

# LECTURE 1 – MARKETING RESEARCH

- Marketing research → the business function that links an organisation to its markets through the generation of information that facilitates optimal solutions to decision problems
- People are heterogeneous, which means they are different
- Need to effectively communicate the research/information you gather
- What companies can control
  - Marketing mix → product, price, place, promotion
- What companies can't control
  - Customers
  - Economy
- Decision problem → a situation in which management has to decide on a course of action that will help to accomplish a specific objective → often a SWOT component
- Marketing research → the function for generating interpretable information that is accurate, relevant and timely to solve decision problems

## MARKETING RESEARCH PHASES

- STEP 1 → determine the scope for marketing research – who, what, when, where and why
- STEP 2 → select the research method – how
- STEP 3 → collect and prepare the data
- STEP 4 → analyse the data
- STEP 5 → transform the results into information

# LECTURE 2 – DECISION PROBLEMS, RESEARCH QUESTIONS, OBJECTIVES AND INFO VALUE

## MARKETING RESEARCH PROCESS

- Development and successful promotion of goods and services involves
  - Understanding consumer decisions
  - Careful planning through a sound marketing research process
- Marketing research planning involves
  - Identifying a business decision problem
  - Determining the scope of marketing research

## SCOPE OF MARKETING RESEARCH

- Determining the scope for marketing research consists of four interrelated tasks
  - 1) Defining the decision problem → what are we going to do? What can we do to keep people from leaving our store/company?
  - 2) Specifying the research questions → why are they leaving? Who, where, what, when, how?
  - 3) Defining the research objective
  - 4) Evaluating the likely benefit of the expected information
- There are costs of acquiring customers – 10:1 ratio → cheaper to keep people than recruit new customers

## DEFINING THE DECISION PROBLEM

- Inadequate decision problem is leading cause of failure of marketing research projects
- Defining the decision problem – five steps
  - 1) Determine the decision-maker's purpose for the research
  - 2) Understand the complete problem situation
  - 3) Identify measurable symptoms → quality is subjective
  - 4) Determine the unit of analysis
  - 5) Determine the relevant variable or constructs

## SPECIFYING THE RESEARCH QUESTION

- Redefine and reformulate the decision problem into research question(s)
- Decision problems are broken down into an overarching research question, or a series of specific research questions
- Research questions are those specific when, where, who, why, what and how statements about the problem areas that the research will attempt to investigate
- Research questions have to be scientific and measurable – SMART goals

## IN-DEPTH INTERVIEWING

### OBJECTIVES

- To discover preliminary insights of what the subject thinks or believes about the topic of concern or why the subject exhibits certain behaviours
- To obtain unrestricted and detailed comments e.g. feels and beliefs that help justify their answers
- To have the respondent communicate as much detail as possible

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"><li>• Flexibility to collect data on activities and behaviour patterns, attitudes, motivations and feelings</li><li>• Large amount of detailed data possible</li><li>• The possibility to probe the respondent further</li></ul>	<ul style="list-style-type: none"><li>• Lack of generalisability → cannot assume a blank answer for the population</li><li>• Inability to distinguish small differences</li><li>• Potential for biases to emerge</li><li>• Potential interviewer errors</li><li>• Cost and time</li></ul>

### STEPS

- 1) Understand the decision problem and research objective
- 2) Create a set of appropriate questions
- 3) Decide on the best interview environment
- 4) Screen and select suitable prospective subjects
- 5) Contact subjects, provide guidelines, create comfort zone, begin interview
- 6) Conduct the in-depth interview
- 7) Analyse the subject narrative responses
- 8) Write a summary report

## TYPES OF INTERVIEWS

### EXPERIENCE INTERVIEWS

- Experience interviews → the informal gathering of individuals through to be knowledgeable on an issue
- Quickly gathers information used to further develop research

### PROTOCOL INTERVIEWS

- Protocol interviews → the process where subject is placed in a decision making situation and is asked to express the process and activities undertaken to make a decision
- Provides insights and understandings of motivational or procedural activities or both within the overall decision process

### ARTICULATIVE INTERVIEWS

- Articulative interviews → focus on listening for and identifying key conflicts in a person's orientation values toward goods and services

### PROJECTIVE INTERVIEWS

- Projective interviews → indirect method of questioning that enables a subject to project beliefs and feelings onto a third party, into the task situation or an inanimate object – find hidden meanings and associations
- Enables them to learn more about the respondents in situations where they might not reveal their true thoughts in a direct questioning process

## FOCUS GROUPS IN QUALITATIVE RESEARCH

- A formalised process of bringing a small group of people together for an integrative, spontaneous discussion on one particular topic or concept
- Main purpose → gain insight into the topic of interest
- Value of technique lies in the unexpected findings often obtained from a free-flowing group discussion

