
DA using MS Excel

Questionnaire construction & Data collection, Statistics and Technology (MS-EXCEL comparison with SPSS & Others).

Bijay Lal Pradhan



Bijay Lal Pradhan, PhD

Associate Professor, Statistics

Tribhuvan University

Amrit Campus

What we will discuss

30 minutes

Questionnaire
Design

Data Collection

30 minutes

Statistics and Technology
Comparison: Excel with other tools

DA using MS Excel

30 minutes

Data Collection with
Technology

30 minutes

Some Basics of Excel

Questionnaire design

- Main instrument in survey
- Foundation of questionnaire is question
- It must translate research objective in to specific question
- Answer to such question provide data for hypothesis testing
- It must motivate the respondent so that necessary information is obtained

Content

- **Factual**

- **Background**
- **Environment**
- **Habits**
- **likes**

- **Opinion**

- **Attitude**
- **Behaviour**
- **Idea**
- **inclination**

Types of questions

- Closed end questions
- Open end questions
- Contingency questions

Pitfall in questionnaire construction

- Wording of question (simple and everyday language)
- Response set (similar pattern questions)
- Leading questions
 - Unemployment is increasing , is not it?
- Threatening questions (embarrassing)
- Presumption questions
 - How many cigarettes do you smoke in a day?
- Double barreled questions
 - How often and how much time do you spend in your visit?
 - Does you organization have special recruitment policy for minorities and women?

Some more information

- Cover letter
 - Should motivate to share the required information, include objectives and relevance of the study
- Instructions
 - Clear understanding of the questions and way of giving answer

Questionnaire

- Through post
- Through Enumerator
- Online Survey
 - You can use google form or Microsoft form (free of cost) and different online survey tools

Online Questionnaire Construction Tools

Survey Monkey

Type form

Client Heartbeat

Zoho Survey

Survey Gizmo

Survey Planet

KOBO Toolbox

Google Forms

Online Data Collection



How to create
Google form

And

Collect data

About Google Form

- Google Forms is a product from Google, is an app to create web based forms and collect answers online.
- As a platform, Google Forms can be used for practically any data gathering purpose. It is popular to use Google Forms to develop online questionnaire and to conduct surveys and collect data.
- Google Forms has quiz feature that enable question scoring. This feature can transform questionnaire into learning/educational tool that can be very useful for teachers or trainers.
- Google Forms is Free and can be used in smartphone, tablet or laptop.

Creating Google Account

Create your Google Account

One account is all you need
A single username and password gets you into everything Google.

Take it all with you
Switch between devices, and pick up where you left off.

Password strength: Strong
Use at least 8 characters. Don't use a password from another site, or something too obvious like your pet's name. Why?

Name
First Last

Your email address
[I would like a new Gmail address](#)

Create a password
Confirm your password

Birthday
Month Day Year

Gender
I am...

Mobile phone
-

Prove you're not a robot
 Skip this verification (phone verification may be required)

Type the text:

