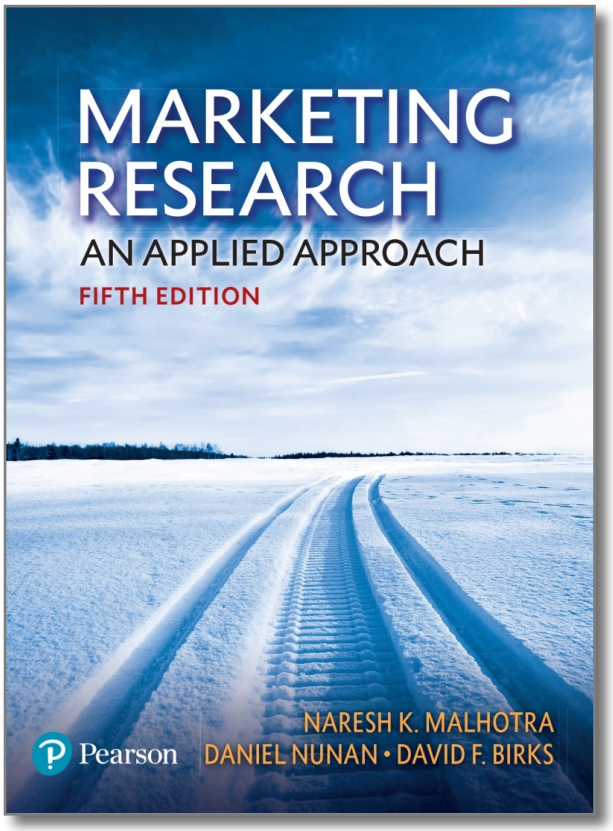
Marketing Research
An Applied Approach
5th edition



Chapter 3
Research design

There is a wide choice of alternative research designs that can meet research objectives. The key is to create a design that enhances the value of the information obtained, while reducing the cost of obtaining it.

Chapter outline

1) Research design definition
2) Research design from the decision makers' perspective
3) Research design from the participants' perspective
4) Research design classification
5) Descriptive research
6) Causal research
7) Relationships between exploratory, descriptive and causal research
8) Potential sources of error in research designs.

Overview

- Once the research problem has been defined, attention is devoted to designing the formal **research project** by formulating a detailed **research design.**
- We are going to explore the **nature of research design** from the perspectives of **decision makers** and **participants**.
- Two major types of research design are discussed **exploratory** and **conclusive**.
- We will classify **conclusive research** designs in **descriptive** or **casual** and discuss both types in detail.

Case of study

- Building a **relationship with consumers** is a challenge facing all organizations, but is particularly important in the case of "**emergent drinkers**", those of **legal drinking** age up **to 25.**
- Allied Domecq Spirits and Wines (www.alliedomecq.com) recognized the danger of being distanced from this crucial group across geographical markets.
- It decided to work with Pegram Walters International (www.aegisplc.com) on a project that **went far beyond an exploration** of the **current usage** and **attitudes towards spirits**.

Allied Domecq PLC was an international company, headquartered in Bristol, United Kingdom, that operated spirits, wine, and quick service restaurant businesses. It was once a FTSE 100 Index constituent but has been acquired by Pernod Ricard.

Dentsu Aegis Network Ltd. is a multinational media and digital marketing communications company headquartered in London, United Kingdom, and a wholly owned subsidiary of the Japanese advertising and public relations firm Dentsu. Its principal services are communications strategy through digital creative execution, media planning and buying, sports marketing and content creation, brand tracking and marketing analytics. It is organised into ten main divisions: Carat, Dentsu (operations outside Japan), Dentsu media, mcgarrybowen, Merkle, MKTG, Posterscope, Isobar, iProspect and Vizeum. Dentsu Aegis Network manages all the Dentsu inc. owned businesses outside the Japan market, which includes the former Aegis Group business that it acquired in 2013. It also includes 360i, Amplifi, Amnet, The StoryLab, Data2Decisions, Mitchell Communications, Cardinal Path [3] and psLIVE. It has 35,000 people across 145 countries.

Case of study

Exploratory research design

- They decided to explore the **target groups' personal values**, their **feelings** about **their lives**, their **hopes** and **dreams**.
- **Three stage of the research design**:
  - **First step**: the researchers conducted **one-hour in-depth interviews** to explore and understand personal viewpoints on **marketing** and **lifestyle issues**. It emerges hypotheses on issues such as how participants **saw themselves** and **their future.**
  - **Second step**: from 20 in-depth interviews, 10 participants were retained as "information gatherers". Leading-edge bars were rented out and **50 emergent drinkers** were invited to participate **in workshops**. Given a task guideline, the information gatherers led discussions. The workshops were video recorded. The participants felt comfortable within their peer group.
  - **Third step**: **Focus group** were used, made up of the "**information gatherers**". They discussed what happened in the workshops and their interpretation of what is actually meant. It was created a vehicle for an ongoing communication and dialogue with the target market. To achieve this, a **high impact magazine was created** (and not only a research report) to bring the research to life after the presentation of findings. It emerges the **lifestyle** of the consumer groups.

Research design DEFINITION

- A research design is a **framework** or **plan** for **conducting a marketing research project**. It details **the procedures necessary** for obtaining the information needed to structure or solve marketing research problems.
- A **research design** involves the following components or tasks:
  - Define the **information needed**
  - Decide whether the overall design is to be **exploratory, descriptive** or **casual**
  - Design the **sequence of techniques** of understanding and/or measurement
  - Construct and pre-test **an appropriate form** for data collection or questionnaire
  - Specify the qualitative and/or quantitative **sampling process** and sample size
  - Develop a plan of qualitative and/or quantitative **data analysis**

Research design from the DECISION MAKERS' PERSPECTIVE

Marketing decision makers give practical support to **researchers**. In order to do this decision makers **expect information** that is:

- **ACCURATE**: i.e. **valid representation** of the **phenomena** under investigation, that derives from **reliable** or **consistent** form of measurement or understanding
- **CURRENT**: i.e. as **up to date** as possible. This is particularly important where consumer attitudes, lifestyle or behavior change quickly
- **SUFFICIENT**: i.e. the **completeness** or **clarity** of a "picture" that reflects the characteristics of the marketing problem the decision makers face
- **AVAILABLE**: i.e. that access to the **relevant information** can be made when a decision is imminent.
- **RELEVANT**: i.e. that the support given "**makes sense**" to decision markers. Whichever approach or techniques (qualitative/quantitative) are adopted, decision makers should be aware of their benefits.

Research design from the DECISION MAKERS' PERSPECTIVE

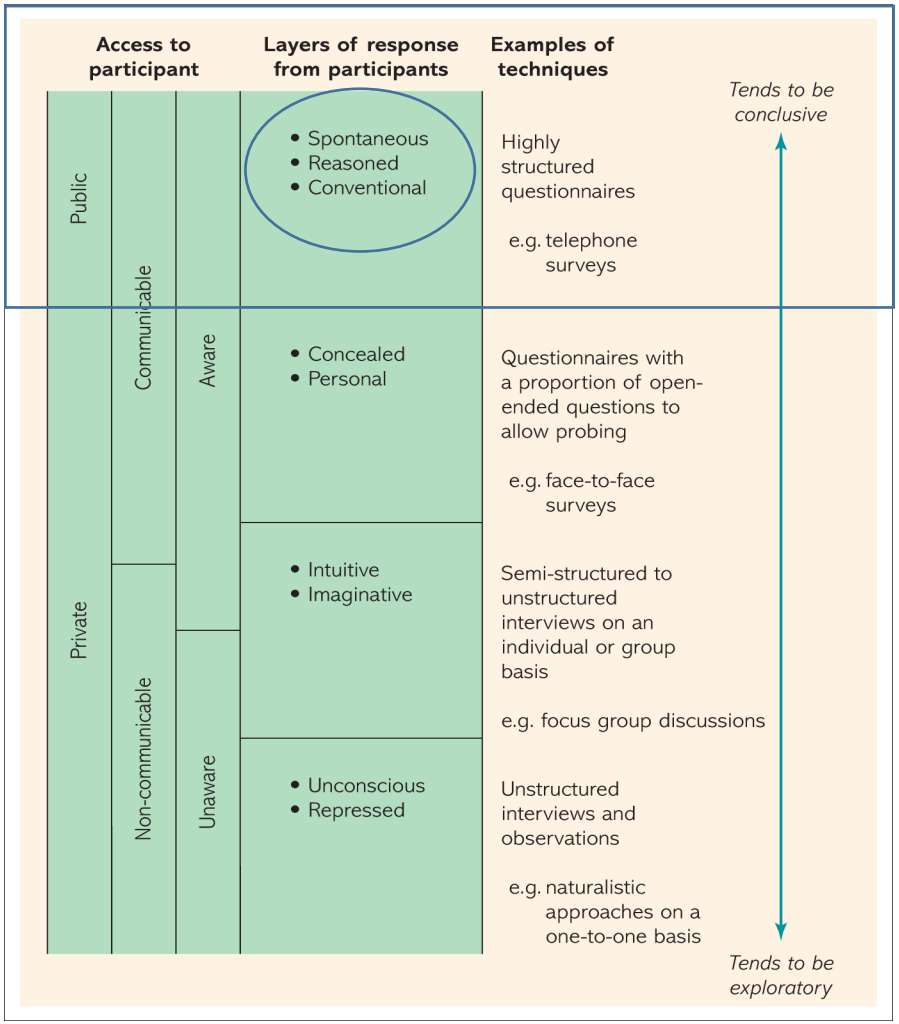
- Generating information that respects all the **above characteristics** is extremely difficult.
- Within **the first characteristic of accuracy** there are further trade-offs that emerge from what the researcher is attempting to measure or understand:
  - The subject of investigation is usually **human**
  - The process of **measuring** or **observing** humans may cause them to change
  - It is difficult to assess the effect of **extraneous variables** in marketing experiments and thus their applications are limited.

- Of all the characteristics, that of **relevance should not be removed**. The support of decision makers could not be continued. Relevance includes the ability to plan and forecast from research findings.

Research design from the PARTICIPANTS' PERSPECTIVE

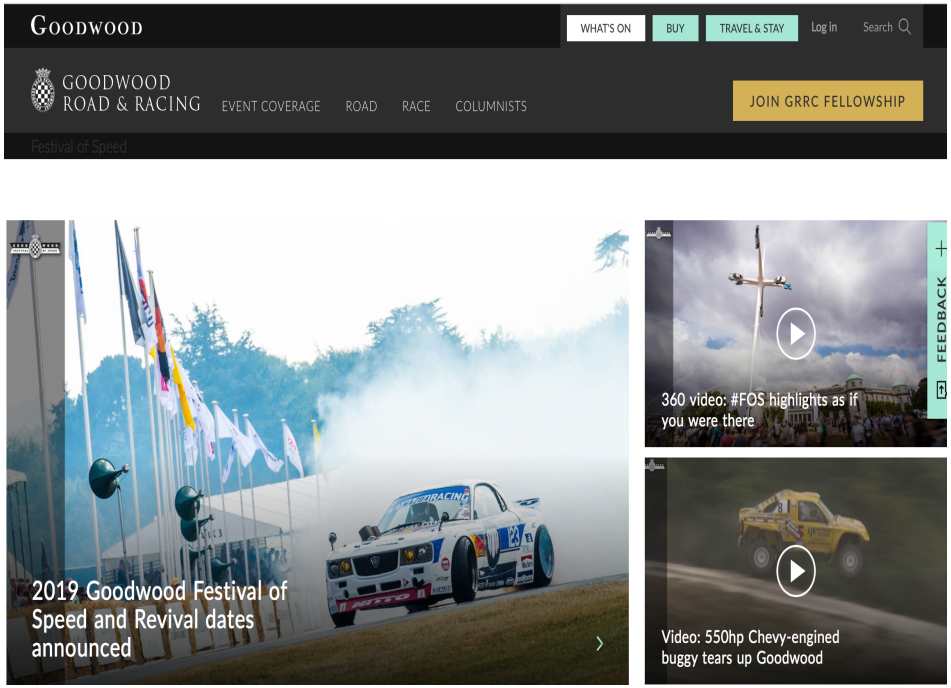
- **The potential participants** in any marketing research investigation play a **vital role** in deciding which **research design** will actually work in practice.
- A **subject of study** may **be complex** and **need time** for participants to reflect upon and put words to the questions posed.
- Certain methods are more likely to build up a rapport and trust – in these circumstances putting the participants in the right frame of mind and getting them to respond in a full and honest manner.
- Let's see how participants may react **to questions posed to them**.

