



POLITECNICO
MILANO 1863

Marketing research methodologies

Marketing Analytics

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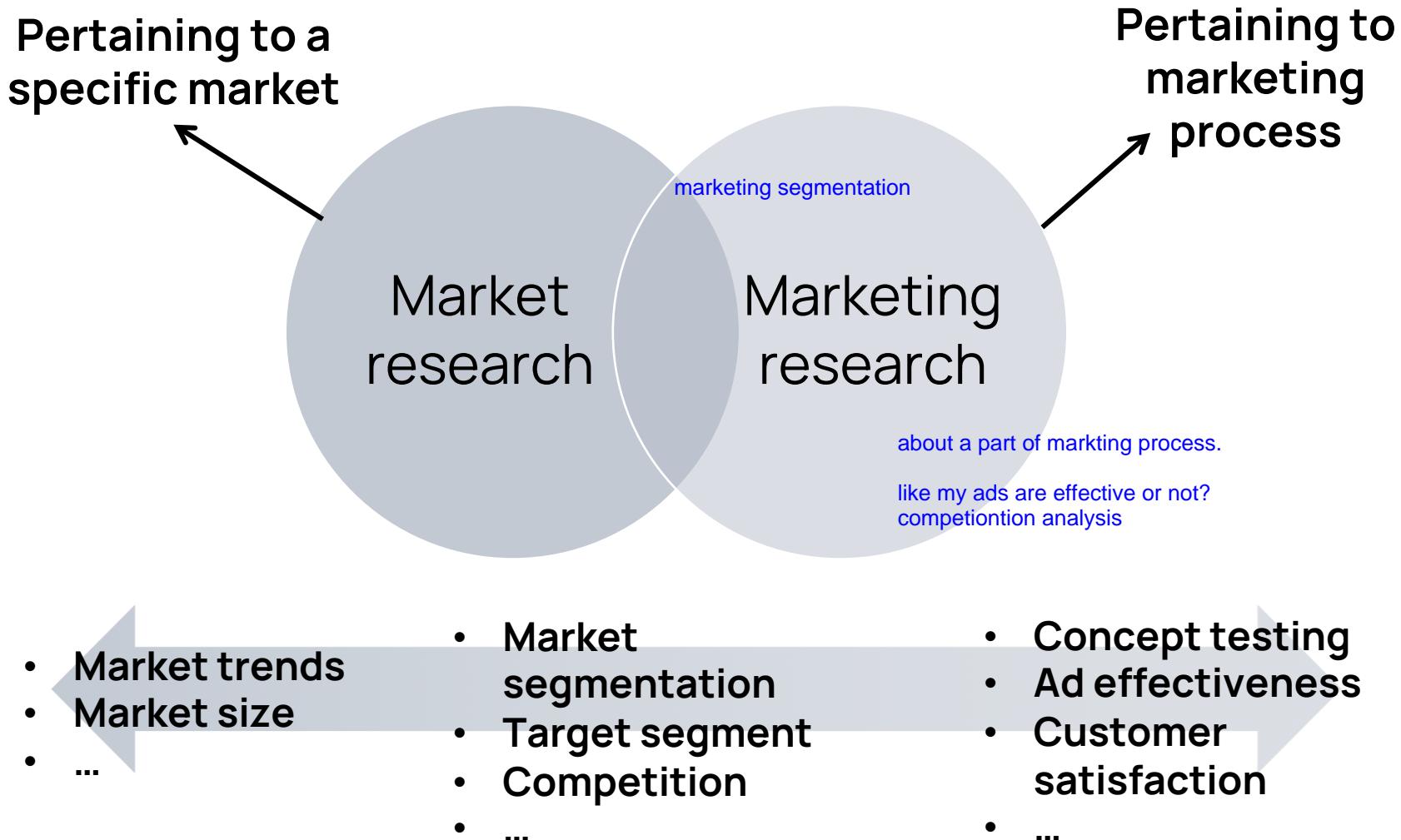
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Market Research vs. Marketing Research



Marketing Research

Marketing research is the process or set of processes that links the consumers, customers, and end users to the marketer through information:

- information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions;
- monitor marketing performance;
- and improve understanding of marketing as a process.

Marketing research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implications.

American Marketing Association

Market research

Information gathering

- Market research

Analysis of information gathered

Two complementary points of view:

- “macro”, regarding the definition of the market of reference sizing the market
- “micro”, regarding the customer’s needs (business and consumer) unit of analysis is customer

unit of analysis is who is subject of the analysis and survey.

Marketing research process

Phase 0 | Problem specification and research question definition

what is the objective
research cycle can be done after phase 0

Phase 1 | Preliminary investigation

Phase 2 | Problem definition and objectives

Phase 3 | Design of the research plan

Phase 4 | Data gathering

Phase 5 | Verification and codification of the data gathered

Phase 6 | Analysis, evaluation and processing of information

Phase 7 | Presentation of results

Phase 0: Define the Research Question

definition of objective

it's important:

- From time to time, a company may receive “signals” that some of its practices are out of sync with the market
- Or, it may be pushed by new ideas (say, new product idea)
- Through investigation of initial information, the management should make the decision whether to proceed with the research
- It may decide not to proceed because:
 - Sufficient information is already available
 - Insufficient time/resource for marketing research
 - Costs outweigh the potential value
 - ...

Define the Research Question

What is the “symptom” we are experiencing?

- Decreasing sales
- Decreasing market share
- Decreasing customer traffic
- Increasing customer dissatisfaction
- ...

Define the Research Question

Research objectives

What could be the problems we are having?

- Internal
 - Current strategy
 - Marketing mix
- External
 - Political, economical, social, technological environment
 - ...

Problems causing symptoms

Managerial objectives

What is the “symptom” we are experiencing?

- Decreasing sales
- Decreasing market share
- Decreasing customer traffic
- Increasing customer dissatisfaction
- ...

Define the Research Question

A restaurant owner asks a marketing research team to conduct a research on the satisfaction of her customers

why?

Is there any particular reason for which you would like to conduct this research?

Because we are having very few customers during lunch hour.

it's structural or contingent?

Is it always the situation or it's a recent development?

We used to do fine until about two months ago...

Has any change taken place around that time?

- New menu
- New competitor
- New staff
- Major layoffs by the employers in the area
- New supplier
- ...
- ...

Define the Research Question

A restaurant owner asks a marketing research team to conduct a research on the satisfaction of her customers

Is there any particular reason for which you would like to conduct this research?

Is it always the situation or it's a recent development?

What are you doing differently from the restaurant next door?

Because we are having very few customers during lunch hour; I want to improve that.