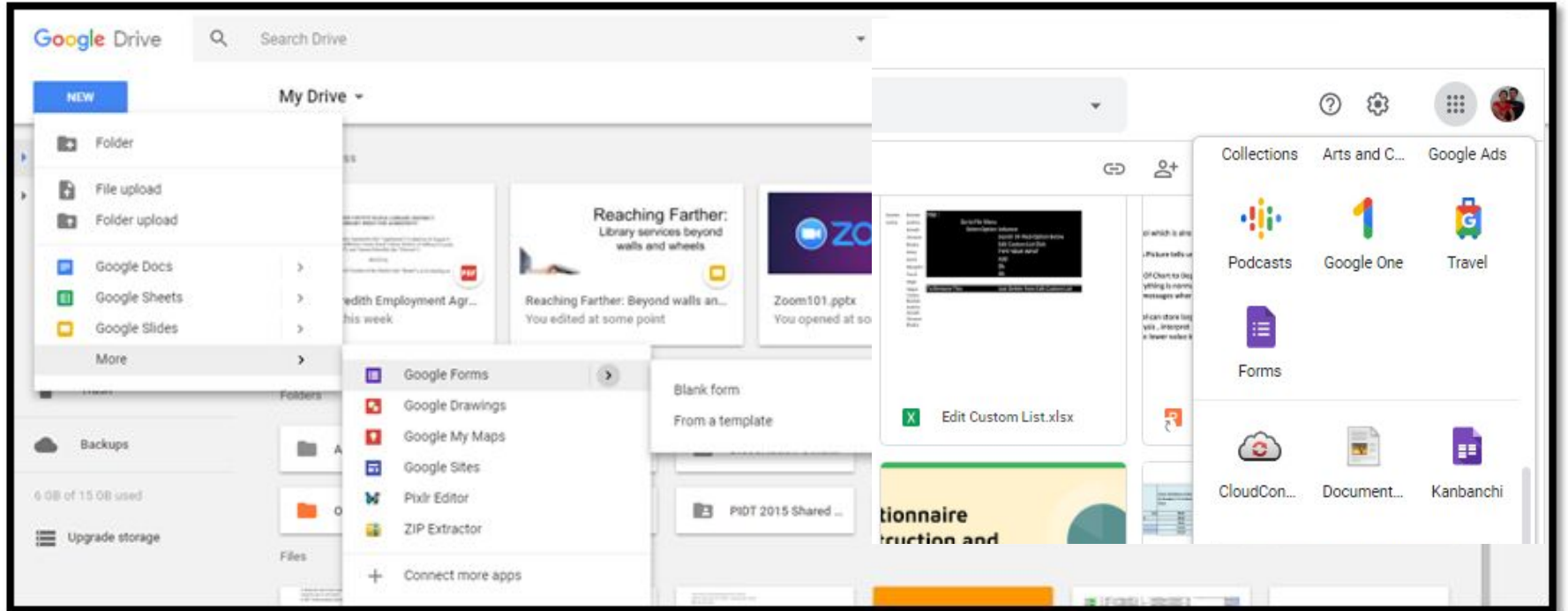
Note: you do not need a Gmail address – you can use your work email “@siccollege.edu.np” to create a Google account. Enter it into the “Your email address” field.

Once you have created a Google account and logged in, you will see several options including a grid in the upper right-hand corner.

- Click on the 3x3 grid to see all Google Tools
- Use Google Drive to access Forms



