Lecture 13: Market research

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Linear description of the market research process

Stage 1:

Research brief

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Stage 2:

Research proposal

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Stage 3:

Data collection

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Stage 4:

Data analysis & Evaluation

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Stage 5:

Preparation & Presentation of Research report

Linear description of the market research process

Structure of a market research proposal

1. Executive summary - a concise overview of the whole proposal.

2. Background - background information about the firm and its industry more widely.

3. Problem definition - clarifying the problem to be addressed.

4. Research objectives - possible research hypotheses to be tested.

5. Research design - the research design to be employed (exploratory, descriptive or causal outlined in the next block).

6. Fieldwork/data collection - the logistics of collecting any primary data, including the sampling method(s) to be used.

7. Data analysis - specification of the type(s) of statistical analysis to be conducted to investigate the research objectives.

8. Reporting - whether interim reports are to be produced, and the format of the final report.

9. Cost and timetable - an indication of the budget required and the expected timescale for the research.

10. Research organisation and researchers - details of the individuals and the market research organisation behind the proposal.

11. Appendices - any non-essential tables etc. can be relegated to an appendix.

12. Agreement - a formal document to be signed by all parties.

Linear description of the market research process

	Exploratory	Conclusive
Objectives	To provide insights and understanding of the nature of marketing phenomena. To understand.	To test specific hypothesis and examine relationships. To measure.
Characteristics	Information needed may be loosely defined. Research process is flexible, unstructured and may evolve. Samples are small. Data analysis can be qualitative or quantitative.	Information needed is clearly defined. Research process is formal and structured. Sample is large and aims to be representative. Data analysis is quantitative.
Findings/results	Can be used in their own right. May feed into conclusive research. May illuminate specific conclusive findings.	Can be used in their own right. May feed into exploratory research. May set a context to exploratory findings.
Methods	Expert surveys. Pilot surveys. Secondary data. Qualitative interviews. Unstructured observations. Quantitative exploratory multivariate methods.	Surveys. Secondary data. Databases. Panels. Structured observations. Experiments.

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The research brief will be provided on the VLE, and it will contain the following.

1) A short introduction and background of the company or organisation commissioning the research.

2) Three business or organisational objectives.

- develop/launch a new product or service

- grow market share

- raise awareness of a product, service or a particular message

- increase customer satisfaction.

3) Three research aims linked to the business objectives.

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These will be specific goals which a market research project would help answer.

- understand the attitudes and behaviours of consumers/people

- learn what factors lead to higher customer satisfaction

- find out what gaps there are in a market

- understand the image or associations with a brand or product

- estimate the demand for a new product or service.

4) Information about what, if any, data the business or organisation can supply, for example a customer database, a sampling frame or operational data.

5) An indication of the available budget and required timescale for the research.

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I. Executive summary

- 1 page

- The executive summary, as well as the questionnaire does not count towards the word limit either.

Should cover all of the points of the main part, especially:

+ Thorough justification of the data collection methods, fieldwork approaches and sampling methods chosen, and also why others were rejected.

+ Demonstration of a clear understanding of the statistical concepts related to sampling and sample size determination.

+ Explanation of your chosen statistical analysis techniques and clear examples of how the client will benefit.

+ A well-thought out questionnaire design which reflects the aims of the research and intended statistical analysis.

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II. Main part

a) Intro

(!) A full summary of the research brief, including the aims of the research.

b) Demonstrate an understanding of the market or business context as well as any other publically available research done in this area.

- Links to additional literature, analytical reports, SWOT analysis, etc.

- Company specific vs Industry specific factors

- Competitors: firms/products

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c) Detail how the fieldwork would be conducted, i.e. face-to-face, telephone, online, focus groups, mixed-mode etc.

Survey methods concerns the choice of contact method.

1) Telephone interviews

- Fast and inexpensive.

- Do not cover households without telephones.

- Possible absence of a sampling frame, with random digit dialling

2) personal (face-to-face) interviews

- High cost & Time-consuming to conduct.

- High quality process.

- Effective for image-based issues.

3) mail (postal) interviews

- Avoids the problem of not-at-homes.

- Usually high non-response rates.

- Inappropriate when spontaneous answers are required.

4) electronic surveys

- Fast & Low-Cost.

- Data quality.

- Contact with certain target groups.

- Sampling frames: ADs only/clients only

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5) Focus groups

Characteristic	Description
Key benefit	Group members 'feed' off each other and creatively reveal ideas which the researcher may not have thought of or dared to tackle
Key drawback	Group members may feel intimidated or shy and may not reveal anything of significance
Group size	6-10
Group composition	Homogeneous, participants pre-screened by questionnaire or through known characteristics

6) Online focus groups

– More potential participants can be recruited.