Research design from the PARTICIPANTS' PERSPECTIVE



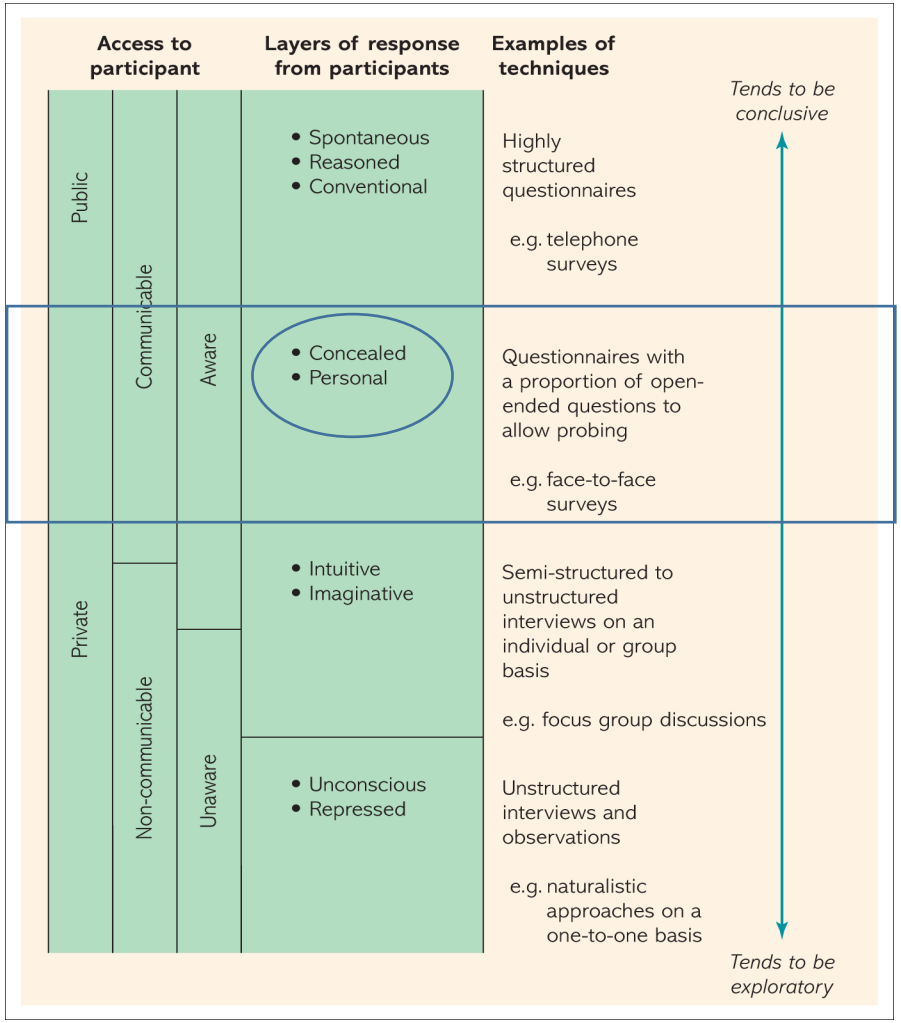
- **Spontaneous, reasoned, conventional are questions** that participants can express a view about quickly and that are simple for them to reflect upon, relating to common, everyday occurrences that are at the forefront of their minds.
- In such circumstances, **answers to questions** on **reading habits** are easy to access and respond to [newspapers read, newspaper title, etc...]; thus, highly structured questionnaires are appropriate.
- In such situations, **quantitative techniques** are applicable and allow very detailed descriptions or experiments.

The Moving Motor Show at Goodwood



- The Moving Motor Show (www.goodwood.com/grrc/event-coverage/festival-of-speed/) enabled a limited number of motoring enthusiasts and new-car buyers to see the very latest model up close for the first time in the UK (it is possible to experience them).
- Following the show, IFM Sports Marketing Surveys (http://repucom.net) contacted visitors who were invited to complete an **online questionnaire**.
- The nature of questions posed in this survey addressed attitudinal, behavioural and demographic questions.
- Main results: 26% of visitors had never been to any event prior to this visit; 37% of visitors had negative to say about their visit to Goodwood; 27% disliked the walk from the car park to the event

Research design from the PARTICIPANTS' PERSPECTIVE

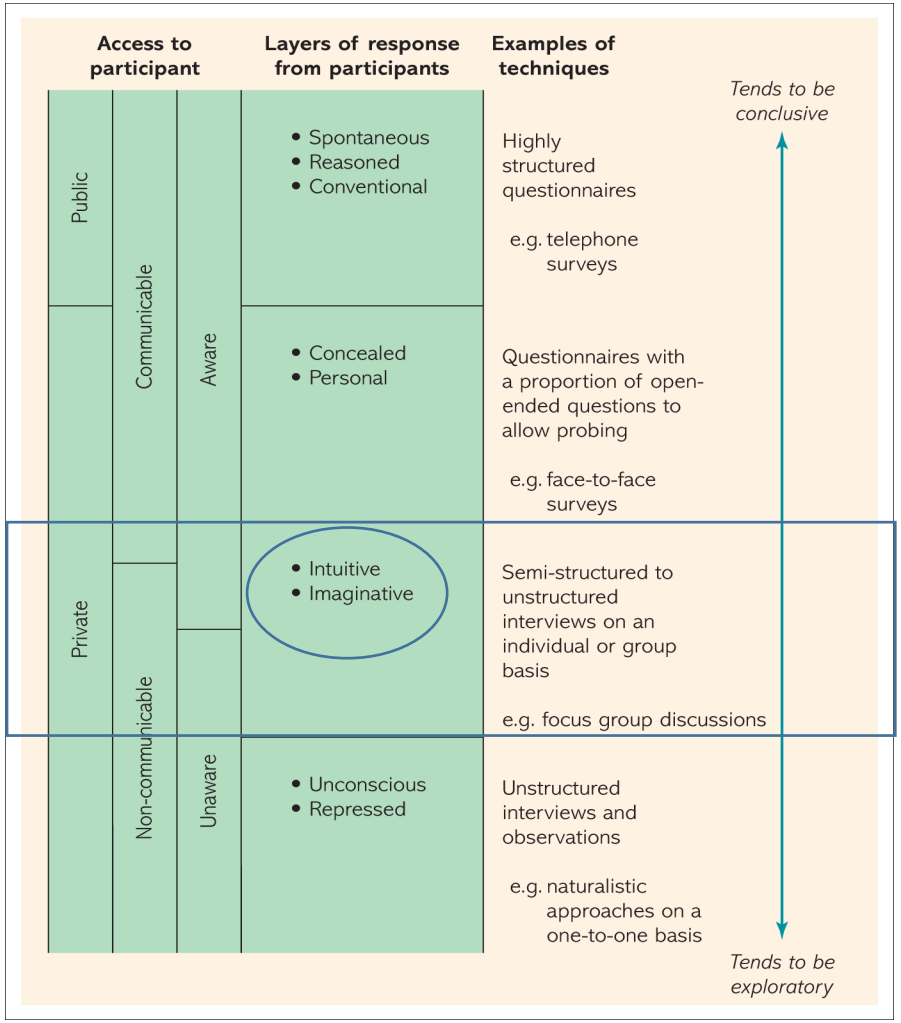


- **Personal and sensitive questions**. They involve aspects of participants' life.
- **Structured questionnaires** can measure the relevant issues, but an amount of rapport may be needed to induce participants to **trust the interviewer** and reveal their "more personal" attitudes and behavior.
- If the presence of the interviewer causes discomfort and bias, the **anonymity of online research methods** can facilitate more honest and open responses.

Minimising unease, embarrassment or reluctance in disclosing intimate personal information

- Durex (www.durex.com) wishes to support each individual's right to enjoy a healthy and rewarding sex life.
- Its challenge was to develop a **brand platform** that encompasses **sexual well-being** without safe sex and barrier protection.
- In order to do this, the company realized a marketing research that explored the **sexual life of its targets**.
- **A key challenge for the research was to ensure that unease, embarrassment or reluctance in disclosing intimate personal information was minimised.**
- The focus of the approach was "*treating others as we expect to be treated*"
  - ✓ It was important to be **open** and **honest** about the nature of the survey from the very beginning.
  - ✓ The introduction advised participants of the **sensitive nature** of the questions and it also stressed that researchers were not in any way intending to cause any offence.
  - ✓ Participants were consequently able to make an **informed choice** as to their participation.
  - ✓ A **funnel approach** to questionnaire design was adopted, with the **less sensitive questions placed at the beginning** of the questionnaire to build trust, to that participants felt comfortable being asked the **more sensitive questions** later on.
  - ✓ Throughout the survey, participants were given the option **to decline to answer**, or **suspend**, to ensure they did not feel pressured into answering questions they did not feel comfortable with.
  - ✓ An **online approach** was singled out as the best one for this survey.

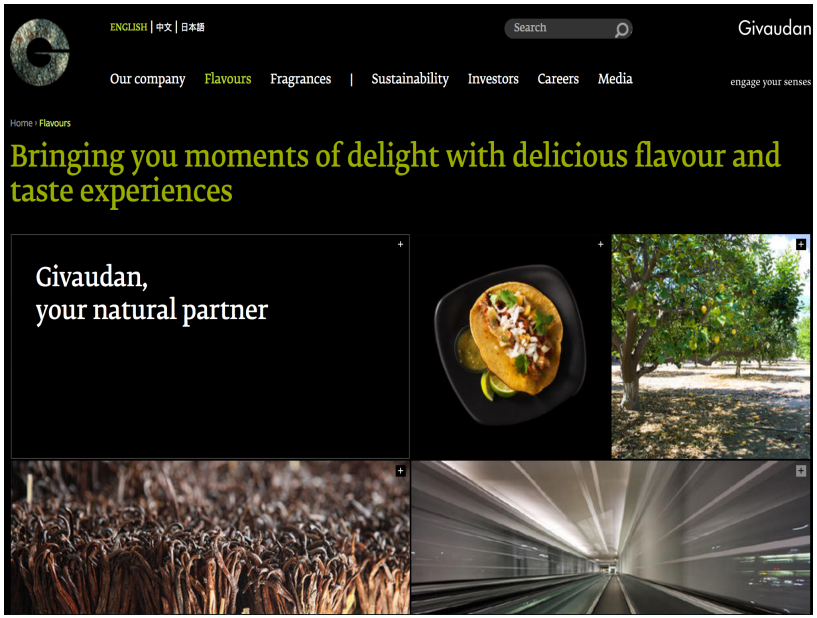
Research design from the PARTICIPANTS' PERSPECTIVE



- Questions that require participants **to be creative**
- Imagine a *new product* that mixes yogurt and alcohol.
  - What combination of alcohol and yogurt would work
  - What types of consumer would be attracted to them
  - Would it be a dessert liqueur such as Baileys Irish Cream, or frozen yogurt to compete with Haagen-Dazs luxury ice creams
  - Would champagne, whisky or beer be the best alcoholic ingredient
  - What name would best suit it
  - What price level would it sell at
- Participants **reflect upon ideas**, play with **ideas** and words and dig deep to draw out ideas in a relaxed manner.
- **Structured questionnaires** cannot do this; such a scenario would work best with the use of **focus group**.

