

Department of Financial Economics II
(FINANCIAL ECONOMICS AND ACCOUNTING, MARKETING AND MARKETING RESEARCH)

MARKETING RESEARCH: AN INTRODUCTION

UNIT 4: Quantitative data collection techniques

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Objectives of unit 4:

- To understand the role of quantitative data collection techniques in the marketing research process.
- To know more about what research institutes offer in regard to quantitative data collection.
- To know the different types of quantitative techniques, their general classification and their principal advantages and disadvantages.
- To understand how quantitative information conditions the subsequent states of the investigative study.

4.1.- Classification of quantitative data collection techniques

Main characteristics:

- **For the collection of quantitative data**
- **Data is obtained from the study not of the entire population but of a representative subset: the sample**
- **Conclusions obtained can be extrapolated to the entire population**

Classification of quantitative techniques

Time-related criteria	Other criteria	Methods
Immediate methods	With the collaboration of the sampled subjects	<ul style="list-style-type: none"> ➤ Mail survey ➤ Self-completed survey: direct, fax, e-mail... ➤ Telephone survey, C.A.T.I. ➤ Personal survey: street interview, at respondent's home, C.A.P.I. ...
	Without the collaboration of the sampled subjects	<ul style="list-style-type: none"> ➤ Observation ➤ Marketing experimentation
Permanent methods	Demand side	<ul style="list-style-type: none"> ➤ Omnibus survey ➤ Ad Tracking ➤ Consumer panels: with purchase diary or with scanner
	Supply side	<ul style="list-style-type: none"> ➤ Establishment inventory: manual system or with scanner ➤ Point-of-sale observation

4.1.- Classification of quantitative data collection techniques

A.- Immediate techniques:

- **Used to obtain information at a particular point in time: a “snapshot” of reality.**
- **Given the changing nature of the commercial environment, the conclusions reached using these methods are only valid for short periods of time.**
- **The sample is used once only, i.e., the elements of the sample change each time, however the sample retains the same composition.**

4.1.- Classification of quantitative data collection techniques

B.- Permanent techniques:

- **Provide periodic information about the commercial environment, thus allowing for it to be analysed dynamically: a “movie” of reality.**
- **The selected sample remains relatively stable throughout multiple observations.**

4.2.- Immediate techniques

4.2.1.- Immediate techniques with the participation of the individuals being studied

- **Also known as surveys**
- **The study is conducted with the aid of a questionnaire administered to the respondents of the sample**
- **The questions on the questionnaire should be as structured as possible, to ensure that all interviewees respond to the same survey. This saves time, which can be used to interview more respondents to ensure that the sample is representative of the population**
- **This is the most popular data collection method**

Survey characteristics

- **Communication technique:**
 - Ability to use different vehicles of communication
 - The analysed group participates/collaborates
- **Quantitative technique:**
 - Objective: to describe and quantify a conduct or behaviour
 - Ability to extrapolate sample results
- **Static technique:**
 - Performed at a specific point in time
 - Information only on the characteristics of the market at that given time
- **Structured technique:**
 - Structured questionnaire
 - Most questions are closed or semi-closed

A.- Mail out survey:

- **Mailing of a questionnaire to the sample elements, hoping they will complete and return it**
- **Questionnaire mailed along with an introductory letter and a postage prepaid envelope**
- **Simple method**
- **Key disadvantage: Low response rate in relation to number of mailouts (10%-20%). Incentives are necessary to motivate participation, e.g. mailing the conclusions of the study, respondents enter a draw, or giving away rewards**

Advantages and disadvantages → see TABLE

B.- Telephone survey

- **Dialogue between the interviewer and the respondent over the phone through a structured questionnaire**
- **The use of the telephone can have three different approaches:**
 - a).- **As the only means to carry out the research**
 - b).- **Combined with other means**
 - c).- **As an ancillary means to:**
 - **Make appointments**
 - **Notify that the questionnaire is being mailed out**
 - **Complete incomplete mail out questionnaires**
 - **Contact a respondent who cannot be contacted through other means**
 - **As a control means for personal or telephone surveys**

Advantages and disadvantages → see TABLE

Applications of telephone surveys:

- **Audience measurement for radio and TV programmes and commercials**
- **To measure the impact of price changes**
- **To measure the effectiveness of promotional campaigns**
- **Studies on purchase intention, changes in brand preference, etc.**
- **To measure the level of customer satisfaction with a purchased product**