– A great breadth of information may be collected, through the types and the geographic spread of participants.

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Criteria for evaluating survey methods

– Control of field force - the ability to control the interviewers and supervisors involved in data collection.

– Control of the data collection environment - the degree of control a researcher has over the environment in which the participant answers the questionnaire.

– Cost - the total cost of administering the survey and collecting the data.

– Diversity of questions - the diversity of questions which can be asked in a survey depends on the degree of interaction the participant has with the interviewer and the questionnaire, as well as the ability to actually see the questions.

– Flexibility of data collection - the flexibility of data collection is determined primarily by the extent to which the participant can interact with the interviewer and the survey questionnaire.

– Obtaining sensitive information - sensitive information may mean an issue which is personally sensitive, such as the way in which a participant may be classified or the use of hygiene products. What may be deemed 'sensitive' varies enormously between different types of participant.

– Perceived participant anonymity - perceived participant anonymity refers to the participants' perceptions that their identities will not be discerned by the interviewer or the researcher.

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– Potential for interviewer bias - the extent of the interviewer's role determines the potential for bias.

– Potential to probe - though the interviewer has the potential to create bias in the responses elicited from participants, it is balanced somewhat by the amount of probing which can be done.

– Quantity of data - the ability to collect large amounts of data. Response rate - the survey response rate is broadly defined as the percentage of the total attempted interviews which are completed.

– Sample control - sample control is the ability of the survey mode to reach the units specified in the sample effectively and efficiently.

– Social desirability - social desirability is the tendency of participants to give answers which they feel to be acceptable in front of others, including interviewers.

– Speed - the total time taken for administering the survey to the entire sample.

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d) Explain the proposed sampling method as well as other sampling methods considered, including details on any sampling frame to be used.

Sample or census?

Census - a complete enumeration of the elements of a population or study objects.

Sample - a subgroup of the elements of the population selected for participation in the study.

Conditions favouring the use of a sample versus a census

Factor	Sample	Census
Budget	Small	Large
Time available	Short	Long
Population size	Large	Small
Variance in the characteristic	Small	Large
Cost of sampling errors	Low	High
Cost of non-sampling errors	High	Low
Nature of measurement	Destructive	Non-destructive
Attention to individual cases	Yes	No

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The sampling design process is:

Define the target population

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Determine the sampling frame

$\Downarrow$

Select a sampling technique

$\Downarrow$

Determine the sample size

$\Downarrow$

Execute the sampling process

$\Downarrow$

Validate the sample

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Strengths and weaknesses of non-probability sampling techniques

Technique	Strengths	Weaknesses
Convenience sampling	Least expensive, least time-consuming, most convenient	Selection bias, sample not representative, not recommended for descriptive or causal research
Judgemental sampling	Low cost, convenient, not time-consuming, ideal for exploratory research designs	Does not allow generalisation, subjective
Quota sampling	Sample can be controlled for certain characteristics	Selection bias, no assurance of representativeness
Snowball sampling	Can estimate rare characteristics	Time-consuming

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Strengths and weaknesses of probability sampling techniques

Technique	Strengths	Weaknesses
Simple random sampling	Easily understood, results projectable	Difficult to construct samplign frame, expensive, lower precision, no assurance of representativeness
Systematic sampling	Can increase representativeness, easier to implement than SRS, sampling frame not always necessary	Can decrease representativeness depending upon 'order' in the sampling frame
Stratified sampling	Includes all important subpopulations, precision	Difficult to select relevant stratification factors, not feasible to stratify on many variables, expensive
Cluster sampling	Easy to implement, cost effective	Imprecise, difficult to compute and interpret results

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Differences between stratified and cluster sampling

Factor	Stratified sampling	Cluster sampling (one-stage)
Objective	Increase precision	Decrease cost
Subpopulations	All strata are included	A sample of clusters is chosen
Within subpopulations	East stratum should be homogeneous	Each cluster should be heterogeneous
Across subpopulations	Strata should be heterogeneous	Clusters should be homogeneous
Sampling frame	Needed for the entire population	Needed only for the selected clusters
Selection of elements	Elements selected from each stratum randomly	All elements from each selected cluster are included

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e) Detail the information that would be gathered and collected by the research.

- Three objectives => three variables at least

f) Explain how you would use any customer or operational data supplied to you by the client.

Be aware that in market research data there are many potential sources of error.

- Total error - the variation between the true mean value in the population of the variable of interest and the observed mean value obtained in the market research project.