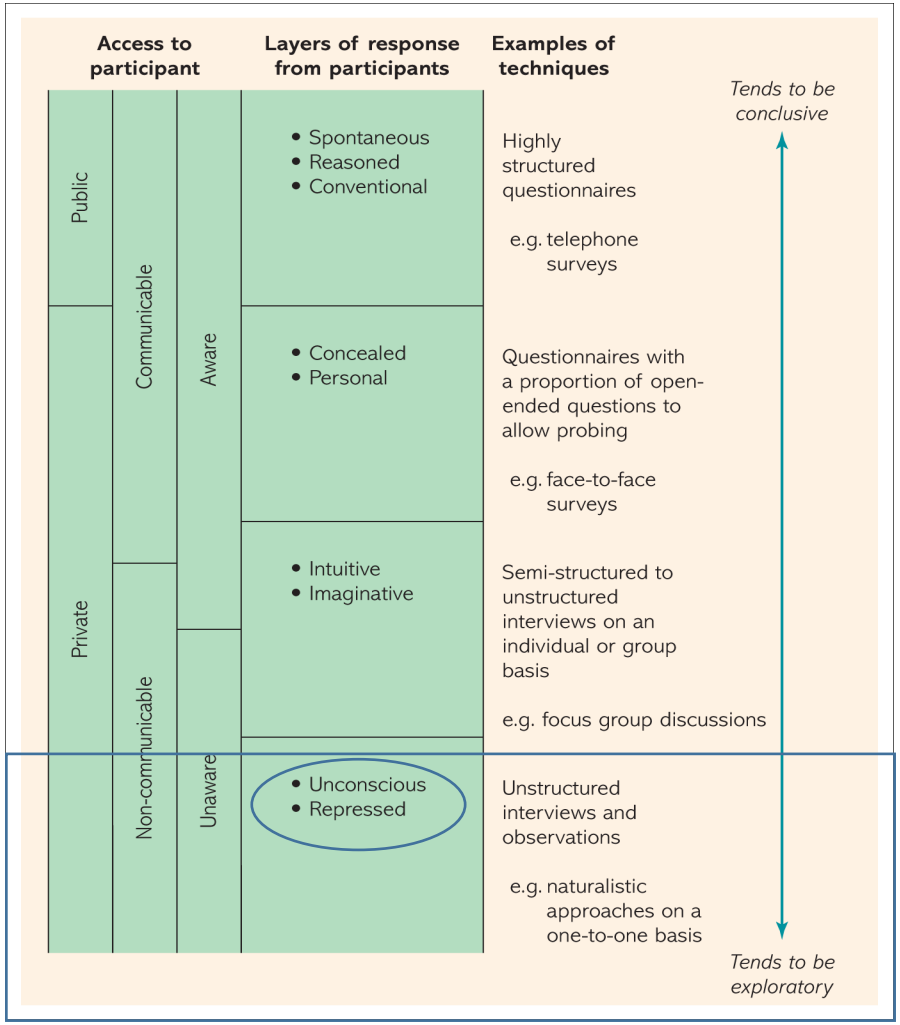
What the nose knows

- A team of researchers works in the **Global Consumer Insight** of the company **Givaudan** (www.givaudan.com). Its aim is to help brands match household products, such as floor cleaners, with **scents** that appeal to consumers.



- **Group discussions, one-to-one interviews, in-home ethnography are used tools.**
- The leader of the team tells: "the negative side is there are no number so you cannot do statistics with the results, but the positive is that it is more to do with the "**why**" rather than the "**what**" and the "how much".
- One of the problems with asking consumers about different scents is that they tend **not** to **have many words** to be able to describe either a smell or why they do or do not like it.
- Words as "**clean**" and "**fresh**" are used almost universally by people describing a whole range of scents they like.
- In case words fail them, consumers can be **shown pictures** to help them associate **scents** with certain **moods**, **colours** or **scenes**.
- **Researchers** draw on a bank of about **100 pictures** [everything from food and flowers to mountain views and people pulling different facial expression] to help discussion along.

Research design from the PARTICIPANTS' PERSPECTIVE



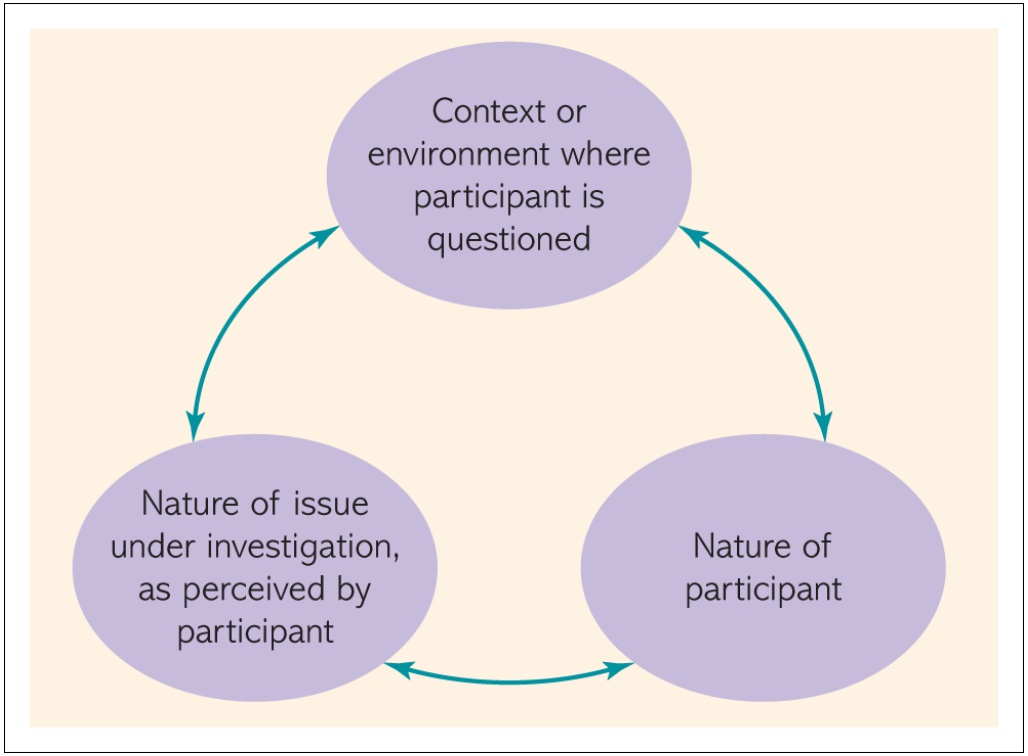
- **Consumers** do not really know or are aware of the true drivers of their **intentions** or **behaviors**.
- An example may be trying to understand the **childhood influences** of family and friends on an individual's perception and loyalty to brands that the individual may purchase, perhaps on a habitual basis –an example being washing-up liquid.
- Nothing is standardized or consistent in these circumstances, the researchers having to shape the **questions**, **probes** and **observations** as they see fit in each interview or observation situation.

Winning people's hearts

- There are **plenty of brands** that give consumer satisfaction and then there are brands such as **Apple** (www.apple.com) and **Netflix** (www.netflix.com) that have something extra. This intangible something is called "**emotional branding**".
- This **magnetism** can be manufactured and there is a big role for research in coming up with the **right chemistry** to create it. **Nike** is a good example of an **emotional brand**. It made sportswear accessible to non-sports people with a brand story that inspired not just success but **energy** and **determination**.
- It is important to evaluate visual codes and emotional stimuli associated with brands and their competitors, to determine how consumers experience brand on a sensory level.
- "I think (Marc Gobé, CEO of Desgrippes Gobé Group, www.dga.com) consumers are not honest all the time and we are limited by the words that we use express the emotions we have. It is very difficult to truly understand what it is that consumers really will accept in their **lives**, particularly when **it comes to innovation**".

Research design from the PARTICIPANTS' PERSPECTIVE

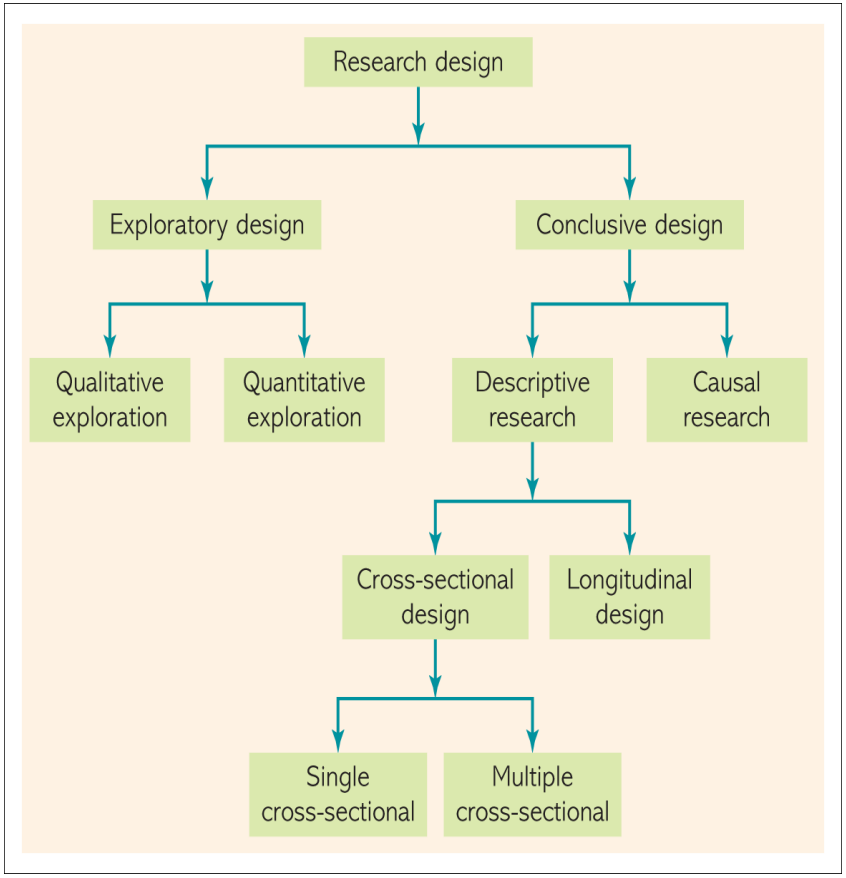
Researchers should also understand how the context or environment may affect participants.