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"><li>• Simulates new ideas, thoughts and feelings about a topic</li><li>• Can uncover underlying reasons</li><li>• Fosters an understanding of why people behave</li><li>• Client participation</li><li>• Elicits wide-ranging customer responses</li></ul>	<ul style="list-style-type: none"><li>• Inability to generalise responses</li><li>• Questionable reliability of results</li><li>• Subjectivity of interpretation</li><li>• High cost per participant</li></ul>

## SURVEY METHOD TYPES

- Person administered surveys → trained interview asks questions and records answers
- Telephone administered surveys → telephone interviews and computer-assisted telephone interviewing
- Self-administered surveys → when respondent reads the survey and records his responses without the presence of an interviewer
- Online administered surveys → web based and email surveys, online panels, computer assisted etc.

SITUATIONAL CHARACTERISTICS	TASK CHARACTERISTICS	RESPONDENT CHARACTERISTICS
<ul style="list-style-type: none"><li>• Budget of available resources</li><li>• Completion time frame</li><li>• Quality requirement</li><li>• Completeness of the data</li><li>• Generalisability</li><li>• Precision</li></ul>	<ul style="list-style-type: none"><li>• Difficulty of the task</li><li>• Stimuli needed to elicit a response</li><li>• Amount of information</li><li>• Research topic sensitivity</li></ul>	<ul style="list-style-type: none"><li>• Diversity</li><li>• Incidence rate</li><li>• Degree of survey participation</li></ul>

## LECTURE 6 – EXPERIMENTS, TEST MARKETS AND SAMPLING

### CAUSAL RESEARCH DESIGN

- If the researcher wishes to develop clear insights into why certain events occur and why they happen under some conditions and not others, such as
  - Predicting sales, uncovering valuable market information or anticipating the consequences of a marketing program
  - Determining customer attitudes
  - Investigating cause-effect relationship
- Researcher should then consider using a causal research design – experimental procedures or test marketing

### CAUSALITY AND EXPERIMENTS

- In causal research, the emphasis is on specific hypotheses about the effects of changes of one variable on another variable
- A variable is any observable and measureable element (or attribute) of an item or event
- Causal research involves experiment → The researcher attempts to identify the relationships among different variables by manipulating one or more independent variables and measures their effect on one or more dependent variables while controlling the effect of additional extraneous variables

### KEY TERMS

- Functional relationship → An observable and measureable systematic change in one variable as another variable changes
- Randomisation → The procedure whereby many subjects are assigned to different experimental treatment conditions, resulting in each group averaging out any systematic effect on the investigated functional relationship between the independent and dependent variables

### VARIABLE TYPES IN EXPERIMENTATION

- Independent variable (IV)
  - Also called predictor or treatment variable (X)
  - An attribute or element of an object, idea or event whose measurement values are directly manipulated by the researcher
  - Is assumed to be the causal factor of a functional relationship with a dependent variable
- Dependent variable (DV)
  - Also called criterion variable (Y)
  - A singular observable attribute or element that is the measured outcome or effect change on specified test subjects
  - Derived from manipulating the independent variables
- Control variable
  - Variables that are not allowed to vary freely or systematically with independent variables
  - Control variables should not change as the independent variable is manipulated
  - Cannot control all conditions, but should try
- Extraneous variable
  - Variables that the researcher cannot control but should average out over a series of experiments
  - If not accounted for, they can have a confounding impact on the dependent variable measures that could weaken or invalidate the results of an experiment

## CROSS-TABULATION

- Cross tabulation → simultaneously treats two or more variables in the study by categorising the number of respondents who have responded to two or more consecutive questions
  - It helps to analyse relationships between variables
  - Able to quickly compare how different groups respond
  - Provides a valid description of both aggregate and subgroup data
- Two key elements of cross-tabulation:
  - How to develop the cross-tabulation
  - How to interpret the outcome
- Normally the main form of data analysis in most marketing research projects
- Easily understood and interpreted by managers
- Simple to construct and appealing to less sophisticated managers
- Challenges
  - The analyst should take care to construct cross-tabulations that accurately reflect information relevant to the objectives of the project
  - Certain survey approaches can lend themselves to the construction of an endless variety of cross-tabulation tables
  - More than three variable can be cross-tabulated but interpretation is complex
  - Cross-tabulations are not efficient when examining relationships among several variables
  - Cross-tabulations can interpret associations not causations