We've always had this same problem... the restaurant next door is doing fine.

- *Menu of “slow dish”*
- *Service style*
- *Price*
- *Interior design*
- *Communication*
- ...

Define the Research Question

This research first examines the reasons for low attendance during lunch hour

It investigates customers' satisfaction regarding restaurant's lunch hour service

It analyzes customers' needs and expectations in **lunch hour**

we should define the unit of analysis.

Defining the research question involves:

- What are the variables to be measured?
- What are the nature of these variables?
- Who are the subjects of the research?
- What is the course of the research if it involves more than one question?

Marketing research process

Phase 1 | Preliminary investigation

Exploratory in nature

- reports, studies, interviews, brainstorming

Analysis of the as-is situation

- Defining the company's position within the market and the macro environment, positioning the problem

It's a key issue: if the domain of the problem is badly defined, the research process is useless

Candiani_B6_B6....: Whenever I approach a customer satisfaction survey, first of all, they have to understand which of this strategies in play and of course.

Candiani_B6_B6....: Since the concept of customer satisfaction and the concept of service philosophy is multidimensional, it

is, but it is important for you to keep in mind. Generally speaking, if you wanna.

Candiani_B6_B6....: Or better, if your company wants to improve the levels of customer satisfaction, there are three dominant strategies. The first one, the first one is the typical dominant strategy of a company like, for instance, mcdonald's.

Marketing research

customer satisfaction strategy

improve people
process procedures
like mcdonald. -->
quality driven by
satisfaction

working on delightment
as going beyond
expectation --> NPS
wow effect

transparency
customers do not care
the less they hear from
me the better it is. like
utility --> Customer
Effort Score

- Excellence in execution
- Delightment
- Transparency

Phase 2 | Problem definition and objectives

Definition of the goal of the research in terms of:

Objectives

Relevant variables

- Nature of the problem
- The exact number of people involved
- The key factors affecting the market
- The methods to adopt
- An estimate of costs and time for performing the analysis

Marketing research process

Phase 3 | Design of the research plan

Defining:

- Type of data
- Sources
- Methodology
- Tools for data gathering
- Sampling
- Contact method

Marketing research

Type of data

Identifying data to be investigated

- Defining the data to be gathered with a precise definition
- Research unit: entity to inquire or to which the data to be assessed refer (e.g., companies, business units, individuals, categories, products, etc.)
- Nature of the variables (qualitative - quantitative)
- Measurement methods:
 - Open-ended (qualitative)
 - Closed-ended - classes or units (quantitative)

Marketing research

Sources

Primary

Original information found directly on field through ad-hoc investigation

it's for us, new and moment.

Secondary

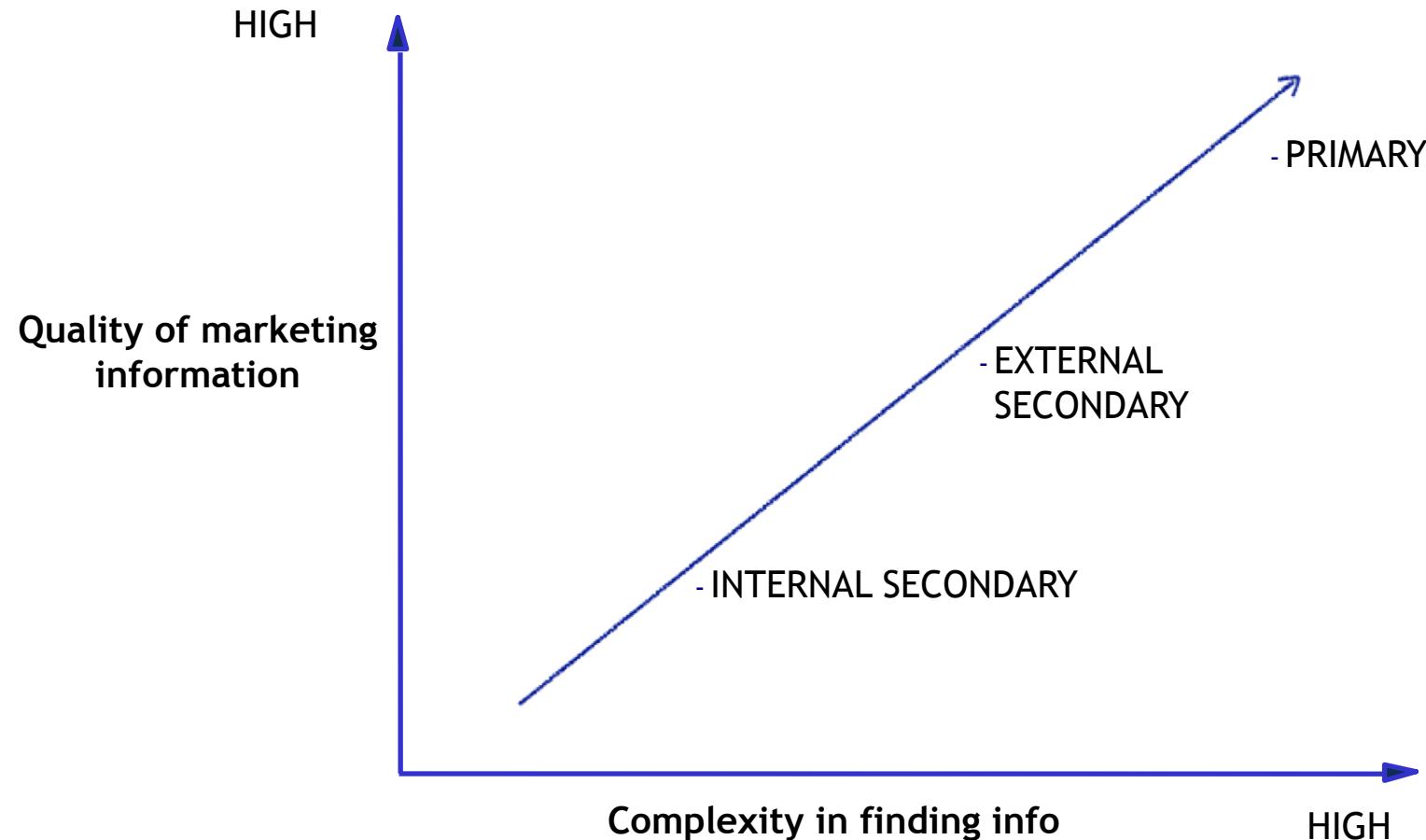
results by third parties, use to inform decisions., cheaper!