- Certain contexts could have helped the target participants to relax, to develop a better relations with interviewers and other participants and to think more about the issue and express their feeling more clearly.
- If the interviews are conducted online, the same level of relation might not work so well.
- Researchers must understand the characteristics of participants, how they react to particular issues and how they react in different context or environments.

Research design classification: EXPLORATORY RESEARCH DESIGN

The RESEARCH DESIGN may be classified as **EXPLORATORY** or **CONCLUSIVE**



EXPLORATORY research design

It provides insight into an **understanding** of **marketing phenomena**

Research design classification: EXPLORATORY RESEARCH DESIGN

https://www.youtube.com/watch?v=yZiDSCabBz0

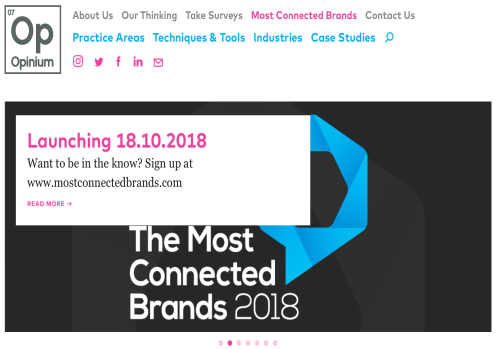
It provides preliminary information that help to define the problem and suggest hypothesis.

EXPLORATORY research design

- It is used when the **subject of study** cannot **be measured** in a **quantitative manner** or **when the process of measurement** cannot realistically represent particular **qualities**.
  - A researcher is trying to understand what "*atmosphere*" meant in restaurant, *exploratory research* may help to establish all the appropriate *variables* and how they *connect together* [the role of music, type of music, types of furniture, colours and textures].
  - From the perspective of the creative director in an advertising agency, quantitative measurements of the individual component of "atmosphere" may not create the holistic feel of a restaurant in a manner the creative director can relate to.
- It is used where the **problem must be defined more precisely**, relevant **courses of actions** identified or additional **insights** gained before going on to confirm findings using a **conclusive research**.

Getting inside the minds of European voters

Researchers at Opinium Research (www.opinium.co.uk) and the London School of Economics (ww.lse.ac.uk) have realized a **multi-year study** to **get inside the mind of voters across 12 European countries**. The aim was to build a better understanding of the **psychology of voting process itself**.



The research design involved both qualitative and quantitative data collection approaches including:

- In-depth interviews
- Multi-wave quantitative surveys
- Experiments
- Diary techniques
- Observational techniques in polling stations

One approach to dealing with combining **qualitative** and **quantitative data sources** is to ensure that there is a "**bridge**" between the different methods. For example, including *open-ended questions* in surveys that link to the *themes* used in interviews, or using questionnaire items in diary entries. This helped to triangulate the data and identify potential sources of bias.

The study generated a **number of insights** about the voting process itself. The high levels of voters who change their mind in the week before an election and the role of emotions in the voting process.

Research design classification: EXPLORATORY RESEARCH DESIGN

Uses of exploratory research design

1. To obtain some **background information** where absolutely nothing is known about the problem area
2. To define **terms** and **concepts** fully and to formulate hypotheses for further investigation and/or quantification
3. To identity and explore **concepts** in the development of **new products** or **forms** of marketing communication
4. To identify relevant or salient **behavior patterns**, **beliefs**, **opinions**, **attitudes**, **motivations**, etc…, and to develop structures of these constructs
5. To develop an understanding of the structure of **beliefs** and **attitudes** in order to aid the interpretation of data structures in multivariate data analysis
6. To explore the reasons that lie behind the **statistical differences between groups** that my emerge from secondary data or surveys
7. To explore **sensitive** or **personally embarrassing issues** from the participants' and/or the interviewer's perspective
8. To explore issues that **participants** may feel deeply about, that are difficult for them to rationalize and that they may find difficult to articulate
9. To "**data-mine**" or explore quantitative data to reveal hitherto unknown **connections** between different measured variables

Research design classification: EXPLORATORY RESEARCH DESIGN

- It is a **flexible**, **loosely**, **structured** and **evolutionary** approach
  - Exploratory research does not have a *predetermined set* of procedures
  - The nature of the research *changes* as the researcher gains information
- The **sample** is selected to generate *maximum insight* and is small and non-representative.
- The sampling procedure is focused upon "**quality**" individuals who are willing to open up, use their imagination, be creative and reveal sensitive thoughts and behavior.
- Researchers are alert to **new ideas** and insights as they proceed.
- The **creativity** and **ingenuity** of the researcher play a major role in exploratory research.

Research design classification: EXPLORATORY RESEARCH DESIGN

	Exploratory	Conclusive
Objectives	To provide insights and understanding of the nature of marketing phenomena To understand	To test specific hypotheses 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

Research design classification: CONCLUSIVE RESEARCH DESIGN

CONCLUSIVE research design

It **describes specific phenomena**, to **test** specific hypothesis and to **examine** specific relationships.

- The **information** needed is clearly **specified**
- *Conclusive research* is typically more **formal** and **structured** than *exploratory research*
- It is based on **large**, **representative samples** and the **data** obtained are subjected to **quantitative analysis**

	Exploratory	Conclusive
Objectives	To provide insights and understanding of the nature of marketing phenomena To understand	To test specific hypotheses and examine relationships To measure
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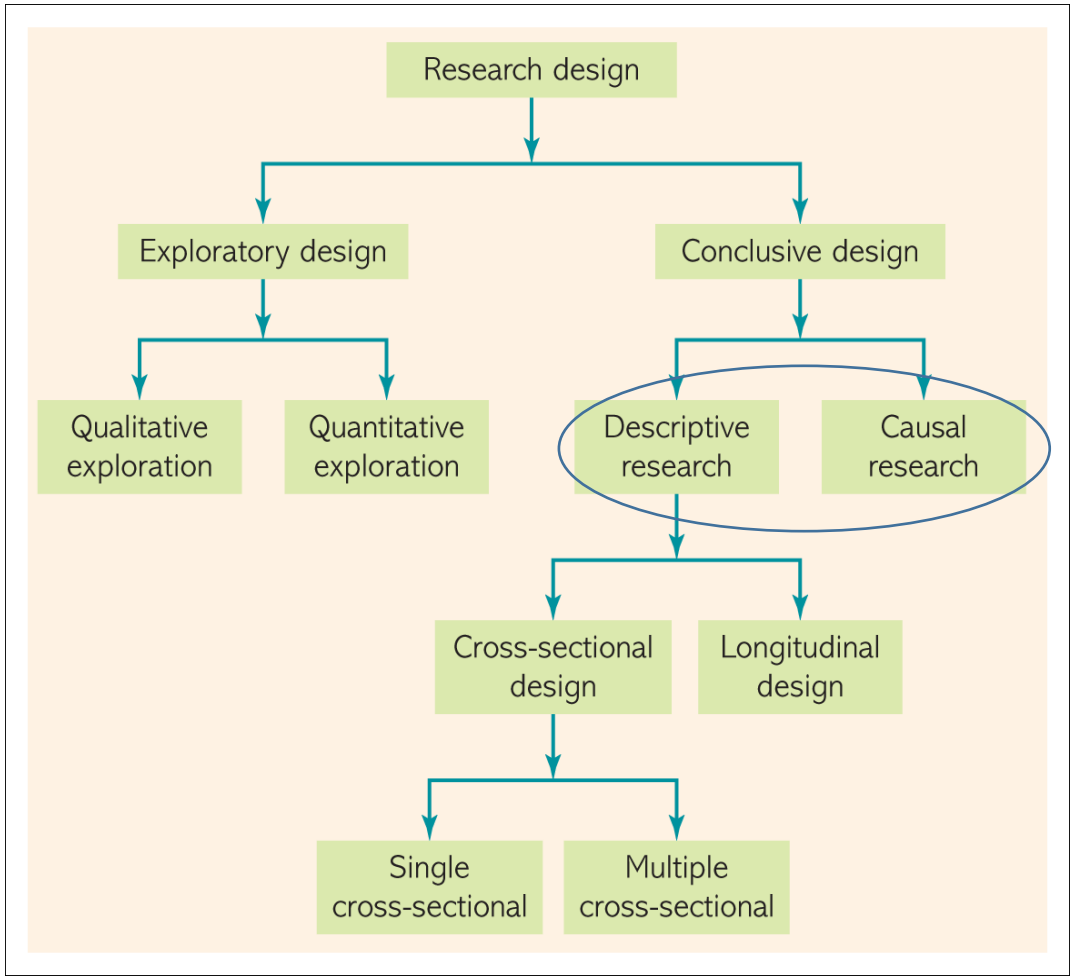
Methods	Expert surveys Pilot surveys Secondary data Qualitative interviews Unstructured observations Quantitative exploratory multivariate methods	Surveys Secondary data Databases Panels Structured observations Experiments

Research design classification: CONCLUSIVE RESEARCH DESIGN

Uses of conclusive research design

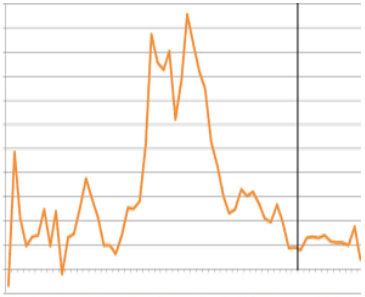
- To describe the **characteristics** of relevant groups such as consumers, salespeople, organizations, or target market.
- To estimate the **percentage** in a specified population exhibiting a **certain form of behavior**.
- To count the **frequency of events**, especially in the patterns of consumer behavior.
- To measure **marketing phenomena** to represent larger populations or target markets.
- To determine the **perceptions** of product or service characteristics.
- To compare **findings** over time that allow changes in the phenomena to be measured.
- To measure **marketing phenomena** in a consistent and universal manner.
- To determine the **degree to which marketing variables** are associated.
- To make **specific predictions**.

