

This chapter aims to provide a description of the methodology adopted for conducting the study including the research design, theoretical foundation, definition of the constructs, sampling technique, reliability of the tool, validity of the tool, and the unit of analysis.

#### **3.1) Research Design and Sampling Method**

The study has adopted the con-current research design. Triangulation method of qualitative and quantitative techniques has been used to collect the data. The sample includes the undergraduate engineering students of communication courses and teachers from the same courses from the universities of New Delhi, and some universities from the National Capital Region. A list of all the central, state, deemed, and state private universities was obtained from the University Grants Commission's Annual report. Prior permission was taken from the concerned authorities of the universities. Students from Communication skills courses were selected through random sampling. All the teachers of Communication courses were considered for structured interviews.

#### **3.2) Characteristics of the Sample**

The population involved in the study is divided into several groups according to their demographic characteristics. Teachers and students of communication skills courses were taken as the final respondents for the study. All the students belonged to the same age group, i.e. approximately between 19 to 23 years. Teachers belonged to the age group category of 26 years to 55 years. The population was divided into 2 groups based on gender as male and female. Some respondents had less number of years of experience using IBP, whereas some

had several years of usage experience. So, the sample population was also categorized based on experience in using IBPs. The sample population was drawn from two university categories- public and private. The population was a mixed population with, different work environments, opportunities and constraints. An attempt has been made in the study to find out the effect of this diverse environment with other factors on the IBP acceptance behavior of the students.

### **3.3) Design of the Survey Questionnaire and the Pilot Study**

Two survey questionnaires and one structured interview was used to collect data from the respondents. One questionnaire was designed to measure the intensity of use of IBPs by the respondents. The second questionnaire was designed to observe and analyze their acceptance behavior, and it was based on the UTAUT theoretical framework. The constructs and items of the theoretical model were modified according to the present study. The third tool which was a set of questions for interview was designed for teachers. All the three tools have been attached in Appendix 2, Appendix 3, and Appendix 4 respectively.

To measure the intensity of the usage of IBPs by the student population, a questionnaire was prepared. This questionnaire involves the questions about the preferred tasks, the preferred platforms, the preferred interface, the benefits, and the place where they mostly prefer to access the Internet Based Platforms. The purpose of this questionnaire was to get an understanding of the usage behavior of the students, their preferences, their choices, and their perception towards certain IBPs.

The second questionnaire was designed to understand the factors responsible for their IBPs acceptance and usage. The questionnaire was based on the theoretical model used for the study i.e. UTAUT. Since UTAUT framework has evolved from the amalgamation of other theories, it was deemed appropriate to study the original constructs of the previous theories. The constructs were redefined in the context of IBP acceptance by the population of the

study and they were Attitude, Subjective Norm, Perceived Usefulness, Perceived Ease of Use, Extrinsic Motivation, Intrinsic Motivation, Perceived Behavioral Control, Job-fit, Complexity, Long-Term Consequences, Affect towards Use, Social Factors, Facilitating Conditions, Outcome Expectations Personal, Outcome Expectations Professional, Self-Efficacy and Anxiety. Students were instructed to rank these constructs according to the importance they give to these while using IBP. This initial study was conducted in five institutes. After analyzing the results, final constructs were drawn and items were formulated accordingly, and the questionnaires were sent for expert opinions. Comments and feedback was received and questionnaire was finalized. A pilot study was conducted using the final tool. The main motive for conducting the pilot study was to check the reliability of the questionnaire. The Cronbach's Alpha values obtained were statistically significant. All the items were on a 5-point Likert scale ranging from 1 to 5. 1 stands for Strong Disagreement, 2 for Disagreement, 3 for Neutral, 4 for Agreement, and 5 for Strong Agreement.

To know the perception of teachers of Communication skills courses, structured interview question set was designed. Moreover, the information which is not directly related to the topic was also gathered. The interviews were recorded using software in the android mobile phone, which followed with transcriptions where active listening was involved. Various themes emerged from their responses, which have been discussed in the results and discussion section.