Data collected and published for different purposes

Internal: deriving from company's information system (e.g. data from salesmen) insider the organization

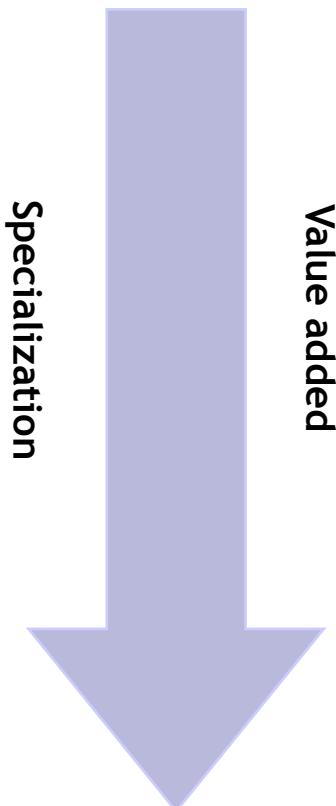
External: publications, third parties' studies, etc.

Marketing research



Marketing research

External secondary sources



- YELLOW PAGES
- YEARLY DIRECTORIES (SEAT, KOMPASS, GUIDA MONACI, FACTBOOKS)
- GENERAL PAGES PUBLISHING RESEARCH SUCH AS STATISTA OR SIMILAR
- SPECIALIZED DIRECTORIES (e.g., INDUSTRY ASSOCIATIONS, INDUSTRY PRESS, TRADE SHOW CATALOGUES, DATA OF STATISTIC BUREAU)
- COMPANIES' INVESTOR RELATIONS, COMPANY BROCHURES, etc.
- CATALOGUE STANDARD AND MULTI-CUSTOMER MARKET STUDIES, etc. (NIELSEN, IRI, Observatories, etc.)
- AD HOC RESEARCH

Market research

Primary sources

- Demographic and socio-economic information (e.g., age, education, occupation, etc.)
- Psychographic information (e.g. traits of personality, interests, etc.)
- Level of awareness about the phenomenon investigated;
- Attitudes and opinions
- Intention to buy
- Motivation behind purchase decisions
- Past behaviors to estimate future behaviors

Marketing research

	Advantages	Disadvantages
Primary sources	<ul style="list-style-type: none">•Accuracy•Up to date info•Easier to understand	<ul style="list-style-type: none">•Higher costs•Lower responsiveness
Secondary sources	<ul style="list-style-type: none">•Quick and low collection costs•Often certified by third parties•Cheaper	<ul style="list-style-type: none">•Obsolescence•Low adaptability of data•Accuracy

Marketing research

Research design

1. Research model

- exploratory how things work explore
- descriptive which % is interested in alternative solution - framing!?
- causal measure variables that's been found in exploratory
- causal understanding Why behind things.

2. Nature of the research

- quantitative
- qualitative

Marketing research

3. *Methodology for data gathering:*

- | -survey
- | -observation

4. Contact method:

- | -survey
- | -Interviews (CAWI, CATI, etc.)

Research models

Exploratory model

- Identifying and defining the problems; often, definition of hypothesis for further, intensive studies;

Descriptive model

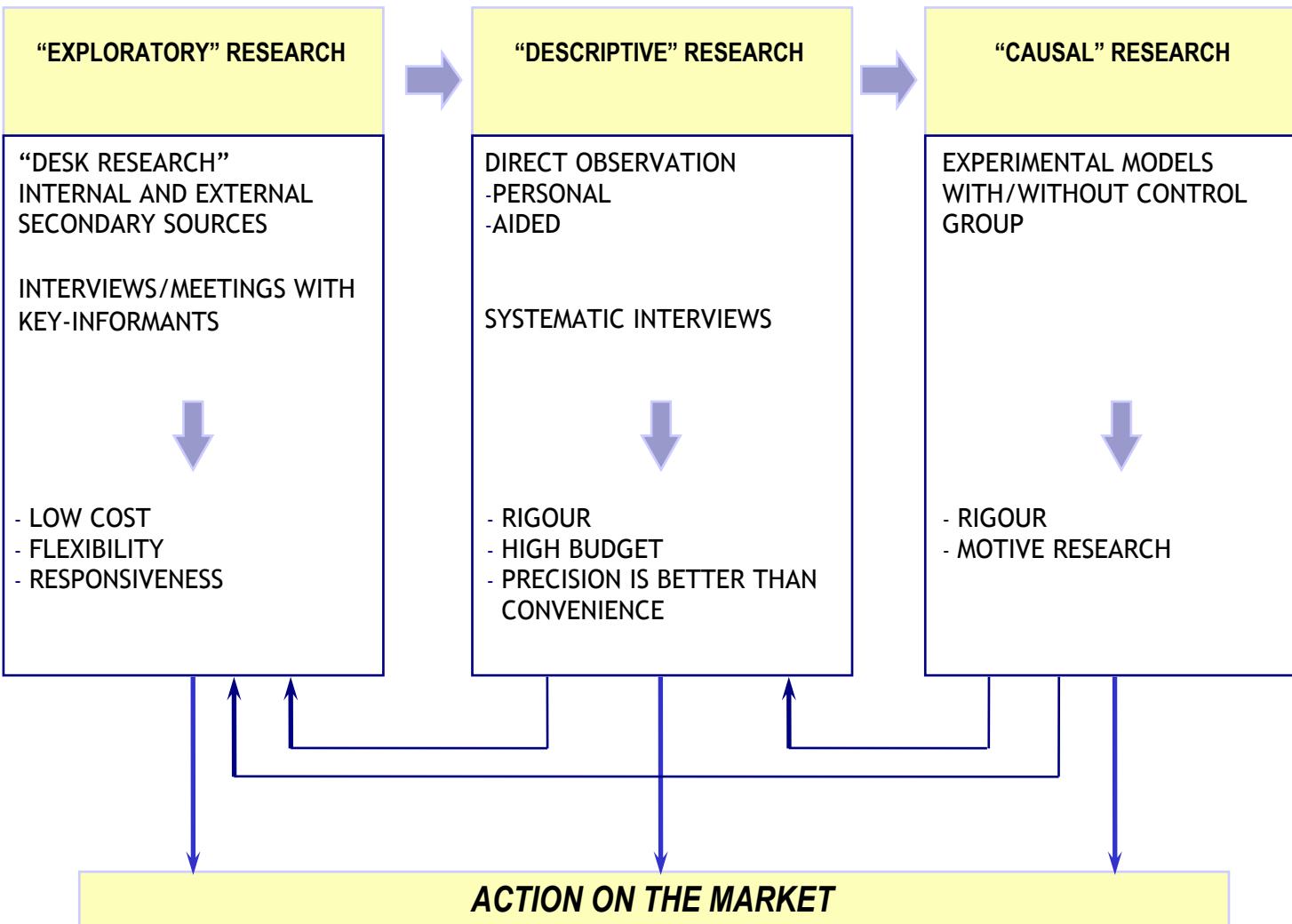
- Possible when a substantial knowledge of the problem is already available;
- Detailed, descriptive results (e.g., customer profile) both qualitative and quantitative