Research design classification: CONCLUSIVE RESEARCH DESIGN



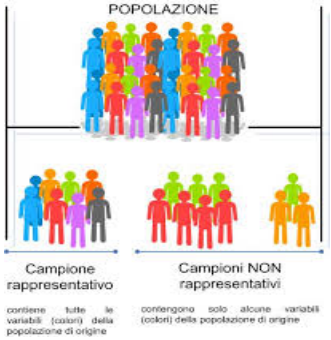
Conclusive design

- **Descriptive research**
- **Casual research**



Descriptive RESEARCH

- The major objective of **descriptive research** is to **describe something** (usually market characteristics or functions);
- It is characterized by the **prior formulation** of specific **research questions** or **hypotheses**;
- The **information** needed is clearly defined;
- It is **preplanned** and structured;
- It is typically based on large **representative samples.**



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Descriptive RESEARCH

Examples of descriptive research studies in marketing research:

- **Market studies** describing the **size** of the market, **buying power** of the consumers, **availability** of **distributors** and **consumer profiles**
- **Market-share studies** determining the proportion of total sales received by a company and its competitors
- **Sales analysis studies** describing sales by geographic region, product line, type of account and size of account
- **Image studies** determining consumer perceptions of the firm and its products
- **Product usage studies** describing consumption patterns
- **Distribution studies** determining traffic-flow patterns and the number and location of distributors
- **Pricing studies** describing the range and frequency of price changes and probable consumer response to proposed price changes
- **Advertising studies** describing media consumption habits and audience profiles for specific TV programs and magazines

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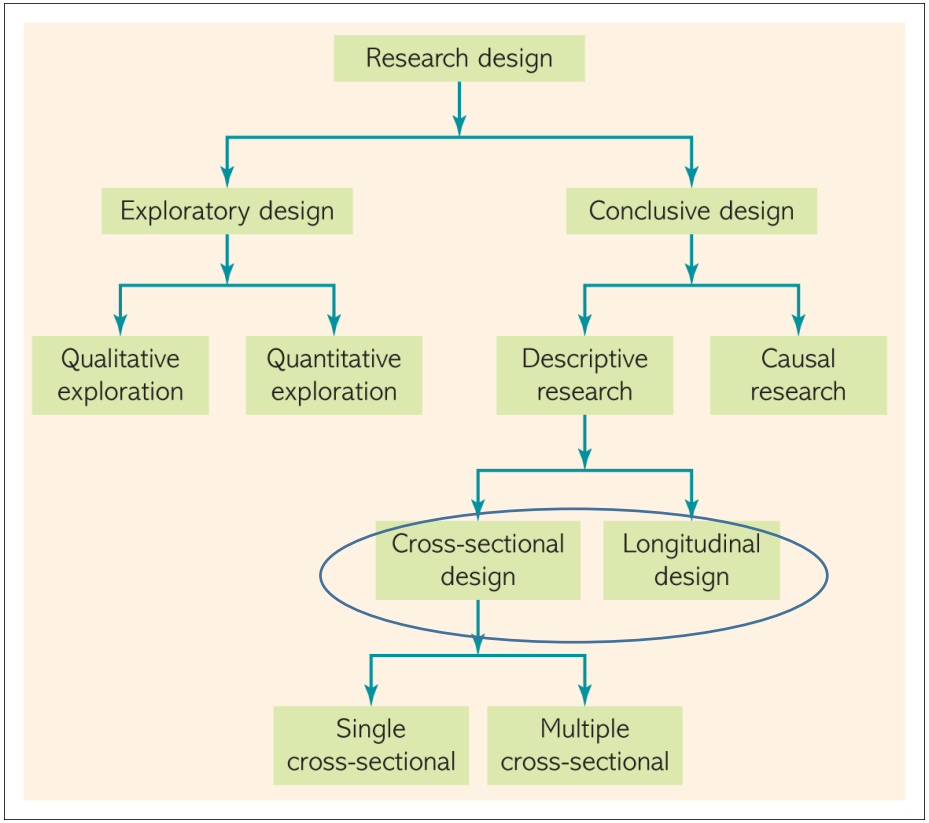
CROSS-SECTIONAL design



Descriptive research can be classified into cross-sectional and **longitudinal research**

Cross-sectional designs involve the **collection of information only once** from **any given sample of population elements.**

They may be either single cross-sectional or multi-cross sectional.

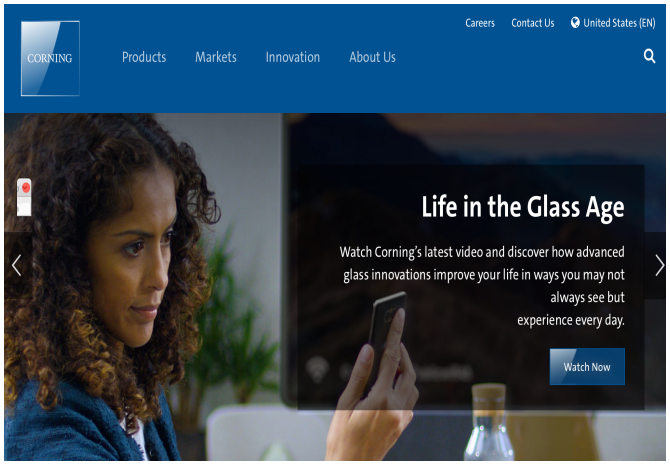
- In **single cross-sectional designs**: only **one sample** of **participants** is drawn from the target population and **information is obtained from this sample only once**.
- In **multiple cross-sectional designs**: there are **two or more samples of participants**, and information from **each sample is obtained only once**.

Television motivations - [single cross-sectional design]

One group of participants who provided information only once

Research made to understand the "**drivers**" of consumer behavior.

Corning is a leading specialist manufacturer of glass products, perhaps best known for its role in providing **screens** for the iPhone, iPad and other mobile devices.

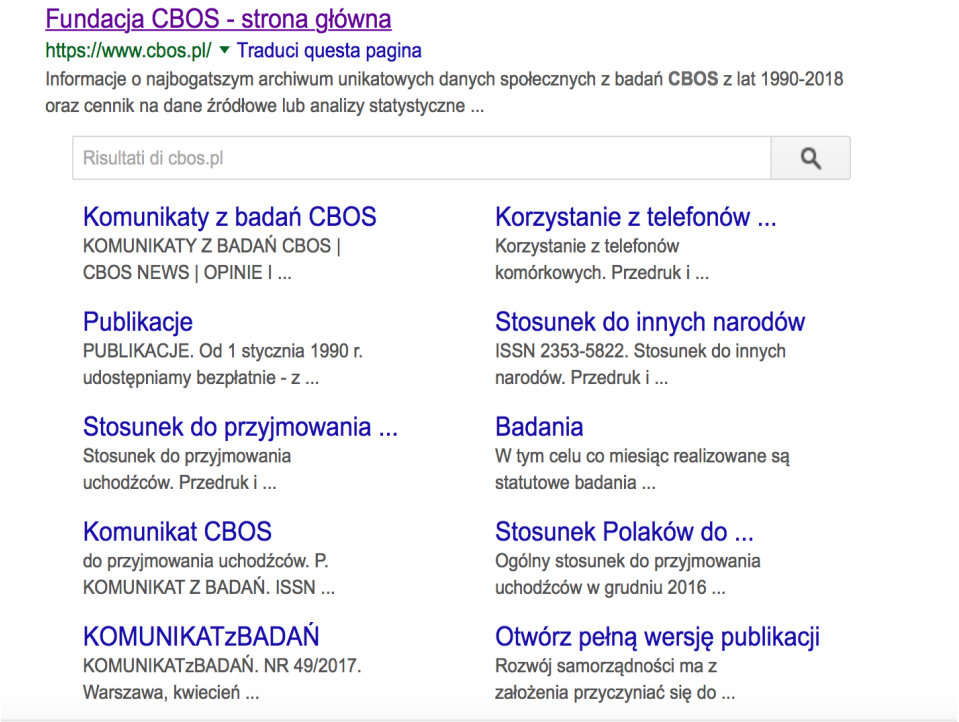


In a study commissioned by Corning Display Technologies (www.corning.com), the **motivations for choosing a new TV were measured**.

- An online survey of **2,500 respondents** in China, France, Germany, Japan, the UK and USA was administered.
- Qualitative research grounded in **motivational theory** underpinned the survey
- The qualitative research suggested a number of **consumer concerns** and **interests** that might have an impact on TV preferences, especially across the countries being studied.
- This knowledge was used to develop a **list of concerns** and **interests** that could encompass selection and use of a TV set.
- The **survey** also contained a list of TV viewing occasions and activities, and participants were asked to indicate the **frequency** of each occasion for their house-holds.
- Participants selected **three viewing activities** or occasions that would be most important to their choice of a TV set.

Life cycle, objective and subjective living standards and life satisfaction- [multiple cross-sectional design]

Different samples, each measured only once



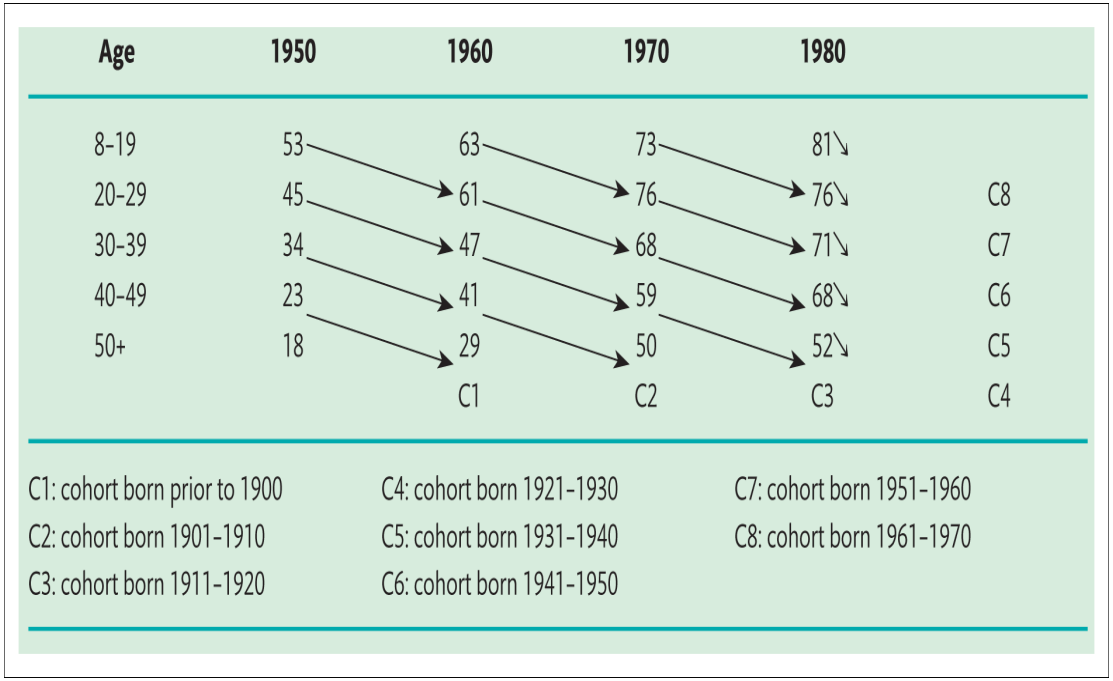
- Centrum Badania Oponii Spotecznej (CBOS) (www.cbos.pl) is a major Polish polling centre whose main goal is to conduct a monthly survey of public opinion on all **important current problems** and **events**.
- The centre wished to build a composite measure of **living conditions** based upon **household wealth** and **life satisfaction**.
- In order to do this, it conducted **seven surveys** in Poland between 1992 and 2004. Effective sample size were 1,788 in 1992, 1,222 in 1994, 1,177 in 1996, 1,167 in 1998, 1,092 in 1999, 1,060 in 2002, 1,057 in 2003, and 1,022 in 2004. The research involved **eight different samples, each measured only once**.

Cohort Analysis [a multiple cross-sectional design]

A type of **multiple cross-sectional design** is **cohort analysis**

- **Cohort analysis** is a **multiple cross-sectional design** consisting of surveys conducted at appropriate time intervals.
- It consists of a **series of survey** conducted at **appropriate time intervals**, where the **cohort** serves as the **basic unit of analysis**.
- **A cohort is a a group of participants who experience the same event within the same time interval**.
- A birth (or age) cohort is a group of people who were born during the same time interval, such as 1951-1960.
- The term ***"cohort analysis"*** refers to any study in which there are measures of some characteristics of one or more **cohorts** at two or more points in time.
- It is unlikely that any of the individuals studied at time 1 will also be in the sample at time 2.

