

RESEARCH METHODOLOGY FOR BEGINNERS

Exercises

- ✓ Find as many types of research names as possible in the following puzzle. Have fun!

E	E	V	W	A	D	Z	Q	A	C	H
A	X	A	A	P	L	E	U	P	L	I
N	P	P	P	G	N	S	A	P	I	S
A	E	M	L	I	R	I	L	L	N	T
L	R	X	L	O	K	O	I	I	I	O
Y	I	R	I	A	R	B	T	E	C	R
T	M	I	N	E	J	A	A	D	A	Y
I	E	C	O	N	E	P	T	U	L	L
C	N	A	L	Y	T	W	I	O	M	N
A	T	L	P	B	R	F	V	L	R	G
L	H	I	S	T	O	R	E	G	Q	Y

- ✓ The following are some examples of research topics. Identify the type of research that these topics fall into.
- 1) Study of a civilization discovered in the excavation in Odisha.
 - 2) Study of factors affecting obesity.
 - 3) Study of effects of alcohol on human body.
 - 4) Study of consumer satisfaction of a product.
 - 5) Study of efficacy of a new medicine for terminally ill cancer patients.

- ✓ Match the following.

<ul style="list-style-type: none"> ▪ Collecting the data ▪ Identifying the respondents ▪ Interpretation of the results ▪ Creating an opinionnaire ▪ Data analysis ▪ Testing efficacy of a drug ▪ Testing yield of a crop with rainfall 	<ul style="list-style-type: none"> ▪ Statistical design ▪ Writing Research Report ▪ Operational design ▪ Sampling design ▪ Observational design ▪ Non-experimental design ▪ Experimental design
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- ✓ Following are hypotheses from different research studies. Identify the dependent and independent variables from these statements.
- 1) Profit after tax is dependent on operating cash flow, total income, and sales of the company.
 - 2) Owning more than 5 electronic gadgets is dependent on the income of the working professionals.
 - 3) Expenditure is dependent on the income of an employee working in a bank.
 - 4) There is a positive relationship between marks obtained by the students and the number of hours of study.

- 5) Consumption of Gluformin (blood sugar reducing drug) is negatively correlated to an increase in the blood sugar level after lunch.
- 6) There is a positive relation between blood pressure and the level of physical activity.

✓ In the following list of variables, identify the type of data.

Height	Weight	Scores in an exam
Income	Age	Temperature
Marital status	Occupation	Education
Opinion on a political issue	Aadhar card number	Date of birth
Frequency of watching television	Opinion on government	Electricity consumption

✓ Calculate the chi-square values for the following data and draw the inferences from it. Test the data at 5% level of significance. Formulate null and alternate hypotheses for each of the data.

1) Table of economic background and level of education

Economic Background	Lower Education	Middle Education	Higher Education
Poor	90	65	25
Middle class	15	90	120
Higher class	20	56	184

2) Table of gender and use of free wi-fi

Gender \ Use of free wi-fi	No	Yes
Female	19	91
Male	18	128

3) Table of age and importance of family traditions

Age Groups	Unimportant	Important (somewhat)	Important (average)	Important (above average)	Very important
Below 20	19	15	4	11	16
20 and above	35	10	10	13	21

✓ An image appears below. Write down as much as you can notice in the image with your perceptions.



- ✓ Identify the population under study and the variables involved in the study for the following research topics.
- 1) Study of effects of new drug on the first stage cancer patients in Pune
 - 2) Study of consumer preference of daily used toothpaste in Maharashtra
 - 3) Study of problems faced by pilgrims visiting Pandharpur
 - 4) Study of Maharashtrian food outlets serving authentic food
 - 5) Study of exercise patterns in people with B+ blood group
 - 6) Below appears a crossword on the concepts learnt in Research Methodology. Solve it!!

				1				2			3			4
		5												
	6													
7			8										9	
		10												
11								12						
		13												
												14		
								15						
	16													
			17							18				

Clues:

- (1) One of the most important component of the research project
- (2) Abbreviation of Level of significance
- (3) Important thing that is needed for analysis
- (4) This is also known as arithmetic average

- (5) Information collection tool
- (6) This value can also be used in testing of hypothesis for drawing inference
- (7) One of the data types
- (8) One of the measures of dispersion
- (9) One of the measures of dispersion
- (10) A small sample test
- (11) ----- happens after questionnaire designing
- (12) One of the powerful tests for qualitative data
- (13) One of the sampling methods that is complex
- (14) Likert is a -----
- (15) Every research must have ----
- (16) The third step in the research process
- (17) One of the widely used large sample test
- (18) If 99% confidence can be placed in the result, then ---- is the margin of error

Happy Researching!!!
