Employability Skill Gap Analysis Among the Engineering Students and Industry Expectation in Chennai with Structural Equation Model

J. Kavitha, N.Sumathi

Abstract—Theindian training machine is transforming into capability based totally completely definitely studying to get a higher fruitful output. the educational companies is aware about that improving and nurturing of employability skills is probably very important for india's persisted competitiveness to face the developing enormously aggressive global market. even as there may be super statistics in india, the proportion of corporation-prepared candidates is alarmingly low, posing a big task for the corporation in meeting its requirement, questioning the destiny of engineering graduates coming out of the university and college portals. Attributes to this hassle are many. each day a present day challenge is performing. everybody seems for a tailor made solution. Dynamism can be very a whole lot injected into the device. because of this the traits and education imparted in the establishments for regular solution might be certainly inadequate to fulfill the modern-day day dreams. The competencies gap on the economic surroundings amongst enterprise's expectations and the engineering graduates' competency, is getting widened due to many reasons, each from the part of the enterprise and from the part of the candidate. This problem is indicated and highlighted in this take a look at for research.

Key Words:Employability Skills, Industry Expectations, Academic System, Engineering Graduates, Industry Employers.

I. INTRODUCTION

we are in the section of pretty competitive and versatile international of agency everywhere in the global. In todays cutting-edge financial device corporation expects education institutions to provide university university college students with employability talents which can be required for hobby. The skills associated problems of expectancies employers and delivery of employees are twined collectively. First and fundamental we want to understand the gaps a few of the talents of the employees and the expectancies of the employers after which remedial actions can be undertaken. schooling and schooling create belongings in the form of facts and abilties which growth the green capability of manpower and this is called human capital. schooling is taken into consideration to be a gadget of talent formation and in this problem it's far handled at par with the approach of capital formation. on the identical time as at the simplest aspect we've the area's big stock of scientists, engineers and manage graduates, we were not able to derive whole financial gain from this understanding base because of the mismatch among corporation desires and university output. The meet the intense functionality shortage of the graduates the agency and training institutes have emerge as extra strategic about growing employability capabilities. The corporation organizations are changing their schooling and trends and recruitments talents strategically. The Indian schooling device is reworking into capability based totally reading to get a higher fruitful output. the educational companies is aware about that improving and nurturing of employability skills may be very essential for India's persevered competitiveness to face the growing highly competitive international market. The corporate agencies look for the trendy employees who're inclined to check more and which encompass charge to the enterprise corporation further to themselves. at the identical time as in search of to understand the ability of higher schooling to make a contribution to monetary properly-being it's far crucial to differentiate a number of the formations of undertaking specific understandings and skills and the promoting of diverse valued abilties, capabilities and dispositions. the 2 exceptional troubles of employers nowadays are finding suitable employees and training them. The distinction most of the abilities desired on the procedure and people possessed by means of way of manner of way of candidates, sometimes referred to as the abilities-hole, is of real state of affairs to human useful useful resource managers and enterprise employer owners looking for to hire ready employees. at the same time as employers must favor to rent parents which are expert and organized to visit paintings, they are usually now not willing to offer the specialized, process-specific schooling essential for the ones lacking such capabilities.

II. ANNOUNCEMENT OF THE PROBLEM

agency is shifting thru essential tiers which warrant maximum amount of adjustments in products, methods, techniques, appearance and plenty of various factors. in advance an enterprise enterprise might be generating only a few style of gadgets with minimum huge type of options in the same variety, even as nowadays variety and novelty with wider implications and programs have end up the pleasure

Revised Manuscript Received on May 29, 2019.

Dr. J. Kavitha,Associate Professor, Department of Management and Research, Adaikalamatha College, Vallam, Thanjavur, T.N, India. (E mail: kavithasundar@gmail.com)

Dr.N.Sumathi,Professor and Research Advisor, Department of Management and Research, Adaikalamatha College, Vallam, Thanjavur, T.N, India. (E mail: sumathiv80@gmail.com)

phrase. presently on the identical time as there can be no dearth of opportunities inside the employment situation, there is a important loss of employable know-how. at the equal time as there's considerable skills in India, the share of organization-geared up candidates is alarmingly low, posing a big undertaking for the corporation in assembly its requirement, wondering the future of engineering graduates popping out of the college and university portals. Attributes to this hassle are many. every day a new undertaking is acting. all of us seems for a tailor made solution. Dynamism can be very an entire lot injected into the device. consequently the inclinations and training imparted in the institutions for everyday solution is probably in reality insufficient to satisfy the modern-day-day dreams. The competencies hole on the monetary surroundings amongst enterprise's expectations and the Engineering Graduates' competency, is getting widened due to many reasons, every from the part of the organization and from the part of the candidate. This trouble is indicated and highlighted in this have a take a look at for research.