Creating new google form



Use of Template

Template gallery

Recently used



Blank



Contact Information



RSVP



Party Invite



T-Shirt Sign Up



Event Registration

Personal



Contact Information



Find a Time



RSVP



Party Invite



T-Shirt Sign Up



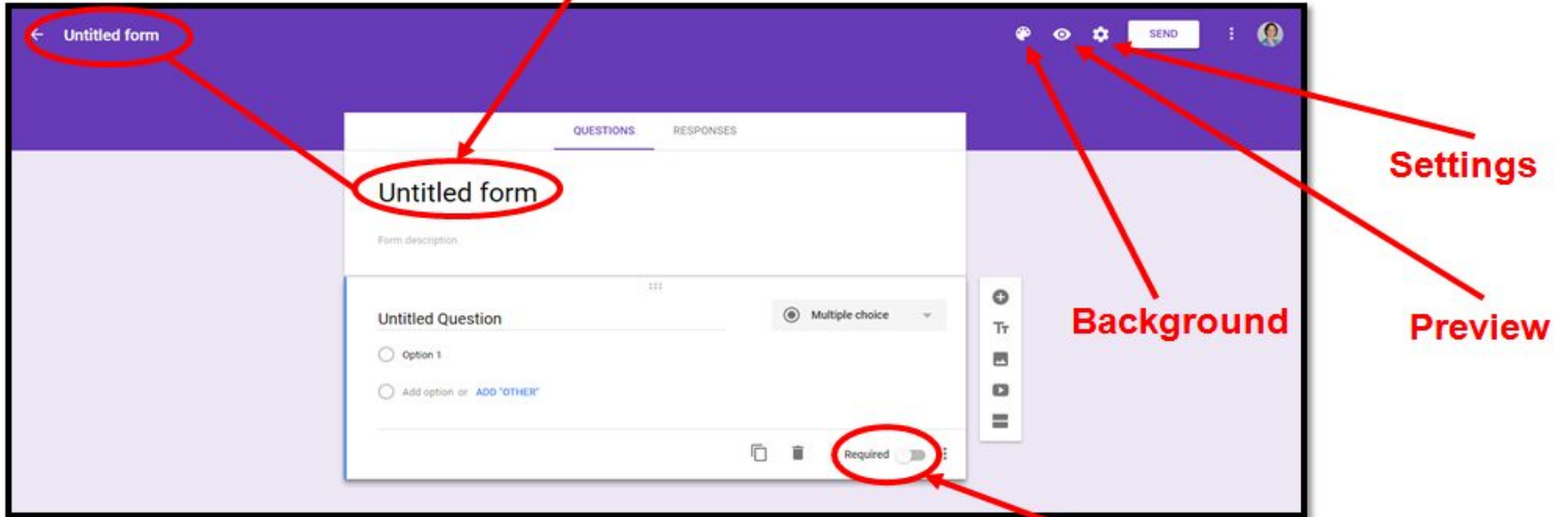
Event Registration

Starting with google form

The image shows the Google Forms editor interface. At the top, there is a purple header bar with a back arrow, the text "Untitled form", and several icons (share, eye, settings, send, and profile) on the right. Below the header, the main editing area is divided into two tabs: "QUESTIONS" (selected) and "RESPONSES". The form title "Untitled form" is displayed, followed by a "Form description" field. Below that, a question titled "Untitled Question" is shown with a "Multiple choice" type selector. The question has two options: "Option 1" and "Add option or ADD *OTHER*". At the bottom of the question card, there are icons for copy, delete, and a "Required" toggle switch. A vertical toolbar on the right side of the question card contains icons for adding a new question, table, image, video, and a list icon.