### **3.4) Operationalization of Constructs**

All the main independent variables, and the moderating variables used in the study have been discussed in the present section. The first construct is Performance Expectancy (PE). It refers to the perceived gain in the performance of the student by using IBPs. The construct refers the following factors, perceived time save, perceived efficiency enhancement, perceived usefulness, and perceived knowledge enhancement. The second construct is Effort

Expectancy (EE). It refers to the perceived amount of effort a user needs to use IBPs. The construct addresses the issues such as, less effort to use, train and learn the IBPs technologies. The third construct is Social Influence (SI). It refers to the degree to which a student believes that his/her immediate social circle would influence his/her decision to use IBPs. The items addressed issues such as the influence of his/her friends, teachers, and parents etc. in using IBP. The fourth construct is Facilitating Conditions (FC). This determiner directly influences the usage behavior unlike all other independent variables which affect the intention to use IBP, because availability of infrastructure either leads to usage or rejection. It refers to the availability of the infrastructure and facilities made available by the university. The next construct is Self Efficacy (SE). It refers to the perceived confidence on self-capability in using IBPs without taking any body's help, or seeking technical support if needed. The next construct is Anxiety (ANX). It refers to the perceived feeling of lack of anxiety, fear and hesitation while using IBP. In the present context, the construct probes whether users suffer from the fear of unknown, loss of data, feeling of insecurity. The next variable is Intention to Use (IOU) IBP, which acts as a dependent variable for the 5 constructs mentioned above, except Facilitating Conditions, which acts as a direct determiner for usage. It refers to the perceived positive intention formed by the users of IBPs. It has been observed in previous studies that a positive intention towards using any technology eventually leads to the actual usage. The dependent variable Use (U) refers to the perceived decision a user makes to use IBPs. In order to observe their IBP usage, a separate questionnaire was given to the respondents, where they described about the intensity of IBP usage, tasks which they perform using IBP and the most preferred platforms used by them.

### **3.5) Reliability and Validity of the Tool**

To investigate the internal consistency of the instrument, Cronbach's alpha value was calculated. As the data was collected for two different settings i.e. public and private, the

reliability was also measured for both the settings separately. For the public university respondents, the overall value obtained was .729, whereas one of the ‘if item deleted value’ was higher than this overall value. After deleting ‘Social Influence’ variable, the alpha value obtained was .802. The ‘if item deleted’ values are mentioned below for each variable in table 3.1.

**Table 3.1 Reliability results for Public Universities**

<b>Variables</b>	<b>Cronbach’s alpha value</b>
PE	0.775
EE	0.785
FC	0.800
SE	0.758
ANX	0.788
IOU	0.753
U	0.761

For the tool used for private university settings, the overall value obtained was .731, where one of the ‘if item deleted value’ was higher than this overall value. After deleting ‘Social Influence’ variable, the alpha value obtained was .837. The ‘if item deleted’ values are mentioned below for each variable in table 3.2.

**Table 3.2 Reliability results for Private Universities**

<b>Variables</b>	<b>Cronbach’s alpha value</b>
PE	.814
EE	.817
FC	.817
SE	.806
ANX	.820
IOU	.814
U	.813

The Cronbach’s alpha values for the tools of both the settings reflect that the items of the constructs are closely related to each other, except one construct i.e. Social Influence.

Therefore, the item was not considered for further analysis. The similar process was adopted during the pilot study as well, but that time the construct gave significant values.

In order to ensure the Content Validity, the questionnaire was presented for expert reviews. During the pilot study, some minor changes were suggested but during the final review positive comments were received, which ensures the tools for content validity. The questionnaire was thoroughly reviewed by the academicians to ensure adequacy and comprehensibility.

### **3.6) Data Collection**

The study adopted the concurrent triangulation design. According to concurrent triangulation only one data collection phase is used, during which quantitative and qualitative surveys are conducted separately yet concurrently. During the field study the data were collected using the questionnaire survey for the students of communication skills courses and the interview for the teachers of the same discipline. Simple random sampling was used to choose the student population for the survey. Questionnaires were distributed to every third student in a communication classroom. Students for focus group discussion were selected by consulting the concerned teacher. 4 to 5 students were chosen as representatives from the class for the discussion. Due to the limited number of faculty in the discipline of communication skills courses, all the teachers were selected for the structured interview.

### **3.7) Data Compilation and Statistical Techniques used for Analysis**

SPSS 16.0 has been used to compile the data. Data entry has been done with using proper coding techniques. Preliminary analysis, data screening, and other techniques were used to make it free from errors. To observe the difference between two groups, independent one-sample t-test was used since it is a robust method and used by the researchers to observe the difference between 2 groups and to check the significance level of difference between the

groups. Techniques such as Karl-Pearson's product-moment correlation and Standard Multiple Regression are used to measure the relationship and the strength of relationship between the variables. A detailed description has been given in the *Results and Discussion* chapter.