III. STUDIES DREAMS

1. To find out the employability capabilities of the engineering graduates within the decided on institutions at Chennai.
2. To understand the enterprise corporation expectancies towards the employability skills of engineering graduates for recruitment.
3. To take a look at the employability skills possessed via the engineering graduates and the expectations of the corporation employers.

IV. METHOD

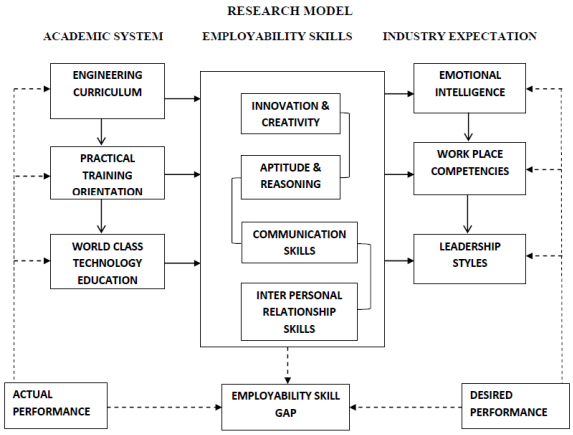
Chennai, the capital of Tamil Nadu is selected as the geographical vicinity of the check. The Engineering graduates of their very last one year are considered as population of the look at for segment 1 survey of the studies. nearly 60,000 engineering graduates skip out from the engineering establishments yearly which maintain growing three hundred and sixty five days after 3 hundred and sixty five days. Out of 60,000 engineers who graduate every 12 months, the winning have a have a look at considers 500 graduates.

Out of 123 categories of industrial sectors and approximately about 534 businesses (https://en.Wikipedia.Org/wiki/magnificence:Companies_based_in_Chennai), the HR executives of 50 decided on companies in Chennai associated in production, IT, merchandize and commercial enterprise business enterprise enterpriseenterprise alone is considered for the section 2 survey of the research have a have a look at. A non – hazard sampling technique wherein the researcher uses his judgment to pick out out from some of the population of the engineering graduates and numerous enterprise region HR executives whom he feels will supply him the popular or correct records is the judgmental sampling technique. due to the fact the researcher desires a selected organisation of human beings whose records information relates to the purpose of the have a look at, this technique is observed for sampling. Judgmental Sampling entails the choice of subjects who are nicely equipped with the statistics so that you can be relevant to the researchers interest. In special terms the selection of the sample displays the cause or the intention of the research.

V. CONCEPTUAL FRAMEWORK

The studies takes the instructional system of the technical institutions, Employability abilties and the employer expectancies due to the reality the essential independent variables as dimensions and the employability talents hole is the based totally variable as the possibility dimension. it's far studied how and to what quantity the unbiased variables make changes within the primarily based variable. The proposed conceptual research model indicates the gadget of studies as follows:

Fig – 1.1



VI. ANALYSIS AND INTREPRETATION

The evaluation entails two sets of statistics belonging to the two extremely good training of respondents. The primary set of respondents is employed experts who are HR executives responsible for recruiting suitable candidates to the corporations for employment. the second set of respondents are the students of their final yr present method the course in outstanding engineering establishments affiliated to Anna university and unique deemed universities in Chennai. The assessment is finished the usage of structural equation modelling to determine the health of the studies version framed for the have a have a examine. Structural equation modeling is a multivariate statistical evaluation method that is used to research structural relationships. This approach is the aggregate of difficulty evaluation and multiple regression assessment, and it is used to research the structural dating among measured variables and latent constructs. on this assessment, kinds of variables are used endogenous variables and exogenous variables. Endogenous variables are equal to based variables and are same to the independent variable. Having expected a version, analysts will interpret the model.

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication

Table – 1.1
Summary of the variables used for the analysis

Number of variables in your model	26
Number of observed variables	16
Number of unobserved variables	10
Number of exogenous variables	16
Number of endogenous variables	10

Source: Output generated from Amos 20.