Other relevant aspects: CATI (*Computer Assisted Telephone Interview*)

- **Software application that randomly selects and makes the phone calls, guides and controls the interviewer, records the respondent's answers in real time, and statistically analyses the results**
- **The fieldwork, as well as the obtaining and analysis of the results, is done quicker.**

How it works:

- **The central server uses a software application to select the respondents**
- **The computer dials the telephone number to be called and if the call is valid (line not engaged, etc.), the computer connects it to an available operator**
- **The interviewer sits in a booth with a telephone line, headset, microphone and computer connected to the central server.**
- **When the interviewer receives the connection, his computer screen displays the respondent's available data.**

How it works (cont.):

- **The interviewer introduces him/herself and verifies that the respondent meets the requirements to be part of the sample**
- **During the interview, the computer provides a script of the questions, which are posed on the screen**
- **The interviewer records the respondent's answers into the computer**
- **The central server records the answers in a DB**

C.- Personal interview or survey

- **First method ever used in social research.**
- **A truly *structured interview*:**
 - **Developed following a questionnaire and instructions** of the research manager
 - **Interviewer's function is totally standardised:** interviewer must stick to the instructions received, in order to give all the respondents the same survey and ensure that the answers can be extrapolated to the entire population
 - **No room for improvisation:** everything, including the presentation of the interview, must be predetermined

C.- Personal interview or survey (cont.)

- In addition to containing questions and space for answers, the questionnaire provides prompts to **guide the interviewer** through the interview process
- It is **possible to include all types of questions**. Whether the questions are relevant or not is only restricted by the requirements of the subsequent processing of information, and not by the method itself. E.g.: open-ended questions are difficult to quantify but can be included

Advantages and disadvantages → see **TABLE**

Other aspects: Computer Assisted Personal Interview - CAPI

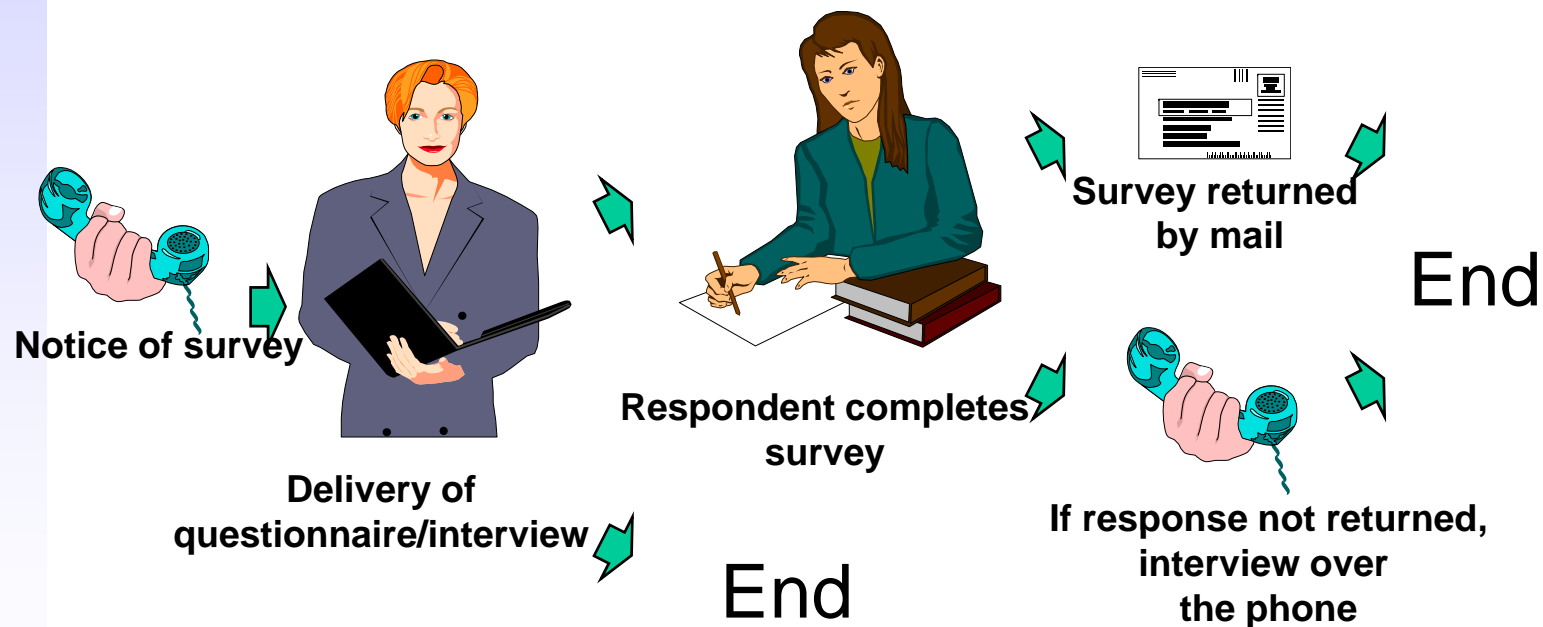
- **The paper questionnaire is replaced with a computer**
- **Advantages:**
 - **Saves time, as the questionnaires can be distributed to the interviewer via email and the interviewer can return the completed questionnaires also via email.**
 - **The data is immediately stored in a DB.**
 - **Completion errors are minimised as the interviewer is guided by the software application.**
 - **Allows the use of images, advertising, graphics, videos, etc.**
 - **Open answers can be filed as text**