Causal model

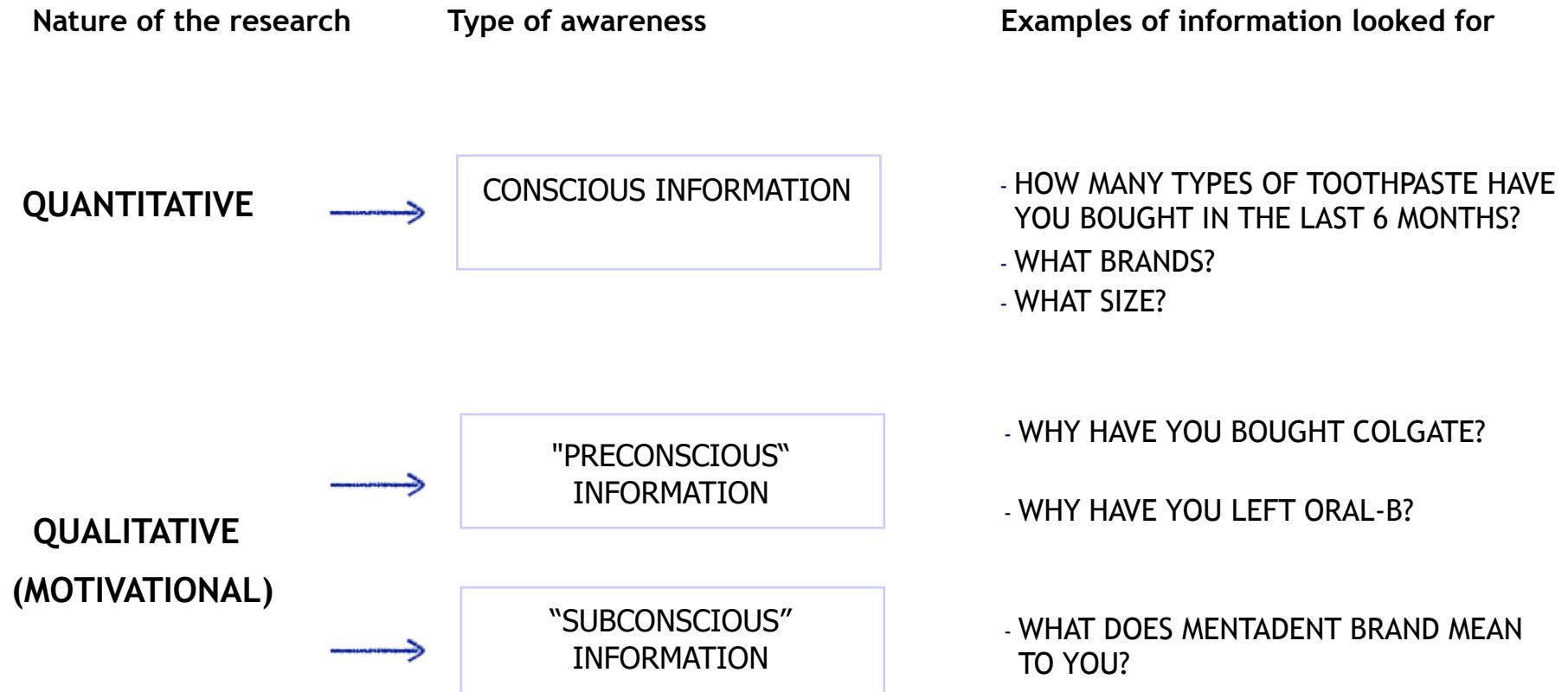
- Identification of the causes of phenomena and evaluation of cause-effect relationships
- Based on the accompanying motive approach (i.e., looking for events increasing the likelihood of another event).

Research methods

What to use



Type of information and methods



Quantitative research

- Assessing phenomena
 - e.g.: how many consumers prefer Colgate to Mentadent?
- Based on sampling
- Closed-ended questionnaires
- Generally, does not require specialised interviewers

Quantitative research

Objective

| Describing in numbers a phenomenon → statistical elaboration, prediction/interpretation

Field of application

| Descriptive models with preliminary information

Examples:

- |
- Market size
 - Purchase frequency
 - segmentation
 - Consumption patterns
 - Profiling

Qualitative

- Seeks to detect the underlying motivations
- Focused on the “why” and “how” questions
 - e.g.: What are the reasons for buying a Montblanc pen?
- Information are often preconscious or subconscious
- Specialized interviewer

Qualitative

Objective

Analyzing and interpreting phenomena that are unstructured and difficult to measure

Field of application

Exploratory models, situations in which the explanatory variables are hardly to assess (e.g. psychological motivations, etc.)

Examples:

- Determinants of a particular type of behaviour**
- Factors influencing buying decisions**
- Consumers' opinions**
- Purchase behaviour analysis**

Consistency between:

Tools for data gathering:

- Questionnaires
- Interviews:
 - Individual
 - Focus group

Sampling plan

- Probability sample
- Nonprobability samples

Contact method

- Questionnaire (mail, via fax, CAWI, CATI, ecc.)
- Interview:
 - direct
 - Self-managed

Sampling plan

A SAMPLE IS A FRACTION OF THE UNIVERSE OF REFERENCE WHICH CONSIDERS A CERTAIN NUMBER OF INDIVIDUALS WHO MUST REPRESENT THE UNIVERSE ITSELF

EVERY SAMPLE IMPLIES THE POSSIBILITY OF ERROR

THE POSSIBILITY OF ERROR INCREASES WHEN

THE SAMPLE IS SMALL
COMPARED TO THE UNIVERSE

THE UNIVERSE IS DIVERSE

THE PHENOMENON IS UNCERTAIN
(e.g. 49% favourable, 51% adverse)

Sampling methods

Probability methods

Based on the probability of one element to be picked:

- Simple random sampling
- Stratified sampling/Cluster (area) sampling
- Systematic sampling

Nonprobability methods

Based on subjective criteria of the researcher:

- Judgement sampling
- Convenience sample
- Quota sample

Simple random sample

Random extraction:

- Each element has the same probability of being selected
- Each element has the same probability of being selected independently of that of the others

Suited to:

- Countable/finite population
- Little is known of the population under examination
- Adequate resources to carry out a sample on a broad scale

Limitations

- High costs for geographic dispersion
- Risk of non-representation in small samples
- High cost of data gathering

Stratified sampling

Assumes that population can be divided into groups expressing significant variables for the survey (e.g., income, age, etc.)