Table – 1.2
Regression weights for Structural Equation Model for employability skill gap analysis among the engineering students and industry expectation

Regression weights	Un standardized Estimate	S.E.	Standardized Estimate	C.R.	P
Employability skills in respect of innovation and creativity of students <--- Academic system in respect of engineering curriculum	.039	.188	.039	.208	.835
Employability skills in respect of aptitude and reasoning of students <--- Academic system in respect of engineering curriculum	.027	.147	.033	.187	.852
Employability skills in respect of communication skills of students <--- Academic system in respect of engineering curriculum	-.145	1.076	-.033	-.135	.893
Employability skills in respect of interpersonal relationship skills of students <--- Academic system in respect of practical training orientation	.967	1.329	.190	.728	.467
Employability skills in respect of interpersonal relationship skills of students <--- Academic system in respect of engineering curriculum	-.811	.880	-.240	-.922	.357
Employability skills in respect of innovation and creativity of students <--- Academic system in respect of practical training orientation	.090	.284	.059	.316	.752
Employability skills in respect of aptitude and reasoning of students <--- Academic system in respect of practical training orientation	-.053	.230	-.042	-.230	.818
Employability skills in respect of communication skills of students <--- Academic system in respect of practical training orientation	.195	1.624	.029	.120	.904
Employability skills in respect of innovation and creativity of students <--- Academic system in respect of technology and education	1.116	.162	.697	6.882	***
Employability skills in respect of aptitude and reasoning of students <--- Academic system in respect of technology and education	.886	.135	.665	6.574	***
Employability skills in respect of communication skills of students <--- Academic system in respect of technology and education	-.533	.926	-.077	-.576	.565
Employability skills in respect of interpersonal relationship skills of students <--- Academic system in respect of technology and education	.437	.758	.081	.576	.565
HR executives expectation towards aptitude and reasoning <--- HR executives opinion towards emotional intelligence	.062	.112	.080	.555	.579
HR executives expectation towards aptitude and reasoning <--- HR executives opinion towards workplace competency	.033	.115	.043	.285	.775

Regression weights	Un standardized Estimate	S.E.	Standardized Estimate	C.R.	P
HR executives expectation towards aptitude and reasoning <--- HR executives opinion towards leadership skills	.062	.165	.055	.376	.707
HR executives expectation towards innovation and creativity <--- HR executives opinion towards emotional intelligence	.023	.083	.040	.281	.779
HR executives expectation towards communication skills <--- HR executives opinion towards emotional intelligence	.040	.095	.055	.417	.677
HR executives expectation towards interpersonal relationship skills<--- HR executives opinion towards emotional intelligence	.032	.086	.049	.374	.709
HR executives expectation towards innovation and creativity <--- HR executives opinion towards workplace competency	.019	.086	.033	.222	.825
HR executives expectation towards communication skills <--- HR executives opinion towards workplace competency	.235	.098	.328	2.399	.016
HR executives expectation towards interpersonal relationship skills <--- HR executives opinion towards workplace competency	.170	.089	.260	1.913	.056
HR executives expectation towards innovation and creativity <--- HR executives opinion towards leadership skills	.139	.123	.166	1.134	.257
HR executives expectation towards communication skills <--- HR executives opinion towards leadership skills	.161	.140	.156	1.151	.250
HR executives expectation towards interpersonal relationship skills <--- HR executives opinion towards leadership skills	.150	.127	.158	1.180	.238
Overall employability skills of the engineering students <--- Employability skills in respect of innovation and creativity of students	4.145	2.008	8.001	2.064	.039
Overall employability skills of the engineering students <--- Employability skills in respect of aptitude and reasoning of students	-5.259	2.570	-8.441	-2.047	.041
Overall employability skills of the engineering students <--- Employability skills in respect of communication skills of students	-.005	.008	-.038	-.575	.566
Overall employability skills of the engineering students <--- Employability skills in respect of interpersonal relationship skills of students	.013	.010	.082	1.221	.222
Overall employability skills of the engineering students <--- HR executives expectation towards aptitude and reasoning	.036	.011	.215	3.232	.001
Overall satisfaction of HR executives towards performance of the students <--- HR executives expectation towards innovation and creativity	-.010	.049	-.025	-.200	.842
Overall satisfaction of HR executives towards performance of the students<--- HR executives expectation towards aptitude and reasoning	-.035	.040	-.119	-.860	.390
Overall satisfaction of HR executives towards performance of the students <--- HR executives expectation towards communication skills	-.010	.059	-.031	-.166	.868
Overall satisfaction of HR executives towards performance of the students <--- HR executives expectation towards interpersonal relationship skills	.103	.063	.301	1.636	.102

Regression weights	Un standardized Estimate	S.E.	Standardized Estimate	C.R.	P
Overall satisfaction of HR executives towards performance of the students <--- Overall employability skills of the engineering students	.120	.227	.068	.530	.596
Overall satisfaction of HR executives towards performance of the students <--- HR executives opinion towards workplace competency	-.103	.031	-.459	-3.337	***

Source: Output generated from Amos 20.