Creating Google Form

Name your form



Settings

Background

Preview

Require a Response

QUESTIONS RESPONSES


Untitled form

Form description

What is your address? *

Short answer text

Drip Irrigation Video



Adding Elements

Add Questions

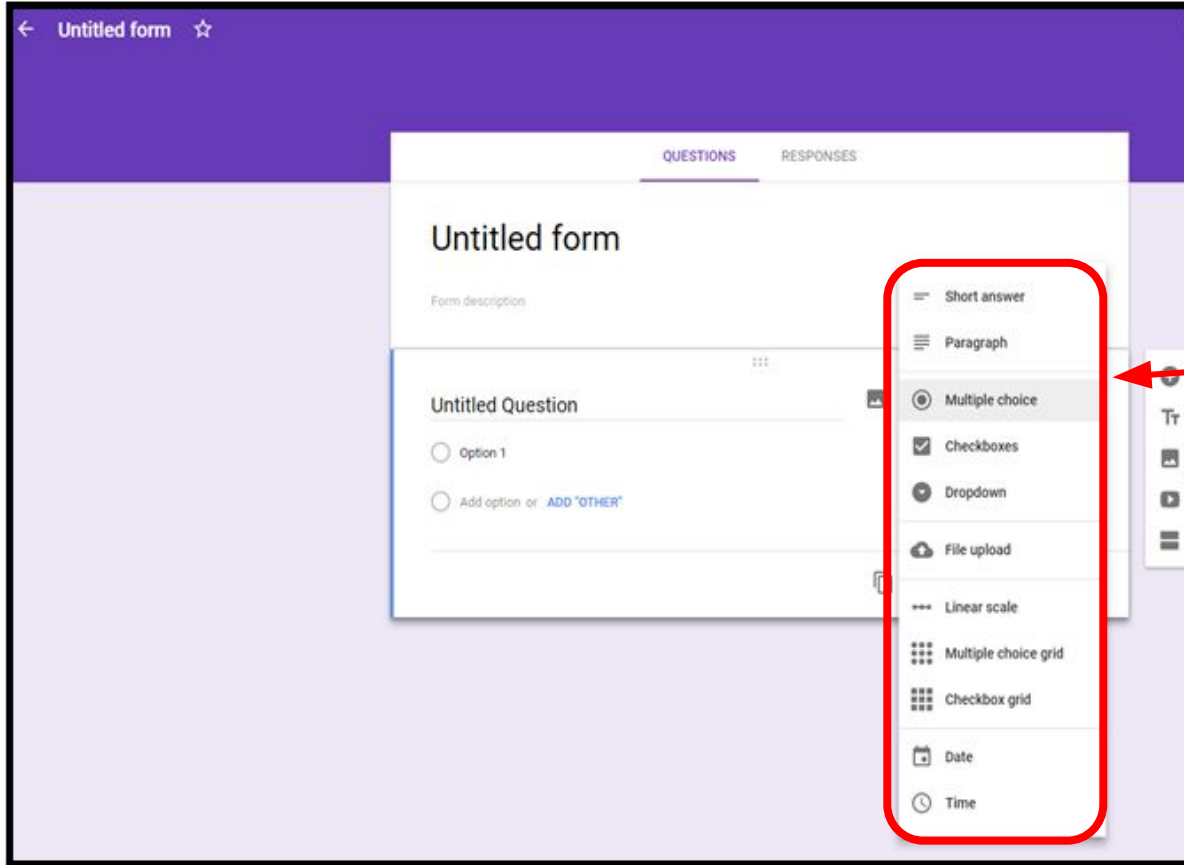
Adding Header / Text

Adding Image

Adding Video

New Section / Page

Question Type



Short/Long Answer

Multiple Choice

Checkbox/Dropdown

Upload a File

Likert Scale

Grid

Date

Time

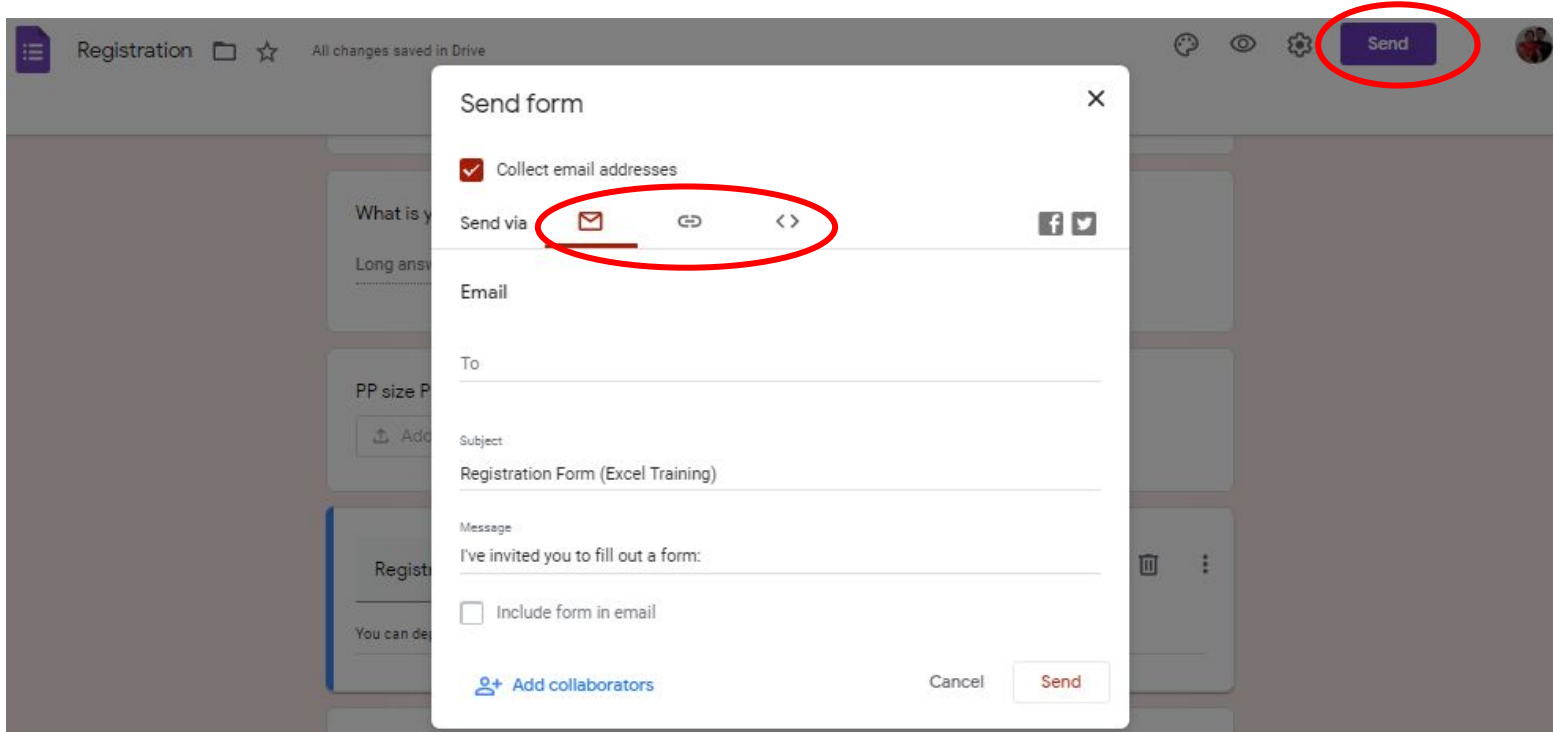
Setting

The image shows a Google Forms settings dialog box overlaid on a form editor. The dialog has three tabs: 'General' (selected), 'Presentation', and 'Quizzes'. The 'General' tab contains several settings:

- Collect email addresses
- Response receipts ?
 - If respondent requests it
 - Always
- Requires sign in:
 - Limit to 1 response
Respondents will be required to sign in to Google.
- Respondents can:
 - Edit after submit
 - See summary charts and text responses
- Maximum size of all files uploaded:

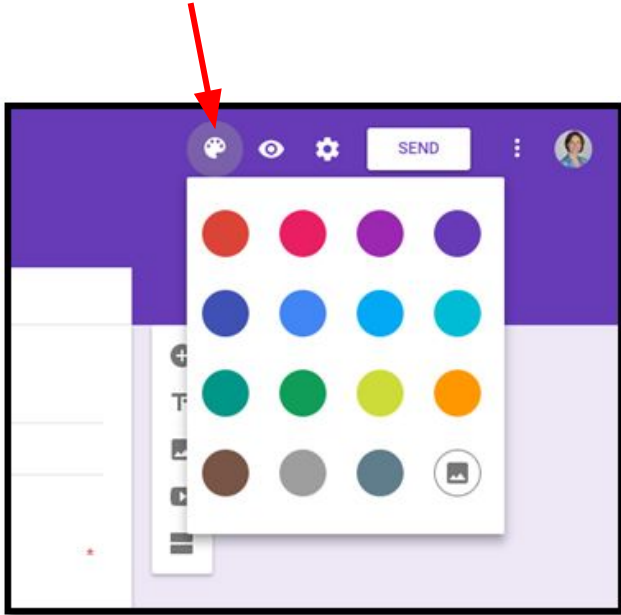
At the bottom right of the dialog are 'Cancel' and 'Save' buttons.

Send / Share form

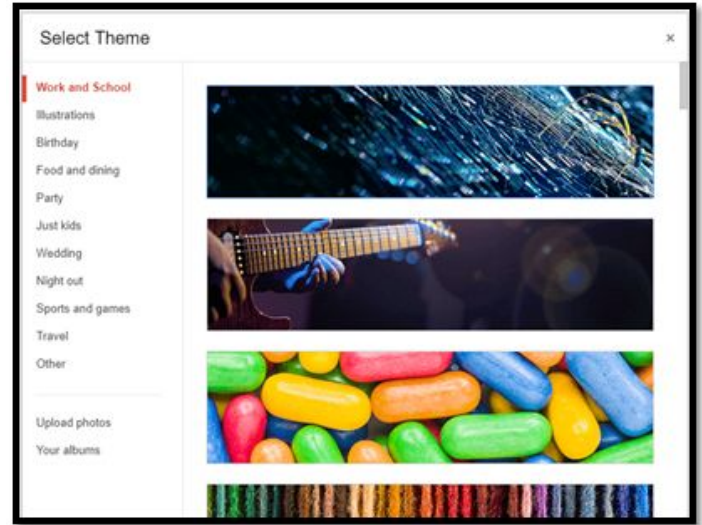


Changing background

Select the Palette Tool



Choose a Theme or Upload Your Own Photo



Response of survey

Summary of Responses

Individual Responses

Total Responses

17 responses

Create Spreadsheet

The screenshot shows a survey management interface. At the top, there are two tabs: "Questions" and "Responses" (with a red circle around the number "17"). Below the tabs, there are three main sections: "Summary", "Question", and "Individual". The "Summary" section is currently selected. In the "Summary" section, there is a red circle around the text "17 responses". To the right of the "Summary" section, there is a green plus icon and a vertical ellipsis icon. A red arrow points from the text "Create Spreadsheet" to the green plus icon. Below the "Summary" section, there is a section titled "Who has responded?" with a sub-section "Email" containing the email address "bhattarairamesh353@gmail.com".