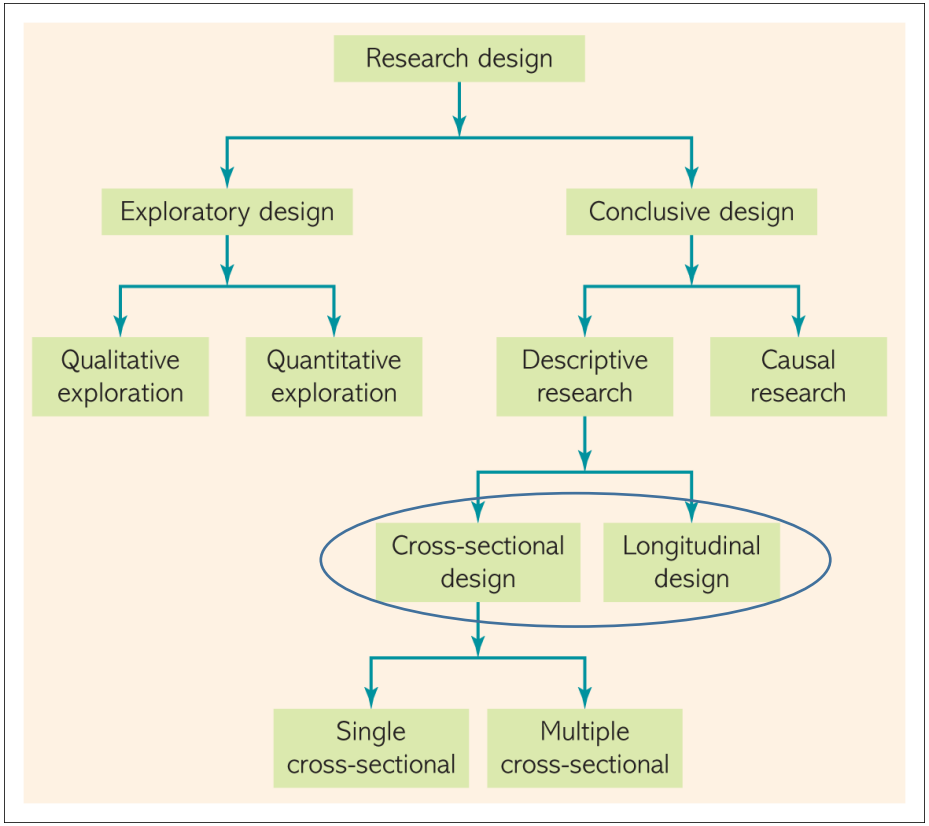
Cohort Analysis



- The **age cohort** of **people between 8 and 19 years was selected**, and their soft drink consumption was examined **every 10 years** for **30 years**.
- **Every 10 years** a **different sample** of participants was drawn from the **population** of those who were then between 8 and 19 years old.
- The study shows that **this cohort** has increased consumption of soft drinks over time.
- Similar finding were obtained for other age cohorts (20-29, 30-39, 40-49)
- The consumption of each cohort did not decrease as the cohort aged
- These findings contradict the common belief that the **consumption of soft drinks will decline with the greying of Western economi**es.

Cohort analysis can also be used to predict ***changes in voter opinions*** during a political campaign.
Well-known researchers such as YouGov (www.yougov.com) or Ipsos MORI (www.ipsos-mori.com) who specialize in political opinion research, periodically question **cohorts of voters** about their **voting preferences** in order to predict election results.

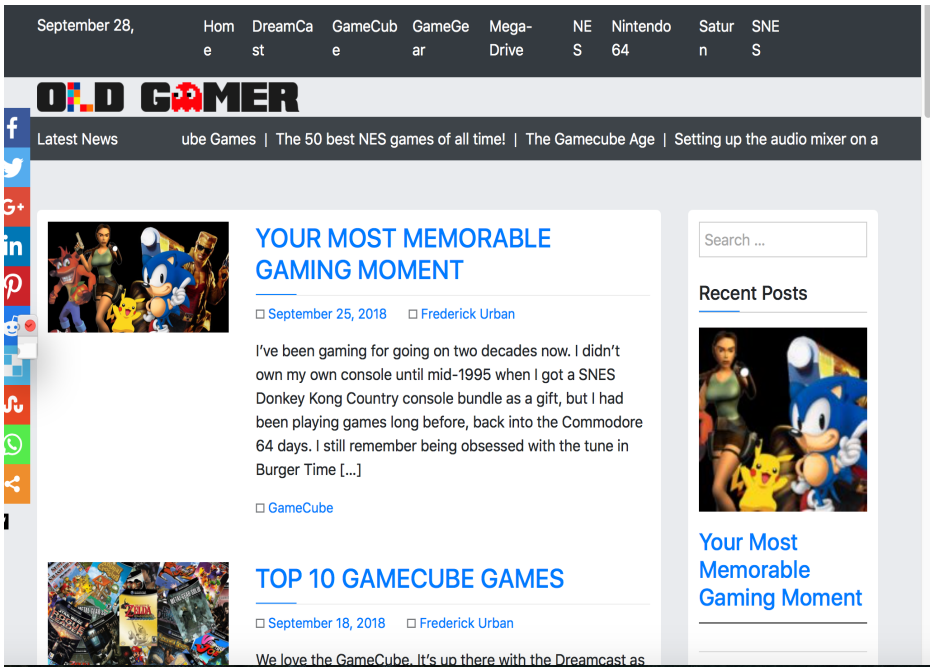
LONGITUDINAL design



In **a longitudinal design**, a fixed sample (or samples) of population elements is measure repeatedly.

True loyalty

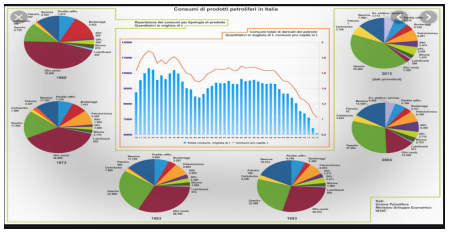
- "True loyalty" is a research project developed by Philips and Interview **NSS** (www.interview-nss.com).



- The project aims to measure the **actual sales effect** of **consumers' experiences** with Philips Consumer Lifestyle.
- It was used the concept of "**Net Promotor Score**" (NPS) who was a used loyalty metric in many leading companies.
- It was set up a *single-source longitudinal survey*.
- Customers from whom it had obtained satisfaction and recommendation scores via ongoing research projects were **re-contacted 9 to 18 months** later (25,000 re-contacted customers).

LONGITUDINAL design

- A *longitudinal design* differs from a cross-sectional design in that the sample or samples remain the same over time.
- The *cross-sectional design* gives a **snapshot** of variables of interest at a single point in time.



- A *longitudinal study* provides a series of "**pictures**" that dive an in-depth view of the situation and the changes taking place over time.

- Often, the term "**panel**" is used in conjunction with the term "**longitudinal design**".
  - A **panel** consist of a sample of participants, generally households, who have agreed to provide general or specific information at set intervals over an extended period.
  - The emphasis of the panel is on **measuring facts**, e.g. who in the household bought what, where they bought it, when and other aspects of their behavior.
  - The **observations** are usually gathered through questionnaires, such as purchase diaries, or increasingly through social media methods.

https://www.youtube.com/watch?v=aCLRl-PbXLE

LONGITUDINAL design

- **Access panel** are made up of a “pool” of individuals or households who have agreed to be available for surveys of widely types and topics. They are used to provide information for ad **hoc decisions** rather than for longitudinal studies. They are use to **test concepts**, **advertising** and **pricing decisions**.
- **Online consumer access panels** are becoming increasingly prevalent in marketing research. The growth in use of access panels has partly been in response to the challenges of rising rates of non-response or refusal to take part in surveys.

LONGITUDINAL versus CROSS-SECTIONAL designs

- A major advantage of **longitudinal design** over **cross-sectional design** is the ability to **detect changes** as a result of repeated measurement of the same variable on the same sample.

Evaluation criteria	Cross-sectional design	Longitudinal design
Detecting change	–	+
Large amount of data collection	–	+
Accuracy	–	+
Representative sampling	+	–
Response bias	+	–

Note: + indicates a relative advantage over the other design, whereas – indicates a relative disadvantage.

LONGITUDINAL versus CROSS-SECTIONAL designs

Brand purchased	Time period	
	Period 1 survey	Period 2 survey
Total surveyed	1,000	1,000
Brand A	200	200
Brand B	300	300
Brand C	500	500

Cross-sectional data: the purchase of brand A,B,C remain **the same** in periods 1 and 2. [20% A; 30% B; 50% C]

Brand purchased in period 1	Brand purchased in period 2			
	Brand A	Brand B	Brand C	Total
Total surveyed	200	300	500	1,000
Brand A	100	50	50	200
Brand B	25	100	175	300
Brand C	75	150	275	500

Longitudinal data:
-50% (100/200) of who purchased brand A in period 1 also purchased it in period 2

- The corresponding repeat-purchase figures for **brands B** and **C** that are, respectively, 33,3% (100/300) and 55% (275/500).
- - **Brand C experienced the greatest loyalty and brand B the least**.

Longitudinal data **enable** researchers to **examine changes** in the behavior of individual units and to link behavioral changes to **marketing variables** such as changes in advertising, packaging, pricing and distribution.

LONGITUDINAL versus CROSS-SECTIONAL designs

- Longitudinal data (panel) **enable** researchers to **collect a large amounts of data**.
- Longitudinal data (panel) **are more accurate** [a typical cross-sectional survey requires the participant to recall past purchases and behaviors and these data can be inaccurate because of memory lapses].

Evaluation criteria	Cross-sectional design	Longitudinal design
Detecting change	–	+
Large amount of data collection	–	+
Accuracy	–	+
Representative sampling	+	–
Response bias	+	–

Note: + indicates a relative advantage over the other design, whereas – indicates a relative disadvantage.

LONGITUDINAL versus CROSS-SECTIONAL designs

Evaluation criteria	Cross-sectional design	Longitudinal design
Detecting change	-	+
Large amount of data collection	-	+
Accuracy	-	+
Representative sampling	+	-
Response bias	+	-

Note: + indicates a relative advantage over the other design, whereas - indicates a relative disadvantage.

The **main disadvantage** of panel is that they may not be **representative**.

- **Refusal to cooperate**: individuals do not wish to be bothered with the panel operation and refuse to participate (cooperation rate 60%)
- **Dropout**: panel members who agree to participate may subsequently drop out because they move away and lose interest (dropout rate 20%)
- **Payment**: payment may cause certain types of people to be attracted making the group unrepresentative of the population
- **Professional participations**: most concerns about representativeness arise from the claim that research panels generate "professional" participants (it loses spontaneity).

LONGITUDINAL versus CROSS-SECTIONAL designs

Evaluation criteria	Cross-sectional design	Longitudinal design
Detecting change	–	+
Large amount of data collection	–	+
Accuracy	–	+
Representative sampling	+	–
Response bias	+	–

Note: + indicates a relative advantage over the other design, whereas – indicates a relative disadvantage.

Another **disadvantage** of panels is response bias [distorsione].

- New panel members are often **biased** in their initial responses. They tend to increase the behaviour being measured, such as food purchasing. This **bias** decreases as the participant overcomes the novelty of being on the panel. Bias also results from boredom, fatigue and incomplete diary entries.