Figure – 1.2
Unstandardized estimate for employability skill gap analysis among the engineering students and industry expectation

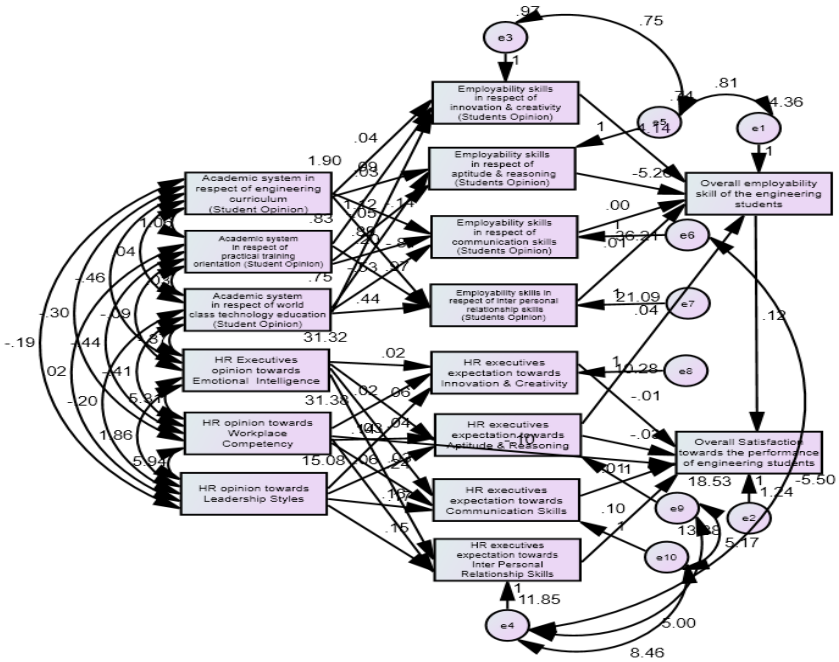


Figure – 1.3
Standardized estimate for employability skill gap analysis among the engineering students and industry expectation

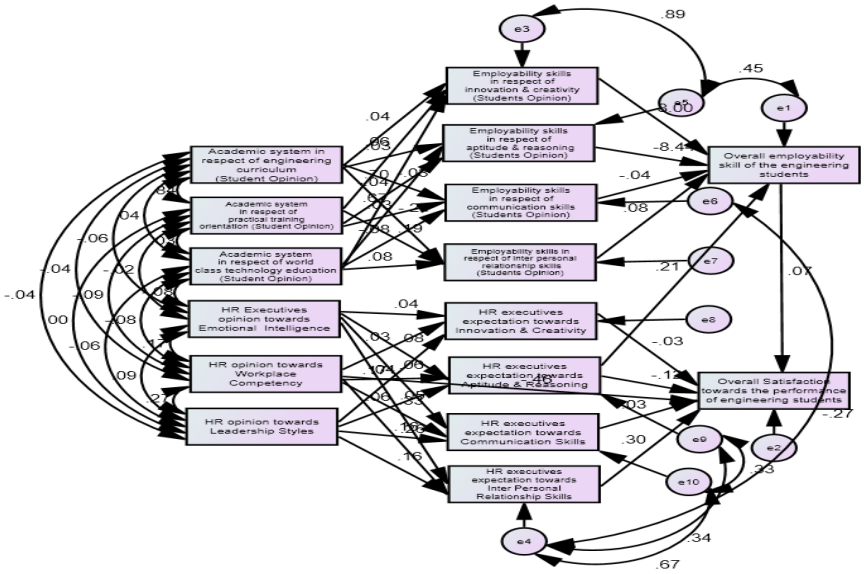


Table – 1.3
Model Fit Summary for employability skill gap analysis among the engineering students and industry expectation

Indices	Value	Suggested Value
Chi-square value	73.008	
P value	0.206	>0.05 (Hair et al., 1998)
CMIN/DF	1.144	< 5 (Marsh&Hocevar,1985)
GFI	0.901	>0.90 (Hu and Bentler, 1999)
AGFI	0.922	>0.90 (Hair et al. 2006)
CFI	0.972	>0.90 (Daireet al., 2008
RMR	1.128	<0.08(Hairet al. 2006)
RMSEA	0.054	<0.08(Hair et al. 2006)

Source: Output generated from Amos 20

From the above table it is found that the calculated P value is 0.206 which is greater than 0.05 which indicates the model is fit. And also CMIN value is 10144 which is less than 5 which indicates the model is fit. Here GFI (Goodness of Fit Index) value and AGFI **(**Adjusted Goodness of Fit Index) value is greater than 0.9 which represent it is a good fit. The calculated CFI **(**Comparative Fit Index) value is 0.999 which means that it is a perfectly fit and also it is found that RMR (Root Mean Square Residuals) value is 1.128 and RMSEA **(**Root Mean Square Error of Approximation) value is 0.054 which is less than 0.10 which indicated it is perfectly fit.