Sample is formed by extracting predetermined numbers of individual randomly from the different strata

Suited when:

- | - Certain elements of the population are known in advance
- | - A deeper knowledge of the sample strata is required

Systematic sample

Procedure

- Organisation and numbering of N units of population
- Picking of a sample of n units by selecting:
 1. Firstly a random unit amongs the first k
 2. a unit every k , using mathematical progression

Suited to:

- Size of the population is unknown in advance (e.g. visitors of a website)
- Population size known but very high

Nonprobability sampling

Judgment sample

The choice of sample units relies on the experience and personal judgement of the researcher

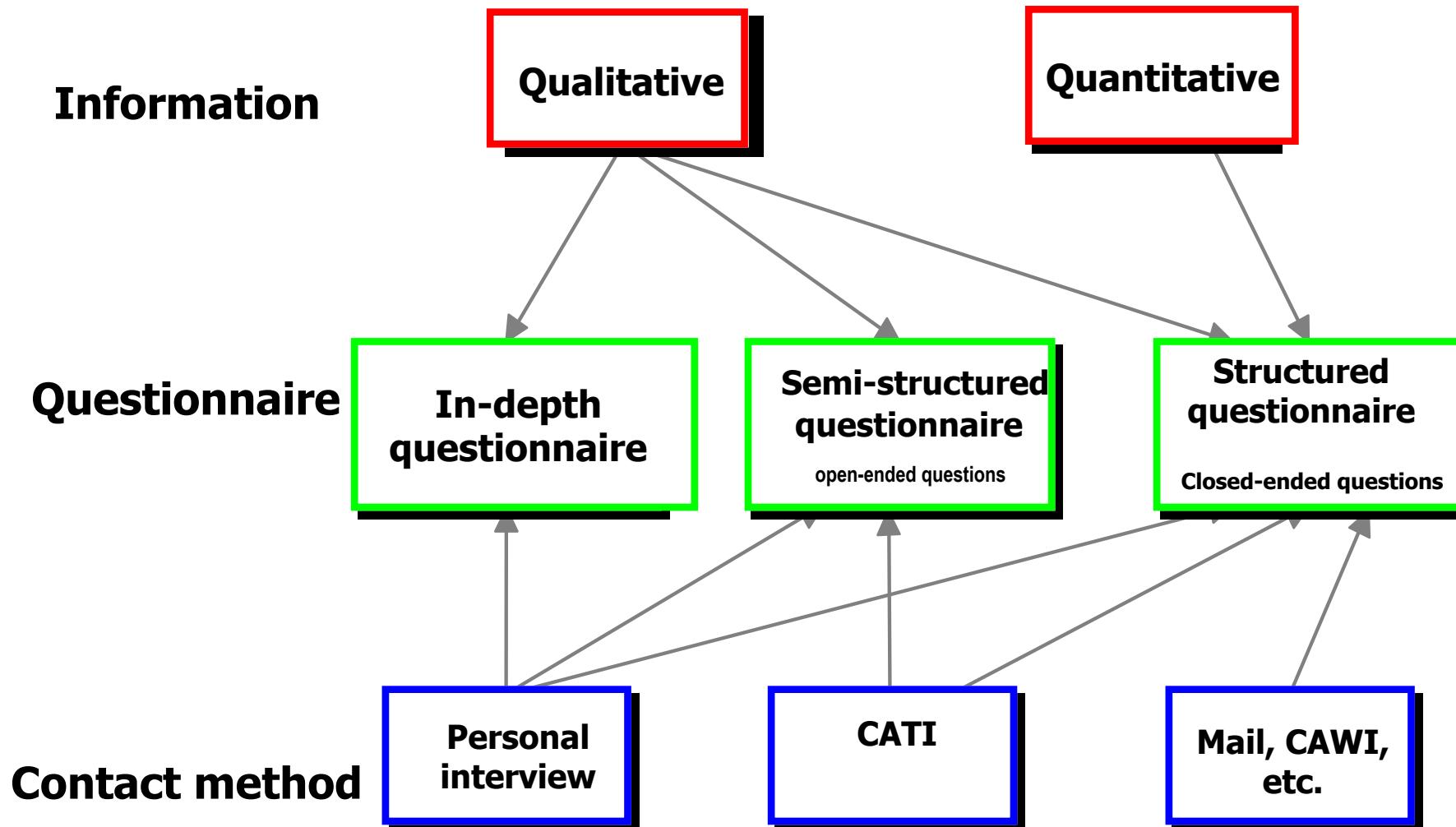
Convenience sample

The units are selected according to the cost of reach
Good way to explore problems at early stages

Quota sample

Homogeneous groups according to variables that are significant
Judgement sample per quota

Contact method



Focus Groups

- Focus group method involves getting a group of people who fit the target demographic in a room, to discuss the (open-ended) research questions designed by the researching party under the guidance of a moderator.
- Focus group could be applied for:
 - Concept testing
 - Positioning research
 - Copy testing
 - Brand association research
 - Brand/product key attribute research
 - ...

In-depth Interviews

- In-depth interview is typically a one-to-one discussion.
- In-depth interview is an alternative to focus group for the areas of application
- But it is less constrained in time and location (the interviewees do not have to be present at the same time in the same location)
- It is also more private if the discussion involves sensitive issues

“Online Focus Group”

- With Internet, the idea of focus group has been applied in various forms, with the advantage of much higher flexibility and larger sample, for the companies to collect qualitative feedback in similar fashion as focus group does:
 - Webcam interview
 - Sample environment or usability tests
 - Online discussion groups/forums
 - Social media conversation
 - ...

Survey Questionnaire

- Survey collects data from a sample group which represents the target population, through in-person contact, telephone, mail, or online.
- Survey could be applied for:
 - Customer satisfaction
 - Product attributes research
 - Segmentation
 - Brand equity research
 - Price sensitivity research
 - ...

Ethnographic Studies

- Ethnography involves trying to understand how people live their lives.
- Instead of asking specific and practical questions, ethnography observes the customers in their normal activities and listens to them in a non-directed way.
- The goal of ethnographic research is to see people's behavior on their terms, not the company/researcher's.
- Ethnographic research, although appears inefficient, could be insightful in contexts such as, how customers would use a new product and what this product means to their lives

Ethnographic Studies

- Ethnography is increasingly applied in various areas of customer behavior research.
- Ethnography could generate more accurate and objective results
- However, setting up such research could be costly and time consuming



Experiment

- Experiment research collects data from controlled field or within designed environment. Through manipulation of at least one variable, the researchers observe customers' reactions to different stimuli.
- Experiment could be applied for:
 - A/B testing (communication campaign)
 - Product attribute research
 - Price sensitivity
 - ...



