

# Factors Impacting Employability Skills of Engineers

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**Abstract:** *In this research an attempt has been made to identify the factors impacting employability skills of engineering graduates from the state of Chhattisgarh (India). An incidental non probabilistic sample of 75 graduate engineers from a group of assorted organizations was identified. Care was taken to select engineers with a minimum of 5 years of experience. Employability Questionnaire was developed and administered. Five independent variables have been identified to make a significant impact on employability skills of engineering graduates in the state of Chhattisgarh (India). These are Domain Knowledge, Empathy, Communication Skills, Motivation and Managerial Ability.*

**Keywords:** Employability, Empathy, Communication, Career, Managerial Ability

## 1. Introduction

In today's era of high expectations and ever changing rules of the game, EMPLOYABILITY plays a vital role in the professional success of an individual. Today's organizations are looking for the kind of manpower which not just has the basic academic knowledge but also has the ability to bridge between their available skill sets and the elementary needs of the respective job. A fresh engineering graduate who joins an organization has the first challenge to prove that she/he can adopt the company's cultural ecosystem and deliver performance as per the demands raised.

Not just to get through the barrier of selection process but also to continue to be employed uninterruptedly, one is required to possess much more than an engineering degree. Today's employee has to establish and connect with the business needs and team desires. In short, it is the employability skills which play a major role in determining the career-ability of graduates. Employability is about prospective employees gaining the skills and capacities required to enter and succeed in the labor market, and adapting to the environment to support them at work in the long run.

Lately 'employability' has been a big concern and an agenda for national discussion. In an enlightening statement, the Chief Mentor for Infosys, Mr. NR Narayan Murthy said that even the IIT's are not delivering quality engineers. The future demand of engineers by the industry is likely to be voluminous and given the adequate number of engineering institutes in Chhattisgarh (India) the education system seems to be capable of delivering those numbers of engineers. However the challenge for the institutes is to deliver ready to employ (employable) engineers. Through this research an attempt has been made to identify the factors impacting employability skills of engineering graduates from the state of Chhattisgarh (India).

## 2. Objective

The objective of the research is to identify the factors impacting the employability of engineering graduates in the state of Chhattisgarh.

## 3. Methodology

Sample: An incidental sample of 75 employed engineers constituted the sample of the present research. These engineers were those who had a work experience of at least five years.

## 4. Research Instrument

'Employability Questionnaire': An appropriate instrument is required for data collection. This instrument needs some base and background of independent and dependent variables. For the purpose of the study, employability skills of engineering graduates have been considered as dependent variable and 'Employability Questionnaire' has been developed. The five parameters of the primary instrument have been considered as independent variable for data collection as shown in table no 1.1.

**Table 1.1:** Independent and Dependent Variables

<i>Dependent Variables</i>	<i>Independent Variable</i>
Domain Knowledge	<b>EMPLOYABILITY SKILLS</b>
Empathy	
Communication Skills	
Motivation	
Managerial Ability	

## 5. Procedure

An incidental sample of 75 employed engineers was selected from a mix of industries consisting of telecommunication, media, thermal power, sponge iron and finance from Chhattisgarh (India). This data was identified keeping the criterion of 5 years job experience in the industry in mind. The 'Employability Questionnaire' was administered on these engineers.

The conclusive research design was applied in this study to analyze the impact of the five factors of employability on engineers. Non-probabilistic convenience sampling

method was adopted for data collection. The data were collected through structured questionnaires. The questions were asked on seven point likert scale from the respondents. The questionnaire consisted of six sections i.e. Employability Skills, Domain Knowledge, Empathy, Communication Skills, Motivation and Managerial Ability.

### 6. Hypotheses

The following hypothesis has been framed as per the research model:

- H1: Domain Knowledge has a significant impact on employability skills.
- H2: Empathy has a significant impact on employability skills.
- H3: Communication Skills has a significant impact on employability skills.
- H4: Motivation has a significant impact on employability skills.
- H5: Managerial Ability has a significant impact on employability skills.