- Random sampling error - the error arising because the particular sample selected is an imperfect representation of the population of interest. The variation between the true mean value for the sample and the true mean value of the population.

- Non-sampling error - an error which can be attributed to sources other than sampling and which can be random or non-random.

- Non-response error - a type of non-sampling error which occurs when some of the participants included in the sample do not respond. The variation between the true mean value of the variable in the original sample and the true mean value in the net sample.

- Response error - a type of non-sampling error arising from participants who do respond but who give inaccurate answers or whose answers are mis-recorded or mis-analysed. The variation between the true mean value of the variable in the net sample and the observed mean value obtained in the market research project.

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g) Describe what multivariate analysis techniques you propose and how these would help the client's research aims. (You are not required to actually conduct any analysis.)

- ANOVA/ANCOVA
- Linear regression
- Logit/Multinomial model
- Discriminant analysis
- Factor analysis
- Cluster analysis
- Conjoint analysis
- Multidimensional scaling

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h) Detail the proposed sample size necessary to construct confidence intervals around the survey estimates.

Important qualitative factors in determining the sample size:

- The importance of the decision

- the nature of the research

- the number of variables

- the nature of the analysis

- sample sizes used in similar studies

- incidence rates

- completion rates

- Resource constraints.

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Type of study	Minimum size	Typical range
Problem identification research	500	$1,000 - 2,500$ (e.g. market pot
Problem-sol ving research	200	$300 - 500$ (e.g. pricing)
Product tests	200	$300 - 500$
Test marketing studies	200	$300 - 500$
TV, radio, print or online advertising	150	$200 - 300$ (per advertisement te
Test-market audits	10 stores	$10 - 20$ stores
Focus groups	6 groups	$6 - 12$ groups

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Sampling - determining sample size

For large samples (as a rule-of-thumb, say $\mathrm{n} \geq 30\mathrm{n} \geq 30$), the important properties of the mean and proportion sampling distributions are as follows. We have:

$$X \sim N\left(\mu, \frac{\sigma^2}{n}\right)$$

To estimate μ to within e units with $100(1-\alpha)\%$ confidence, then:

$$z_{a/2} \times \frac{\sigma}{\sqrt{n}} \leq e.$$

Hence we require a sample size of:

$$n \geq \frac{\left(z_{a/2}\right)^2}{e^2}$$

where $z_{a/2}$ is the z-value which cuts off $100(\alpha/2)\%$ probability in the upper tail of the standard normal distribution.

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Sampling - determining sample size

For large samples (as a rule-of-thumb, say $\mathrm{n} \geq 30\mathrm{n} \geq 30$), the important properties of the mean and proportion sampling distributions are as follows.

If sampling from normal populations, otherwise invoke the central limit theorem (CLT). For proportions we have:

$$P \sim N\left(\pi, \frac{\pi(1-\pi)}{n}\right)$$

To estimate π to within e units with $100(1-\alpha)\%$ confidence, then:

$$z_{a/2} \times \sqrt{\frac{\pi(1-\pi)}{n}} \leq e.$$

Hence we require a sample size of:

$$n \geq \frac{\left(z_{a/2}\right)^2 \pi(1-\pi)}{e^2}$$

where $Z_{a/2}$ is the z-value which cuts off $100(\alpha/2)\%$ probability in the upper tail of the standard normal distribution.

If a pilot study is not feasible and a value cannot be assumed, then set $\pi = 0.5$ as a 'conservative' choice, as this value gives the maximum possible standard emor.

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i) An appropriate questionnaire which would capture suitable data to perform the proposed multivariate analysis. (You are not required to actually run the questionnaire in practice.)

The questionnaire design process can be summarised as:

Specify the information needed

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Specify the type of interviewing method

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Determine the content of individual questions

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Overcome the participant's inability and unwillingness to answer

$\Downarrow$

Choose question structure

$\Downarrow$

Choose question wording

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Arrange the questions in proper order

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Identify the form and layout

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Reproduce the questionnaire

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Eliminate problems by pilot-testing

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Choosing the question structure

For individual question content, consider:

- Is the question necessary?

- Are several questions needed instead of one?

Sometimes, several questions are needed to obtain the required information in an umbiguous manner. Consider the following question.

- 'Do you think Coca-Cola is a tasty and refreshing soft drink?' (Incorrect)

Such a question is called a double-barrelled question, because two or more questions are combined into one.

To obtain the required information, two distinct questions should be asked.

- 'Do you think Coca-Cola is a tasty soft drink? Do you think Coca-Cola is a refreshing soft drink?' (Correct)

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To overcome the inability to answer:

- Is the participant informed?