Combining Qualitative and Quantitative Methods

- Often the researchers would combine the use of qualitative and quantitative research methods.

Two dozens of interviewees revealed five reasons for buying your product.



Among all your customers, what is the approximate percentage motivated by each of the five reasons respectively?



Combining Qualitative and Quantitative Methods

- Often the researchers would combine the use of qualitative and quantitative research methods.

Customer satisfaction survey suggests strong dissatisfaction with their visit to your stores



Let's ask a group of customers, listen to their experience in store, and try to find what went wrong



Phase 4 | Data gathering

The longest and most expensive phase

Trade-off between depth and timeliness, costs and purposefulness

Data Collection

	Qualitative data	Quantitative data
Based on questioning	Focus groups, in-depth interviews	Survey questionnaire
Based on observation	Ethnographic studies	Experiment



Qualitative data is often recorded in words and sentences (dialogues, description of behaviors, etc.), which could subsequently presented in certain kind of diagrams.

Qualitative data could be in numeric form as well, whose purpose is mainly illustrative (for example, GDP of Italy in 2015).

It usually doesn't require a large number of subjects in qualitative data collection.

Data Collection

	Qualitative data	Quantitative data
Based on questioning	Focus groups, in-depth interviews	Survey questionnaire
Based on observation	Ethnographic studies	Experiment



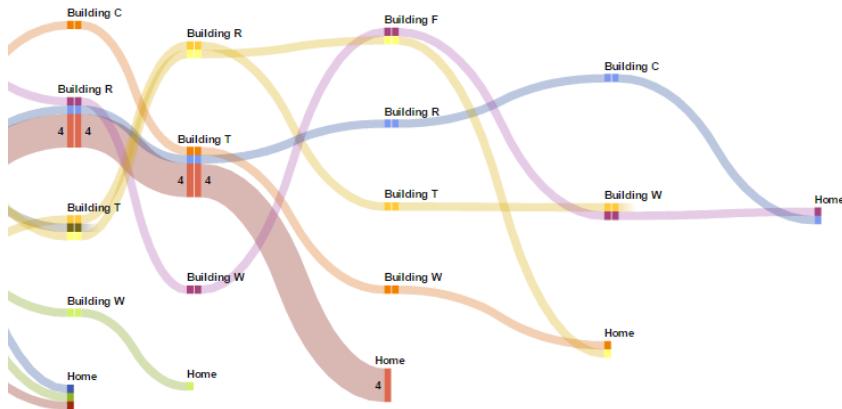
Quantitative data, although not exclusive to numbers, usually required to be presented or coded in numbers in order to facilitate data processing and analysis. For example, instead of asking the subjects to freely express their thoughts, they could choose from a list of common thoughts which ones apply to them; this answer could be transformed into a numeric representation so that it could be analyzed with other data.

It requires a sample size big enough to establish patterns and to generalize the findings.

Data Collection

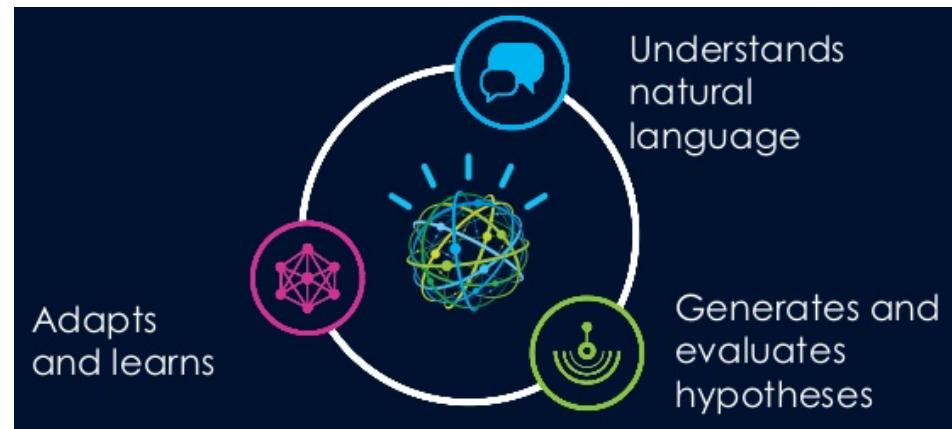
Qualitative Data

Nowadays, technological capabilities are radically improving our ability to analyze data that is traditionally considered “qualitative”.



Cognitive computing allows us to understand the semantics and emotions in language. The computing power makes it possible to analyze large amount of unstructured information expressed in natural language (for example, social media conversations) and to generate information.

“Click path analysis” is an observation of web users behavior. Click paths could be analyzed in large quantity to identify collective pattern and detect general information; they could also be analyzed on individual basis to provide customized information.



Data Collection

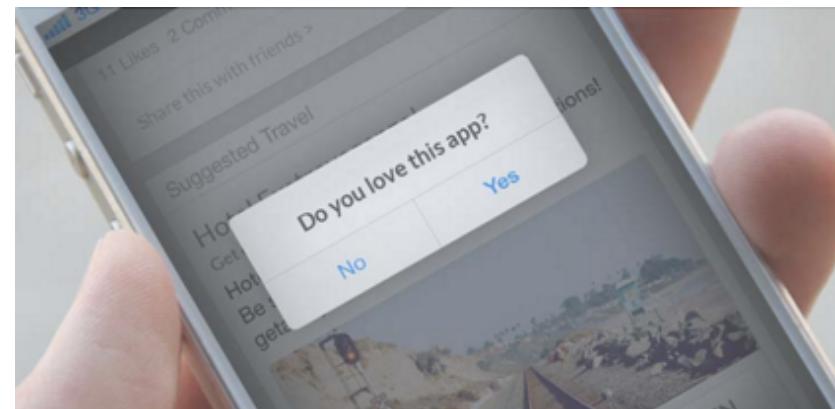
Quantitative Data

Traditional ways of conducting survey include:

- Personal survey (face-to-face / via telephone)
- Mail / e-mail survey

Today, with the diffusion of digital devices and digital interfaces, the channels for conducting survey become eclectic, and the delivery of survey becomes more fragmented (i.e., less long and structured questionnaires, more prompted and specific “mini-questionnaires” are used). Potential advantages of such approach include:

- Targeted respondents
- Relevant moment
- Real-time feedback, fresh memories
- Respondents could be more cooperative with short questions



Data Collection

Quantitative Data

Experiment aims to observe subjects' behavior reacting to the manipulated stimuli.