### 7. Outcome of the Study

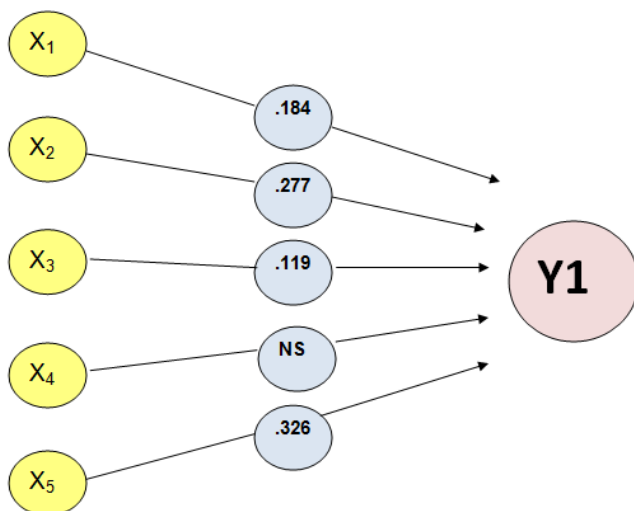


Figure 1.2: Outcome of the study

$$\text{Regression Equation: } \hat{Y} = 2.867 + .184 X_1 + .277X_2 + .119 X_3 + .326 X_5 + \mu$$

### 8. Results & Discussion

The analysis has been made on 5% level of significance with the help of IBM Statistical Package for the Social Sciences (SPSS 21.0).

This study has been conducted through Multivariate Analysis in which the primary data has been collected through structured questionnaire on non probability sampling design. The data collected on the 7 point likert scale from the employable engineers has been tabulated and analyzed through multiple regression analysis in which Domain Knowledge, Empathy, Communication Skills, Motivation and Managerial Ability have been taken to be the independent variables against “Employability

Skills” as the dependent variable. Regression analysis was used to find the causal relationship between independent and dependent variables i.e. to determine the impact of parameters employability of engineers. The result of the study has been shown in figure no. 1.2. (Outcome of the study)

Significance statistics states that the following hypotheses have been accepted:

- H1: Domain Knowledge has a significant impact on employability skills.
  - H2: Empathy has a significant impact on employability skills.
  - H3: Communication Skills has a significant impact on employability skills.
  - H5: Managerial Ability has a significant impact on employability skills.
- However H4 is rejected.  
H4: Motivation has no significant impact on employability skills.

This mean to indicate that the independent variables Domain Knowledge, Empathy, Communication Skills & Managerial Ability have significant impact on the employability of engineering graduates in the state of Chhattisgarh (India).

However the independent variable ‘Motivation’ has not been observed to be significant and as such it can be concluded that the factor of motivation has no significant impact on the employability of engineering graduates in the state of Chhattisgarh (India).

### 9. Discussion of the Result

The challenge for the engineering institutes in the country today has been to churn out employable engineering graduates as per the need of the industry. While a lot has been done in this direction still the gap in between the engineers churned out by the institutes and the expectations of the industry has been widening continuously. The primary objective of the study has been to investigate and examine the various parameters of employability of engineering graduates and to draw an outline of conceptual research for further empirical testing to predict relationships between those parameters and employability of engineers.

Significance statistics states that H1, H2, H3 & H5 are accepted while H4 is rejected. It means the variables Domain Knowledge, Empathy, Communication Skills & Managerial Ability have significant impact on the employability of engineering graduates. However the independent variable ‘Motivation’ has not been observed to have made any significant impact on the employability of engineering graduates.

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### Author's Profile

**Ajit Varwandkar** is a professional career coach in central India and has received the state cadre award "Shahid Veer Narayan Singh Smriti Award" from honorable President of India Shri Pranab Mukharjee on 6.11.2012. He did PGDHR from IGNOU, MBA (Marketing) from IMS, Indore, India, and BE (Mechanical) from National Institute of Technology, Raipur, Chhatisgarh, India.