessing teamwork, professionalism and ethical behaviour and self-management skills. Written test is least preferred by the employers as assessment method. Employers have also given importance to "written test" method for assessing problem solving skills. It can be concluded that HEIs have to train their learners through practical approaches so that the learners get the insights of the skills to face the employers. These employability skills are soft-skills and only theoretical training in these skills will not be fruitful for making the learners employable. There needs to be hands-on training, internship, on-job training for these skills to meet the expectations of the employers.

CONCLUSION

The study concludes the level of importance of key employability skills as per the view points of the recruiters. Top three skills identified by the employers are team work, professionalism and ethical behaviour, problem-solving skills. This shows that companies give due emphasis (besides academic skills) on personal traits and employability skills (Chhinzer, 2017; Wickramasinghe & Perera, 2010). HEIs needs to focus on inculcating these skills among IT graduates along with disseminating domain-specific skills (Awadhiya, 2020). The results indicate that almost every company is conducting the interview to judge the candidate before selecting. This means that employers are not completely relying on the educational credentials of the graduates and they are ascertaining these credentials and skills through interview. Employers also conducting written test also indicates lack of reliance on the competency and skills gained in the educational institutes. The treaty where graduates used-to be employed on the basis of their academic testimonials has been disappeared and employers are directly engaging themselves to identify suitable candidates. Employers are also not depending on particular institutions for campus recruitment. Rather they are organizing hackathon and recruitment drive to attract best candidates from various institutes. Both these observations are pragmatic and reflecting

that industry does not have the confidence on academia about supply of job ready graduates (Malik & Venkatraman, 2017; Suleman, 2018). The study will be helpful for the HEIs to focus on developing these relevant skills among their graduates. The study will also be helpful for the IT graduates looking for the job to enhance their skills as per the expectations from the employers. The study becomes more contemporary and relevant during COVID-19, where these skills become more vital to gain, retain and sustain the employment. However, there is a need for more extensive research towards these employability skills post-COVID period, because of completely new norms of work culture in the organizations.

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