- Field experiment: stimuli manipulated in the natural setting where subjects' behaviors are observed (i.e., a realistic setting)
- Lab experiment: subjects are presented with simulated contexts (i.e., not real) and their reactions are observed. Nowadays, many such experiments are delivered through internet as well; thus they do not necessarily need a "lab".

Research questions: how to influence people to use stairs instead of escalators?

Control setting: normal stairs

Visual stimuli: stairs painted like piano keys

Multi-sensory stimuli: stairs painted like piano keys and makes sounds when being stepped on



Phase 5 | Verifying and codifying data

Filtering and format

- | -Preliminary analysis of responses
- | -First indications

Non-response bias, elimination of insignificant questionnaires, etc.

Data Preparation and Analysis

Data preparation includes:

- Enter the data into computable files / transform data into computable formats
- Inspect the data for:
 - Incomplete responses (missing data)
 - Questionable responses
 - Entry error
 - ...

Data Preparation and Analysis

Data analysis includes:

- Descriptive data analysis: a summary of the data
 - Means
 - Counts
 - Percentages
 - ...
- Inferential data analysis: draw conclusions using statistical models

Results Interpretation

Finally, the results of the marketing research project will be interpreted so that you transform the research results into insights which could help management's decision making.

Phase 6 | Analysis, evaluation and processing of information

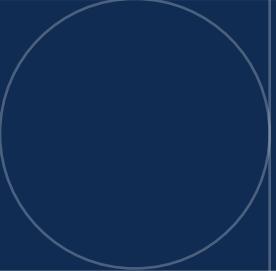
Discussion of the relationships between variables, testing of hypothesis, sense-making

Phase 7 | Presentation of results

>Selecting the most important information with respect to the problem that give rise to the research

Some possible analysis to carry out and their application

Problem	Possible analysis	Rationale
Describing the results	Descriptive statistics (e.g., averages, correlations, etc.), test of hypothesis	Providing an analysis of the results aimed at quantifying and comparing
Simplifying the analysis	Factor analysis/PCA	Identifying groups of variables that are innerly correlated so that they can be «grouped» and managed as a unique, latent variable
Segmenting	Cluster analysis/latent class analysis	Finding groups that are internally homogeneous and externally heterogeneous
Defining the key characteristics/predictors or segments	Discriminant analysis (e.g., ANOVA)	Identifying whether there is a statistically significant difference among groups with respect to specific variables
Understanding the most relevant antecedents of phenomena	Regressive models, SEM (Structural Equation Modelling), etc.	Identifying the correlation between variables and the overall ability of a supposed cause/effect relationship to properly fit and describe the dataset
Understanding whether specific antecedents may lead to an outcome	Logistic regression/probit model	If a variable is dichotomic (i.e. A vs B), understanding if an observation is more likely to end up in A or B



Questionnaire design

What do Surveys Measure?

- Characteristics of people: socio-demographics, etc.
- Mindset of people: beliefs, perceptions, attitudes, emotions, etc.
- Behavior of people: product usage, purchase frequency, etc.
- Preferences of people: wants, needs, relative importance, etc.
- Judgments made by people: satisfaction, willingness to recommend, etc.

Survey Instrument: Questionnaire

- Questionnaire is a set of questions/items designed to generate the data necessary to accomplish the objective of a marketing research project
- Questionnaire standardizes the data gathering process and facilitates data processing
- Good questionnaire design is imperative for quality of data collected

Survey Instrument: Questionnaire Question Design

The aspects to consider in designing a questionnaire include:

- Response format
- Measurement and measurement scales
- Question wording
- Questionnaire flow

Survey Instrument: Questionnaire Question Design

Response format

- Open-ended questions
- Closed-ended questions
- Partially open-ended

What are the reasons that you have chosen brand X?

Which of the following reasons is the most applicable for your choice of brand X?

- 1) It is cheaper 2) It has higher quality
3) It provides longer warranty*

Besides brand X, which other brands have you bought before?