CASUAL research

- **Casual research** is used to obtain **evidence** of **cause-and-effect** (*casual*) relationship.
- **Casual research** is appropriate:
  - To understand which **variables** are **the cause** (independent variables) and **which variables** are the **effect** (dependent variables) of marketing phenomena
  - To determine the **nature** of the **relationship** between the **casual variables** and the effect to be predicted
  - To **test hypotheses**
  - In casual designs, **independent variables** are manipulated in a relatively controlled environment
  - Such environment is one in which the other variables that may affect the dependent variable are **controlled** or checked as much as possible.
  - The effect of this manipulation on one or more dependent variables is then measured to infer **causality**. The main method of casual research is **experimentation.**

RELATIONSHIPS between exploratory, descriptive and casual research

- A **given marketing research project** may involve more than one type of **research design**
- Which **combination of research designs** to employ depends on the **nature of the problem**
- When *little is known* about the problem situation, it is desirable to begin with *exploratory research*. This is appropriate in some **situations:**
  - When the **nature** of the topic under study cannot **be measured** in a structured and quantifiable manner
  - When the problem needs to be **define** more precisely
  - When an alternative **courses of action** needs to be identified
  - When research questions or **hypotheses** need to be developed
  - When key **variables** need to be isolated and classified as dependent or independent

RELATIONSHIPS between exploratory, descriptive and casual research

- **Exploratory research** may be an **initial step** in a research design. It may be followed by descriptive or casual research [hypotheses developed via exploratory research can be statistically test using descriptive or casual research].
- It is not necessary to **begin** every research design with **exploratory research**. It depends on the precision with which the problem has been defined and the researcher's degree of certainty about the approach to the problem. A research design could begin with **descriptive** or **casual research** [a consumer satisfaction survey that is conducted annually need not begin with or include an exploratory base].
- Although exploratory research is generally the initial step, it need not be. **Exploratory research** may **follow** descriptive or causal research [Descriptive or casual research can result in findings that are hard for managers to interpret. Exploratory research may provide more insights to help understand these findings].

Using insight to improve telephone banking customer satisfaction at Natwest

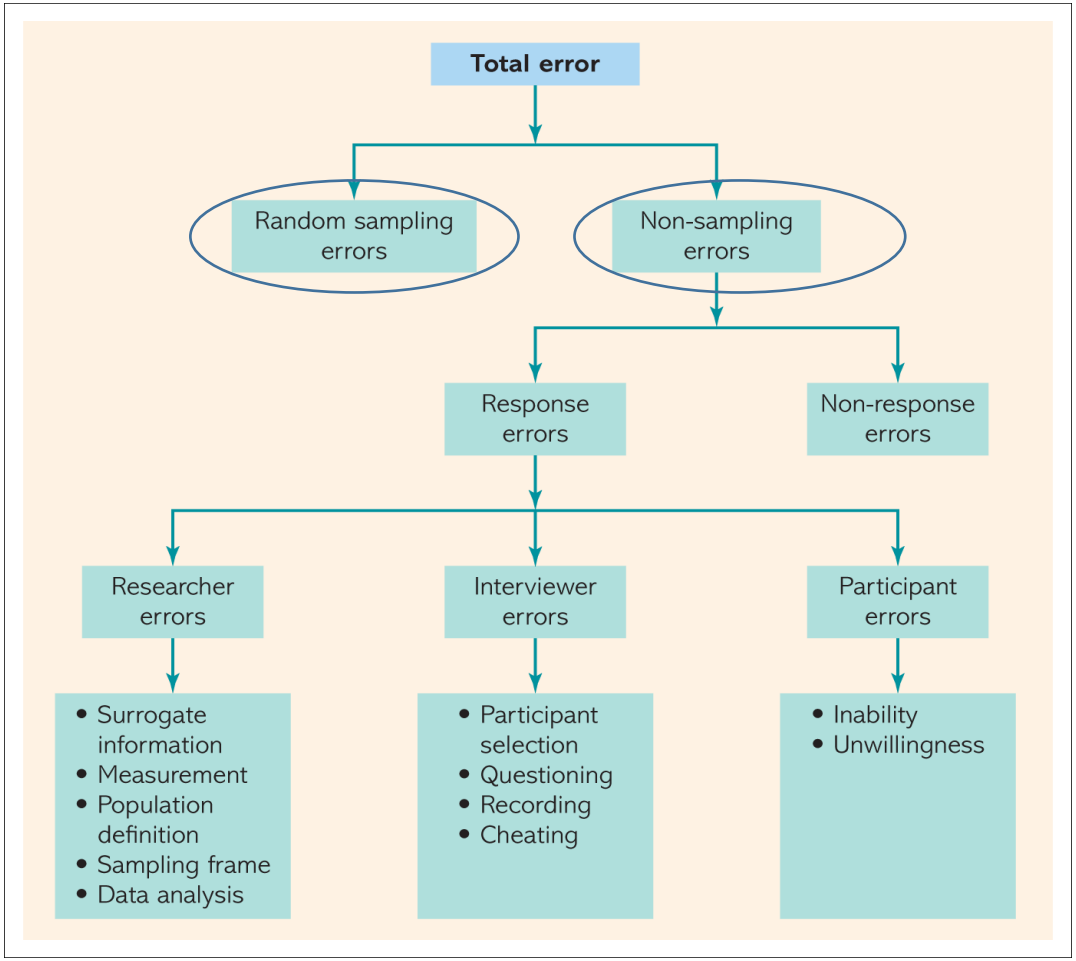
Financial services firms face increasing challenges to retain their customers

- With many customers shifting their banking to digital channel and pressure to manage costs, the telephone banking services could be seen as a declining channel.
- Uk Bank Natwest wanted to develop processes to try and stop customers calling their **online phone service**.
- Market research was conducted by KPMG Nunwood
  - a continuous tracking programme that interviewed **4,000 customers** alongside **2,000 customers** of Natwest's competitors each month
  - researchers made us of a research method known as "**critical incident technique**" (CIT) which involves research participants telling stories about specific experiences ("incidents") related to use of a product/ service
  - the research generated insights in 2 important area. Firstly, Natwest found it has some of the lowest customer satisfaction ratings for any bank telephone service. Secondly, telephone banking was often the point of contact where customers were most in need of help.
  - To address these issues **qualitative research** was augmented with **quantitative analysis** of customer verbatim comments using textual analysis software. The output resulted in a new call model for delivering a high-quality customer experience over the telephone and an important increase in customer satisfaction.

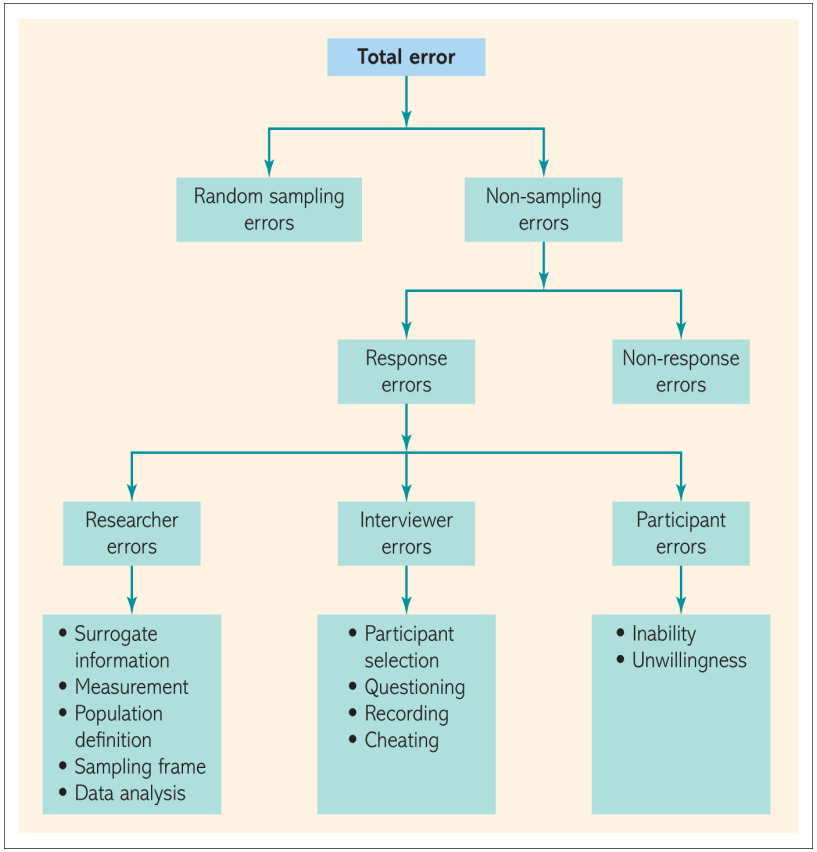
Potential SOURCES of ERROR in research design

Several potential sources of error can affect a research design.

- **Total Error**: when the focus of a study is a quantitative measurement, the total error is the **variation** between the ***true mean value*** in the population of **the variable of interest** and the ***observed mean value*** obtained in the **marketing research project**.
- For example the annual average income of a target population may be **85,650** as determined from **census information** via tax returns, but a marketing research project estimates it at **62,580** based upon a sample survey.
- The total error is composed of a Random sampling error and non-sampling error.