TABLE 13.3 Example of a cross-tabulation: Demographic variables × behaviour

Q2 Visits per month by Q1520 gender				Q2 Visits per month by Q1515 marital status						
Page 1 of 1				Page 1 of 1						
Count	Female	Male	Row total	Count	Married	Widowed	Separated	Divorced	Never married	Row total
	1	2			1	2	3	4	5	
Q2				Q2						
None	0	1	1	2	0	2				2
			0.5							0.5
One	1	27	23	50	1	41	7		1	50
			11.8							11.8
Two	2	25	33	58	2	46	4	1	3	58
			13.6							13.7
Three	3	16	25	41	3	30	3		4	40
			9.6							9.5
Four	4	38	32	70	4	53	6		6	70
			16.5							16.6
Five	5	12	14	26	5	21	2			25
			6.1							5.9
Six	6	19	15	34	6	31		1	1	34
			8.0							8.1
Seven or more	7	70	74	144	7	116	6	1	12	143
			33.9							33.9
Column	208	217	425	Column	340	28	3	27	24	422
Total	48.9	53.1	100.0	Total	80.6	6.6	0.7	6.4	5.7	100.0
Number of missing observations: 18				Number of missing observations: 21						

## MEASURES OF CENTRAL TENDENCY

- Mean → the arithmetic average of the sample
  - For interval or ratio data, researchers generally use the mean
- Mode → the most common value in the set of responses to a questions
  - For nominal data, researchers generally use the mode
- Median → the middle value in the data set when the data are arranged in ascending or descending order
  - For ordinal data, researchers generally use the median

## MEASURES OF DISPERSION

- Dispersion or variability refers to how spread apart the scores of the distribution are or how much the scores vary from each other
- Measures of dispersion used to describe the variability in a distribution of numbers
  - Range defines the spread of the data and the distance between the smallest and largest values of the variable
  - Variance is the mean squared deviation of all the values from the mean
  - Standard deviation measures the average speed (deviation) from the mean and uses values which are consistent with the original observations

# LECTURE 9 – DATA ANALYSIS – TESTING FOR DIFFERENCE

## DATA ANALYSIS

- Data analysis is the process of testing hypotheses and establishing statistical significance
- Researchers have a preconceived notion of how variables relate to each other

## HYPOTHESIS

- Hypothesis → any stated difference or change exists in reality and is not simply due to random error
- Null hypothesis → any change from what has been thought to be true is due to random error
  - Rejection of the null hypothesis leads to acceptance of the hypothesis
- Concepts of sampling distribution, standard error of the mean or the proportion, and the confidence interval are fundamental to construction and interpretation of hypotheses tests

## HYPOTHESIS TESTING CONSIDERATIONS

- Level of significance is the amount of risk regarding the accuracy of the test that the researcher is willing to accept – it is the probability that the rejection of the null hypothesis is an error
- Marketing researchers accept a level of significance of 0.10, 0.05 or 0.01, depending on the research objective
  - If the significance level is 0.05, it means that researchers want to be 95% certain that the null hypothesis is not true

- Type I error → when sample results lead to rejection of the null hypothesis, when it is in fact true

- Can be controlled by tolerable level of significance and increased sample size

- Type II error → when sample results lead to the null hypothesis not being rejected, when it is in fact false

- Can be controlled by increased sample size

- Sample size can help control Type-I and Type-II errors

- $H_0$ : Innocent

- $H_A$ : Guilty

- Type 1 Error → going to be used in this class – Alpha = 0.05 – When you reject the null when it in fact is true

		Statistical test	
		Reject null hypothesis	Do not reject null hypothesis
Null hypothesis	True	Type-I error (probability of alpha)	Right conclusion
	False	Right conclusion	Type-II error (probability of beta)

### Sample size can help control type-I and type-II error

## TEST CONSIDERATIONS

- Choose level of significance for rejecting null hypothesis and accepting the hypothesis
- Typically,  $p < 0.05$  for rejecting the null hypothesis → 95% confidence
- Probability or critical value → the estimated probability of rejecting the null hypothesis of a study question when that hypothesis is true
- Test statistic → a statistic which the decision can be based whether to accept or reject a hypothesis
  - Z, t, and Chi-square
- Z test → hypothesis test that utilised the z distribution
  - Assesses the statistical significance of the difference between two means for a single dependent variable
  - Used when the sample size is larger than 30 and the standard deviation is unknown
  - Forces you to have structure.
- T test → hypothesis test that utilises the t distribution
  - Assesses the statistical significance of the difference between two means for a single dependent variable
  - Used when the sample size is smaller than 30 and the standard deviation is unknown
  - More forgiving for minor errors.
  - Need a t-test for our results, because it isn't a RANDOM sample
- IF THE (P) IS LOW REJECT THE HOE
- THIS ALWAYS HOLDS → If the p-value < alpha → then reject the  $H_0$