Comparisons between some immediate data collection techniques

Criteria	Telephone survey	Personal interview at home	Street interview	Mail survey
<i>Flexibility in collection of data</i>	Moderate	High	High	Low
<i>Variety in the types of questions</i>	Low	High	High	Moderate
<i>Support resources</i>	Low	Moderate - high	High	Moderate
<i>Sample control</i>	Moderate - high	Potentially high	Moderate	Low
<i>Control over the interview environment</i>	Low - moderate	Moderate - high	High	Low
<i>Control over field personnel</i>	Moderate	Low	Moderate	High

Combination of data collection techniques

Various data collection methods can be combined in order to use the advantages and mitigate the disadvantages of each method.



What research institutes offer

➤ **Generic services (or *syndicated* data-gathering techniques):**

↳ **Omnibus studies**

↳ **Panels**

↳ **Marketing models**

↳ **Databanks and sectoral reports**

➤ ***Ad-hoc* services**

D.- Omnibus survey

- **Data collection technique using telephone or personal interviews, in which the questionnaire is not designed to gather information on a single topic or product, but is rather made up of different “sub-questionnaires” related to a wide range of issues or products**
- **The studies are proposed by the Research Institutes and aimed at clients who are interested in gathering a limited amount of information from a wide sample**
- **Companies interested in a particular aspect of the groups analysed in the study pay the Institutes to include certain questions in the survey (5 or 6)**

D.- Omnibus survey (cont.)

- **The requirement is that the sample of individuals must be valid for all the participating research clients**
- **Research clients share the common sample of respondents and each client is offered the possibility to include the questions of their choice in the survey**
- **Research clients pay for the number of questions and their complexity**
- **The studies are conducted on large target groups such as homemakers, young people aged 15-24 years, the general population, etc.**
- **Subsequent to the analysis, individual reports are prepared for each research client**

Applications of the omnibus survey:

- To **analyse trends**: e.g. consumption trend for a particular product or brand over time, by repeatedly including the same questions
- To **accumulate samples**: the responses obtained on certain aspects of a study can be accumulated to those obtained from subsequent studies, thus results are obtained from larger population samples. A key requirement is that no significant changes in the sample environment must occur over time that may affect the answers.

- **To locate subgroups (samples):** Because the omnibus survey uses very large samples, specific subsamples (groups of individuals that share certain characteristics) can be located and information can be obtained from them. If these subsamples were to be analysed through an ad-hoc study, the cost would be much higher.
- **If the subsample is very small with a high margin of error, the problem can be overcome by introducing questions in subsequent omnibus surveys and accumulating samples.**

This technique should not be used:

- **In studies of target groups different from those in the omnibus sample**
- **When the samples we want to study are hardly represented in the omnibus survey**
- **When the study requires many questions**
- **When due to the topic in question, the study may lose depth when combined with other topics**

Advantages and disadvantages → see TABLE

4.2.2.- Immediate techniques without the participation of the individuals being studied

A.- Observation

- Quantitative and qualitative data collection technique. The individuals are not aware that they are being observed (covert observation), however sometimes the observation is conducted with the knowledge of those being observed
- The collaboration of the individuals is not possible, because:
 - they may not wish to participate
 - they may not be able to provide information
 - we do not wish them to know they are being observed