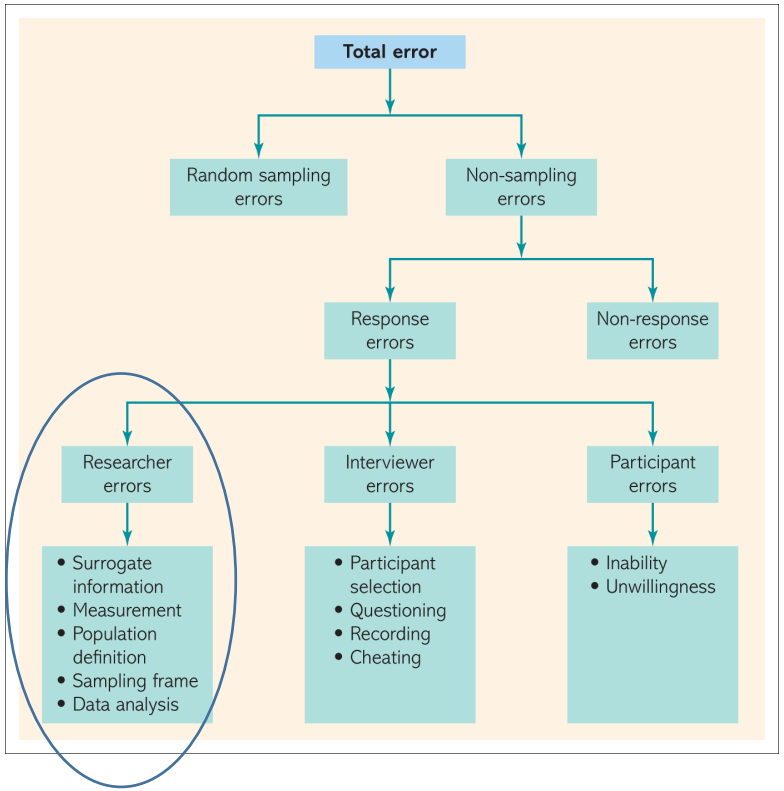


Potential SOURCES of ERROR in research design



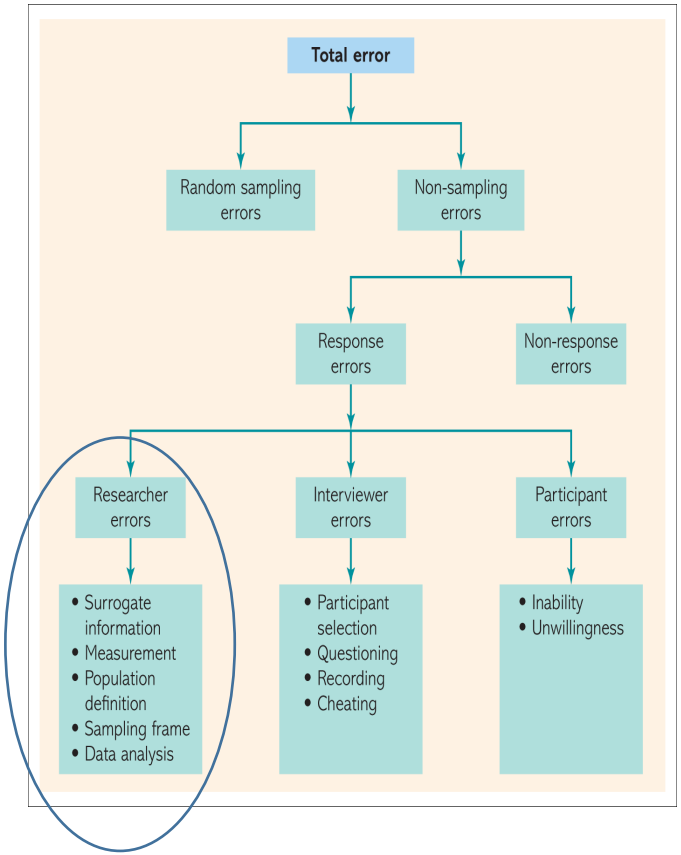
- **Random sampling error**: occurs because the particular **sample** selected is an **imperfect representation** of the population of interest
- **Non-sampling error**: can be attributed to **sources** that are different from sampling.
  - **Non-response error**: arises when some of the participants included in the sample simply **do not respond**. The primary causes of non-response are refusals and not-at-homes. Non-response will cause the net or resulting sample to be different in size or composition from the original sample
  - **Response error**: arises when participants give **inaccurate answers** or their **answers** are **mis-recordered** or **mis-analysed**

Potential SOURCES of ERROR in research design



- *Surrogate information error*: is defined as the variation between the **information needed** for the **marketing research problem** and the **information** sought by the **researcher** [instead of obtaining information on the choice process for a new brand adopted by consumers, the researcher obtain information on consumer preferences]
- *Measurement error*: is defined as the variation between the **information sought** and information generated by the **measurement process** employed by the researcher [while seeking to measure consumer preferences, the researchers employs a scale that measures perceptions rather than preferences]

Potential SOURCES of ERROR in research design

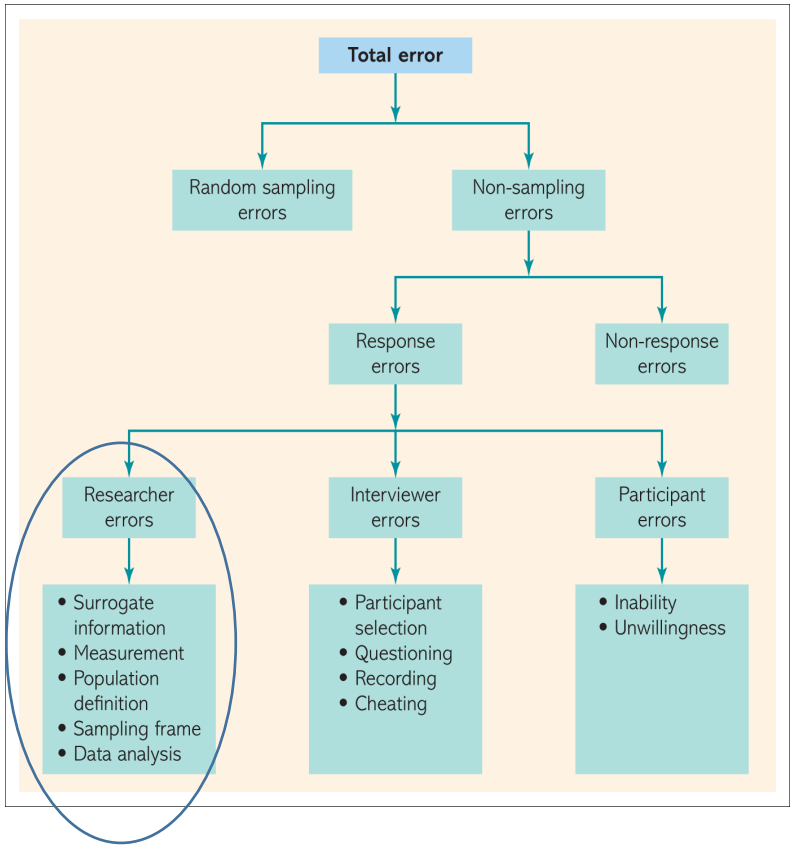


- *Population definition error*: may be defined as the variation between the **actual population relevant to the problem** at hand and the **population as defined by the researcher**.

  The population of the affluent households was defined in four different way in a study:
  - Households with an income of 80,000 Euro or more
  - The top 20% of households, as measured by income
  - Households with net worth over 450,000 Euro
  - Households with discretionary income to spend being 30% higher than that of comparable household

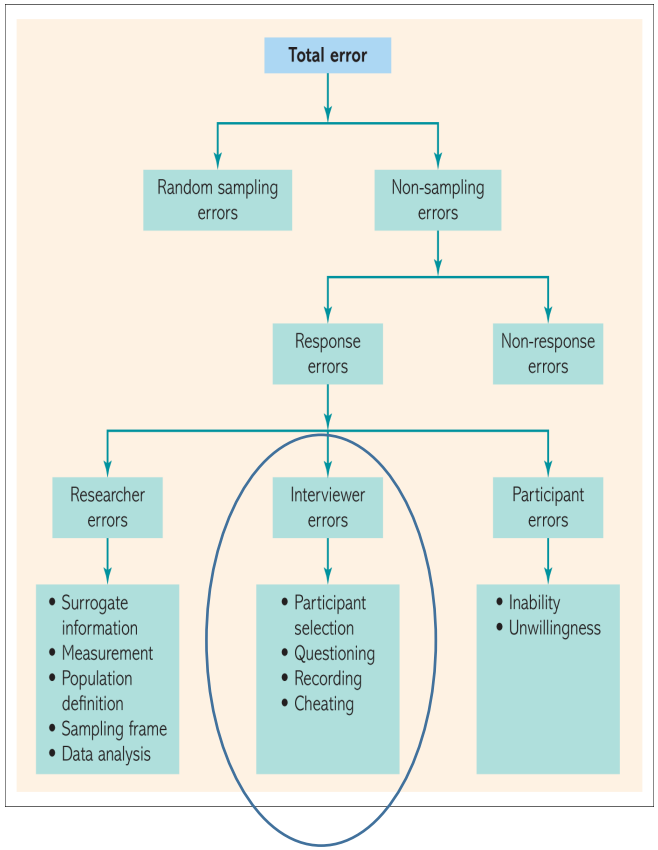
  The result of the research depends on the way the population of affluent households is defined.

Potential SOURCES of ERROR in research design



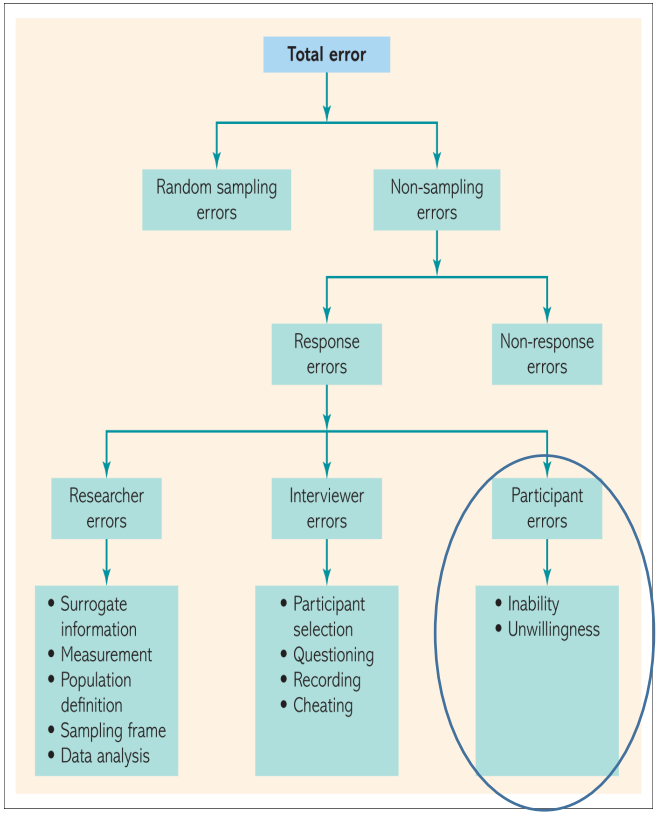
- *Population frame error:* may be defined as the variation between the **population defined by the researcher** and the **population as implied by the sampling frame (list) used**.
  The telephone directory used to generate a list of telephone numbers does not accurately represent the population of potential landline consumers due to unlisted, disconnected and new numbers in service.
- *Data analysis:* may be errors that occur while raw data from **questionnaire**s are transformed into research findings. An appropriate statistical procedure is used and it emerges incorrect interpretation and findings.

Potential SOURCES of ERROR in research design



- *Participant selection error:* occurs when **interviewers** select **participants** other than those specified by the **sampling design**, or in a manner inconsistent with the sampling design.
- *Questioning errors*: **errors made when asking questions**. While asking questions, an interviewer does not use the exact wording or prompts as defined in the questionnaire.
- *Recording error*: errors in **hearing**, **interpreting** and **recording** the answers given by participants. A participant indicated a neutral response (undecided) but the interviewer misinterprets that to mean a positive response (would buy the new brand).
- *Cheating [frode] error*: when the interviewer fabricates answers to a part or the whole of the interview. An interviewer does not ask the sensitive questions related to a participant's debt but later fills in the answers based on **personal assessment**.

Potential SOURCES of ERROR in research design



- *Inability error*: results from the **participant's inability** to provide **accurate answers**. Participants may provide inaccurate answers because of unfamiliarity, fatigue, boredom, question format, question content or because the topic is buried deep in the participant's mind.
- *Unwillingness error*: arises from the **participant's unwillingness** to **provide accurate information**. Participants may intentionally misreport their answers because of a desire to provide socially acceptable answers, because they cannot see the relevance of the survey and/or a question posed, to avoid embarrassment or simply to please the interviewer.

In formulating a research design, the researcher should attempt to minimise *the total error*. Many naive researchers tend to use large sample. This choice decreases sampling error, but increases non-sampling error.

Questions

- Define research design
- What **expectation** do marketing decision makers have of research design?
- How does the subject of study, as seen by potential research participants, affect research design?
- **Differentiate** between **exploratory** and **conclusive** research
- What are the major purposes for which **exploratory research** is conducted?
- What are the major purposes for which **descriptive research** is conducted?
- Compare and contrast cross-sectional and longitudinal designs.
- Describe **cohort analysis**.
- What is a **casual research design**?
- What is the **relationship** between exploratory, descriptive and casual research?
- What potential **sources of error** can affect a research design?