- 1) Y 2) Z 3) Others: _____*

Survey Instrument: Questionnaire

Question Design

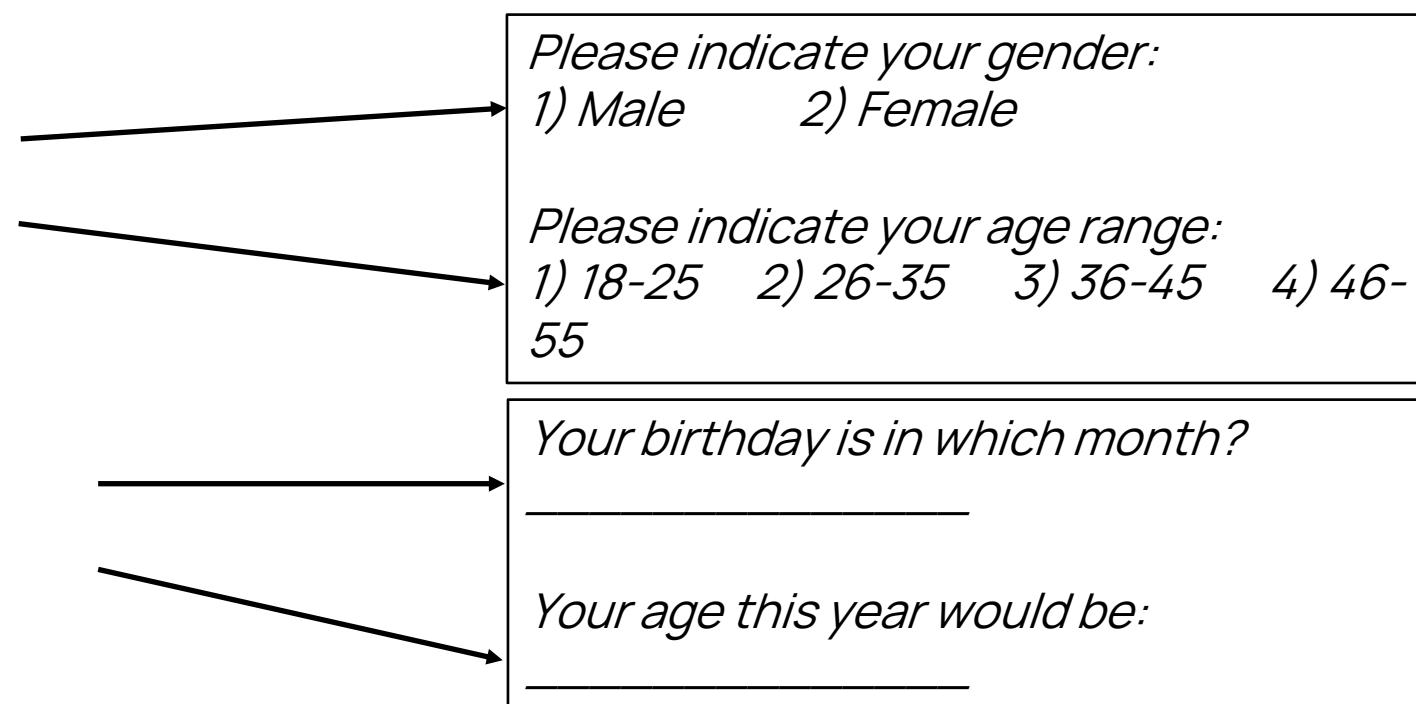
Measurement

Categorical measurement

- Nominal
- Ordinal

Numerical measurement

- Discrete
- Continuous



Survey Instrument: Questionnaire Question Design

Measurement scales

- Likert scales: to express the intensity of opposite attitudes regarding a concept
- Semantic differential scales: to express the perception about two opposite characteristics

<i>This class is boring:</i>						
<i>Strongly Disagree</i>		<i>Neutral</i>		<i>Strongly Agree</i>		
1	2	3	4	5	6	7

<i>The design style of brand A is:</i>						
<i>Retro</i>	1	2	3	4	5	<i>Modern</i>

Survey Instrument: Questionnaire

Question Design

Measurement scales

- Ranking

Please rank the following five attributes according to their importance to you, 1 being the most important and 5 being the least important.

- 2 Price
4 Safety feature
3 Reliability
5 Design
1 Spaciousness

Please allocate 100 points among the following five attributes, with more points indicating higher importance. All points should add up to 100.

- 15 Price
5 Safety feature
10 Reliability
5 Design
65 Spaciousness

Survey Instrument: Questionnaire

Writing the Questions

- Be relevant

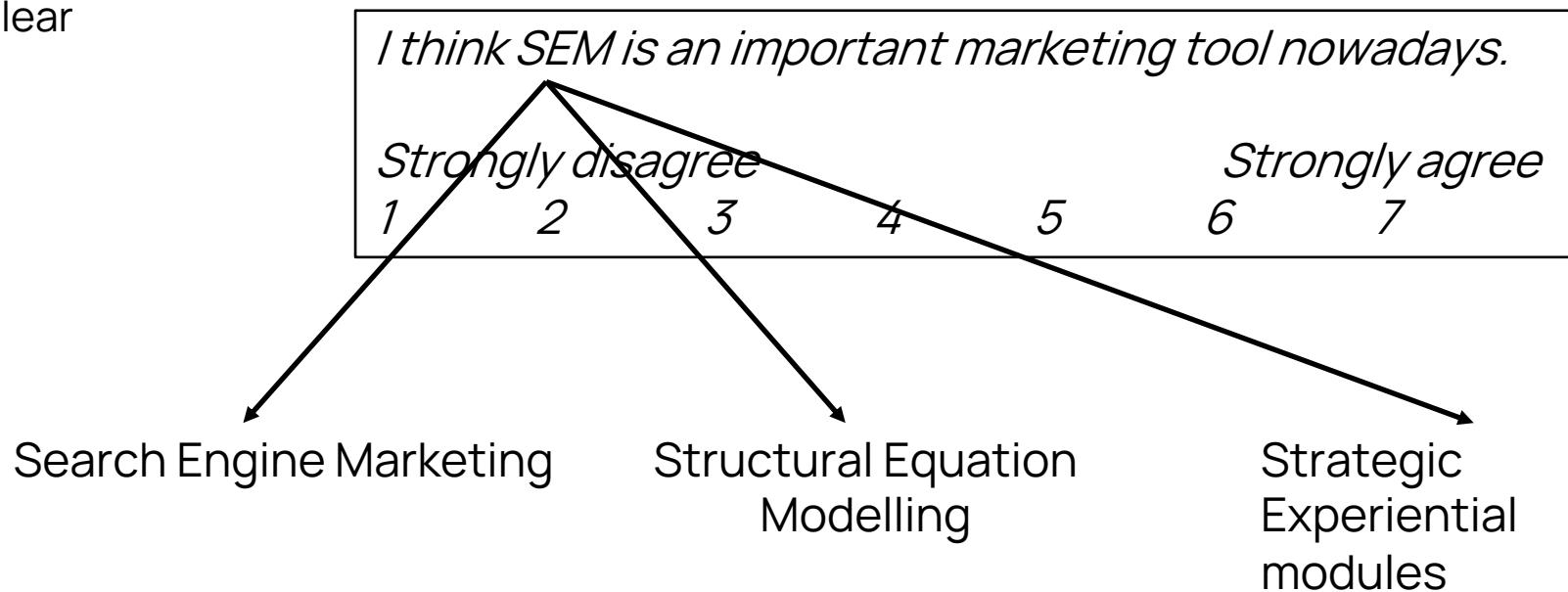
Research question:
Politecnico di Milano's student satisfaction of university facilities.

Survey question:
How would you evaluate the efficiency of public transportation of the city of Milan?

Survey Instrument: Questionnaire

Writing the Questions

- Be specific and clear



Survey Instrument: Questionnaire

Writing the Questions

- Avoid confusion

The service staff is fast and friendly.

Strongly disagree

1

2

4

5

Strongly agree

6 7

Confusion or detection of the absent-minded?

The service staff is not responsive.

Strongly disagree

1

2

4

4

Strongly agree

Survey Instrument: Questionnaire

Writing the Questions

- Avoid bias

Leading questions

Given the severity of pollution nowadays, do you think industries/firms with high pollutant emission should be taxed more because of the impacts of their activities?

Definitely not *Definitely*
1 2 3 4 5 6 7

Hidden (negative) assumption

Approximately how often do you skip classes?

- 1) *At least once a week*
- 2) *About once every two weeks*
- 3) *About once a month*
- 4) *About once every two months*

Survey Instrument: Questionnaire

Questionnaire Flow

- Screening questions (if any): to identify appropriate respondents
- Warm-up questions: easy to answer, general interest
- Difficult and complicated questions: the questions that take time to think about, such as attitudes, rankings, etc.
- Close-up: demographics, classification questions

Fix the following questions

- 1) What problems do you have with the design team?
- 2) Where do you enjoy drinking beer?
- 3) How do you rate the content and the interaction of this class?
- 4) How influential are you in your peers decisions?
- 5) In an era of growing intolerance and sexism, how much would you care about the ethnicity of your team mates in your next job?