- Can the participant remember?

- Can the participant articulate?

In situations where not all participants are likely to be informed about the topic of interest, a filter question which measures familiarity and past experience should be asked before questions about the topics themselves. A 'don't know' option appears to reduce uninformed responses without reducing the response rate.

- 'How many litres of soft drinks did you consume during the last four weeks?' (Incorrect)

- 'How often do you consume soft drinks in a typical week?'

1. Less than once per week.

2. 1 to 3 times per week.

3. 4 to 6 times per week.

4. 7 or more times per week. (Correct)

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Participants may be unable to articulate certain types of responses, for example when asked to describe the atmosphere of a restaurant.

Participants should be given aids, such as pictures, maps and descriptions to help them articulate their responses. Issues to consider include:

- effort required of the participants

- context

- legitimate purpose

- sensitive information

- increasing willingness.

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Most participants are unwilling to devote a lot of effort to provide information.

- 'Please list all the departments from which you purchased merchandise on your most recent shopping trip to a department store.' (Incorrect)

- 'In the list which follows, please tick all the departments from which you purchased merchandise on your most recent shopping trip to a department store.'

1. Women's clothing
2. Men's clothing
3. Children's clothing
4. Cosmetics
5. Jewellery

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When choosing the question structure, issues to consider include:

- unstructured questions

- structured questions

- multiple choice questions

- dichotomous questions

- scale questions.

1) An unstructured question is an open-ended question which participants answer in their own words. Examples include the following.

- 'What is your occupation?'

- 'Who is your favourite actor?'

- 'What do you think about people who shop at organic food shops?'

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2) A structured question specifies the set of response alternatives and the response format.

A structured question may be multiple choice, dichotomous or a scale.

3) In multiple choice questions, the researcher provides a choice of answers and participants are asked to select one or more of the altematives given.

- 'Do you intend to buy a new watch within the next six months?'

1. Definitely will not buy.
2. Probably will not buy.
3. Undecided.
4. Probably will buy.
5. Definitely will buy.
6. Other (please specify).

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A dichotomous question has only two response alternatives: yes or no, agree or disagree, and so on. Often, the two alternatives of interest are supplemented by a neutral altemative, such as 'no opinion', 'don't know', 'both' or 'none'.

- 'Do you intend to buy a new watch within the next six months?'

1. Yes.
2. No.
3. Don't know.

Scales were discussed in detail in the previous block.

- 'Do you intend to buy a new watch within the next six months?'

1. Definitely will not buy.
2. Probably will not buy.
3. Undecided.
4. Probably will buy.
5. Definitely will buy.

Linear discriminant analysis (LDA)

Determining the order of questions

1. Opening questions - The opening questions should be interesting, simple and non-threatening.

2. Type of information - As a general guideline, basic information should be obtained first, followed by classification information and, finally, identification information.

3. Difficult questions - Difficult questions or questions which are sensitive, embarrassing, complex or dull should be placed late in the sequence.

4. Effect on subsequent questions - General questions should precede specific questions, i.e. adopt a funnel approach.

- Question 1: 'What considerations are important to you in selecting a boutique?'

- Question 2: 'In selecting a boutique, how important is convenience of location?' (Correct)

5. Logical order - The following guidelines should be followed for any branching question. The question being branched (the one to which the participant is being directed) should be placed as close as possible to the question causing the branching. The branching questions should be ordered so that the participants cannot anticipate what additional information will be required.

Linear discriminant analysis (LDA)

j) Proposed further research, i.e. include ideas for how some business or organisational objectives might be helped by further and different research.

- Data limitations

- Possible other goals

- etc.

Summary

a. Provide a full summary of the research brief, including the aims of the research.

b. Demonstrate an understanding of the market or business context as well as any other publically available research done in this area.

c. Detail how the fieldwork would be conducted, i.e. face-to-face, telephone, online, focus groups, mixed-mode etc.

d. Explain the proposed sampling method as well as other sampling methods considered, including details on any sampling frame to be used.

e. Detail the information that would be gathered and collected by the research.

f. Explain how you would use any customer or operational data supplied to you by the client.

g. Describe what multivariate analysis techniques you propose and how these would help the client's research aims. (You are not required to actually conduct any analysis.)

h. Detail the proposed sample size necessary to construct confidence intervals around the survey estimates.

i. An appropriate questionnaire which would capture suitable data to perform the proposed multivariate analysis. (You are not required to actually run the questionnaire in practice.)

j. Proposed further research, i.e. include ideas for how some business or organisational objectives might be helped by further and different research.