Database

Spreadsheet can be downloaded as Excel document

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Timestamp	Email Address	Your Name	Gender	Your Age	Area of Specialization	Your P	Your P	To what	How ha	Do you have	Do you have	Do you have	Have you	Have you ever Ope
2	3/23/2021 0:04	bhattarairamesh353@gm	Ramesh Bhattarai	Male	33	Literature	2	1	5	3	Somewhat	No	No	No	Yes
3	3/23/2021 7:22	upadhyaj.anak763767@g	Janak Upadhyay	Male	30	Economics	3	3	5	3	Yes	Yes	Yes	No	No
4	3/23/2021 11:2	addghalan32@gmail.com	Deb Raj Ghalan	Male	37	Humanaties	3	3	4	3	Somewhat	Somewhat	Somewhat	Yes	Yes
5	3/23/2021 12:3	rkb1544@gmail.com	Ramkumar Bhujel	Male	31	Management	3	3	3	4	Yes	Yes	Yes	No	No
6	3/23/2021 14:4	sthram.nature@gmail.co	Ram kumar Shrestha	Male	30	Humanaties	4	3	4	2	Somewhat	Somewhat	Somewhat	No	No
7	3/23/2021 18:0	khatiwadadr23@gmail.co	Dhruba Raj Khatiwada	Male	38	Humanaties	3	1	2	2	No	No	No	No	No
8	3/23/2021 18:3	shashtishrestha@gmail.c	Shashti Kumar Shrestha	Male	40	Management	4	4	3	3	Somewhat	Somewhat	No	No	No
9	3/23/2021 19:1	nabarajsharma85@gmai	Nabaraj Sharma	Male	48	Management	3	2	4	3	Somewhat	Somewhat	Somewhat	No	Yes
10	3/23/2021 19:2	deviprasad.adhikari@gm	Devi Prasad Adhikari	Male	40	Education	3	2	4	3	Somewhat	Somewhat	No	No	No
11	3/23/2021 19:3	yrsubedi71@gmail.com	Yuba Raj Subedi	Male	43	Literature	3	2	5	3	Somewhat	Somewhat	No	No	No
12	3/23/2021 19:4	nepalese.nabaraj@gmail	Nabaraj Sapkota	Male	33	Humanaties	3	2	5	5	Somewhat	Somewhat	Somewhat	No	No
13	3/23/2021 19:5	prdpshrsth83@gmail.co	pradeep shrestha	Male	37	Economics	2	3	5	3	Yes	Yes	No	No	No
14	3/23/2021 19:5	baralbishnu100@gmail.c	Bishnu Maya Baral	Female	33	Management	2	1	3	4	Yes	Yes	No	No	No
15	3/23/2021 19:5	rijal.deependra39@gmai	Deepensra Rijal	Male	38	Literature	3	1	4	2	Somewhat	Somewhat	No	No	No
16	3/23/2021 20:0	adhikariidkaa@gmail.com	Dhruba Adhikari	Male	46	Maths	3	4	4	4	Somewhat	Somewhat	Somewhat	No	No
17	3/26/2021 14:2	gakulruwali@gmail.com	Gakul Prasad Ruwali	Male	48	Profit Planning & Control	3	5	5	2	Yes	Yes	Somewhat	Yes	No
18	3/26/2021 22:4	mahendratmgrooks@gm	Mahendra Tamang	Male	28	Finance	4	4	4	4	Yes	Somewhat	Somewhat	Yes	Yes

Technical Aspect of Data analysis

There are many software which are useful for data analysis

- MS Excel (Easily Available almost all PCs and user friendly)
- SPSS
- Stata
- R
- Python

Microsoft Excel

- Microsoft Excel helps you to organize, attractively present and analyze data.
- A spreadsheet is the computer equivalent of a paper ledger sheet. It consists of a grid made from columns and rows. It is an environment that can make number manipulation easy and somewhat painless.

Statistics, Excel and other Softwares

Excel allows to store information in a tabular format and interact with their data in an infinite number of ways. The most common is to sort and filter data as well as using formulas and pivot tables to manipulate the data to create new insights.

Excel is the tool used for data entry and creating records which can be used further. Excel is a very viable tool for data management. It also provides the flexibility to use an external database to do analysis, make reports, etc. thus saving lots of time. Excel with the latest versions is having high graphics tools and visualization techniques.

Statistics, Excel and other Softwares

Excel allows to perform different calculations which may be useful for different organizations. Mathematical, Statistical, Financial, logical etc.

Many more built in statistical tools are available, where as we can add in custom statistical tools easily.

Excel has many applications

- Sorting and organizing data
- Creating visual representations of the data
- Addition, Subtraction, Division, Multiplication, percentage of Cells
- Statistical analysis
 - Average (Mean)
 - Median
 - Quartile
 - Standard deviation
 - Estimation
 - Test of hypothesis (parametric and non-parametric)
 - Correlation and regressions...

Matrix Operations

Addition/Subtraction

Multiplying

Inverse

Optimization

Linear programming

Transportation

Assignments

And many more...