VII. FINDINGS

The studies takes the instructional system of the technical institutions, Employability competencies of the engineering college college students and the corporation expectations as the most impartial variables as dimensions and the employability capability hollow is the primarily based totally variable as the other measurement. The studies takes training of respondents in particular the engineering graduates and the HR executives of organisation in Chennai. From the scholars, the socio-demographic profile of the scholars, the academic tool with understand to engineering curriculum, realistic training orientation, international beauty era education are taken as impartial variables and Employability abilities with appreciate to innovation & creativity, aptitude & reasoning, verbal exchange abilties and inter non-public relationship talents are taken because of the reality the based totally variables for figuring out the employability know-how hollow evaluation some of the engineering university students.

From the HR executives, socio-demographic profile of the employer, enterprise expectations with admire to emotional intelligence a number of the engineering graduates, administrative center competency, management styles are taken as unbiased variables and HR executives' opinion within the route of Employability skills in recognize of innovation & creativity, flair & reasoning, verbal exchange capabilities and inter private relationship capabilities are taken due to the fact the based absolutely variables for figuring out the employability talent hole evaluation the numerous engineering students. properproper here the final output of the studies is not uncommon pride of the HR executives closer to the overall overall performance the engineering college college students. it is studied how and to what amount the impartial variables make adjustments inside the based variable. The proposed conceptual studies model confirms that the maximum crucial variables (the socio-demographic profile of the students, the variables beneath instructional machine, the factors below Employability competencies, socio-demographic profile of the organisation, corporation expectancies, HR executives' opinion in the path of Employability skills, all make an effect on the overall employability skills of the scholars and normal delight of the HR executives towards the general performance of the scholars by manner of way of manner of using structural Equation version and precise SPSS gear. The characteristic of the variables is at big quantity in order that the overall delight of the HR executives closer to the overall typical performance of the students is predicated upon on them. but, it's miles very essential that no unmarried variable impacts the general pleasure of the HR executives inside the route of the overall performance of the scholars. even as two or more variables integrate collectively, then the overall pride of the HR executives in the direction of the general performance of the scholars will increase or decreases.

VIII. SURRENDER

to control up with the aggressive hobby sell it is important to do greater than truely the history and qualifications. Graduates have a tendency to fail in succeeding with their employability abilties because of the truth they in no way display or talk; as a substitute best imparting their real credentials. Employers select out at the graduates who can waft amongst severa stressful situations and assignments drawing upon their talents. This take a look at has provided some facts about the employability talents favored with the beneficial aid of employers, while recruiting their destiny employees, particularly, related to engineering graduates. same interest is given to difficult or technical abilties, as well as to smooth talents. without this aggregate, employers will become recruiting one-dimensional employees denying them a employees

with the capability of multi-tasking and capability to execute their obligations properly. the academic establishments ought to ensure that they have got consistent engagement with organization so as to stumble on the modifications in organisation quick. The capability to do this may permit universities to react proactively to any adjustments taking area in company. Universities won't be able to put in force all the modifications proper now, however have so as to modify regularly, consequently, ensuring that their graduates are relevant to the desires of company.

REFERENCES

1. Azamizaharim, e. (2009). "Employers perception inside the path of engineering employability capabilities in Asia. WSEAS Transactions on advances in Engineering training, issue 6,vol.three, pp306-315.
2. Becker, G.S., (1962). "investment in Human Capital: A Theoretical evaluation. Columbia university and countrywide Bureau of monetary research" journal Political economic device 5, pp.nine-forty 9.
3. Cotton, good enough. (1993), growing Employability abilties, Northwest nearby academic Laboratory, to be had at: www.Nwrel.Org/scpd/sirs/8/c015.Html
4. Fallows, S. And Steven, C. (2000), "building employability capabilities into the higher schooling curriculum: a university-massive initiative", training þ training, Vol. forty No. 2, pp. 75-eighty .
5. Gokuladas, V. properly enough. (2010). Technical and non-technical schooling and the employability of engineering graduates: an Indian case take a look at. global magazine of training and development, 14(2), a hundred thirty-143.
6. Lakshminarayanan, R., Kumar, M., &Ramanakumar, ok. V. P. (2014, can also moreover furthermore). Six sigma approach for addressing employability hassle of engineering graduates. international mag of cutting-edge training forum, 3(2), 59-66. Dx.Doi.Org/10.14355/ijmef.2014.0302.04.