More about this technique → see **Unit 3**

B.- Experimentation:

- **Quantitative data collection technique**
- **Empirically analyses the effect that a change in a market variable that can be controlled has on another variable that cannot be controlled. E.g.: study of the effect of a price change by a brand on the brand's market share.**
- **“Laboratory” tests such as simulations can also be conducted using econometric models, however the conclusions will be limited**

Advantages and disadvantages → see TABLE

4.3- Permanent techniques: The panel

- **Representative sample** of the population we wish to study, which is **periodically interviewed** with the purpose of collecting certain data related to their characteristics and behaviours, in order to **gather information about the evolution** of certain survey magnitudes
- Provides a dynamic view of the market: follow-up of a representative sample of the target group of the study
- Two large panel groups: those that provide information from the demand side, and those that provide information from the supply side

4.3.1.- Permanent techniques from the demand side

A.- Consumer panel:

Involves an arduous process of implementation and maintenance, and is therefore only carried out by specialised Research Institutes.

These institutes sell the same information to multiple clients.

In addition, they utilise the information collected in several ways and provide a range of information services to interested clients (yearbooks, sectoral reports, etc.)



Organisation and operation:

- **Selection of the sample: Group of households, individuals, etc., representative of all population strata. It is wise to have some “in reserve” in case someone cancels, refuses to participate or drops out.**
- **A visit is paid to the selected individuals to encourage them to participate. Material incentives might be necessary.**
- **The individuals are provided with a purchase diary and instructed on how to fill it out. The diary requests data such as product type, brand, variety, packaging, weight, place of purchase, amount purchased, etc.**
- **Completed forms are mailed by the panel members or collected by a staff member**
- **The information is processed and distributed to companies who request it.**



Notes:

- **Purchase diaries are being replaced with optical readers or optical pencils that read the barcode of the purchased product**
- **The information is stored in this device and transmitted over the telephone to the central server**
- **All the products must have a barcode (EAN code)**
- **The research institute must have updated information on a monthly basis for all barcodes in the market**
- **The panel member must only enter manually the price and place of purchase**
- **An expensive, yet very effective system**

Information collected from a panel:

Will depend on the specific panel. The most important panel is the HOUSEHOLD panel, that collects information about purchases:

- Quantities in units and weight**
- Brands and varieties**
- Average unit price paid**
- Packaging format**
- Place of purchase**
- Magazines and newspapers read**
- Radio and TV programmes watched**

Advantages and disadvantages → see TABLE

The data is crossed with variables such as habitat, presence of children, type of establishment where the purchase was made, etc., and this will yield the following monthly data:

- **Penetration of consumption (% of households that have consumed the product at least once)**
- **Purchases made per household (in euros and units)**
- **Average purchase per household**
- **Market share (% of share of the different brands)**
- **Consumer profiles**
- **Brand loyalty rates**

Types of consumer panels:

- **According to the sampling unit used:**
 - **Homemaker panels**
 - **Baby Panel: homemakers with children under 2 years of age**
 - **Individual Panel: Individuals over 15 years of age**
 - **Teenager Panel: Individuals aged 15 to 25**
 - **TV Panel: Individuals who have a TV set**
- **Other specific panels: toys, cars, fast-food, optical products, durable goods and electrical household appliances, pet panel, etc.**

B.- Audience panel

- **The purpose of audience research is to determine the amount and characteristics of individuals exposed to the media and supports.**
- **It also determines the audience structure (by age, gender, days, timeslot, etc.).**
- **The two most relevant permanent studies in Spain are: The General Media Study (EGM) of the Media Research Association (AIMC), and the Taylor Nelson Sofres (TNS) ratings panel**

C.- The General Media Study

- **Uses the personal survey technique and collects information simultaneously from the audience of several media (press, radio, television and Internet)**
- **Three surveys are conducted every year of 43,000 individuals in three waves, with the results being released in April, June, and December**

• The information collected relates to:

- **Audience rating in the most recent period:**
 - **Yesterday for newspapers, radio and TV**
 - **Last week for supplements, weekly magazines/journals, and movies**
 - **Last fortnight for fortnightly magazines/journals**
 - **Last month for monthly magazines/journals and Internet**
- **Audience habits**
- **Audience qualification:**
 - **Socio-demographic variables**
 - **Household facilities**
 - **Household consumption**
 - **Lifestyle**

The TNS ratings panel

- Collects **exclusively TV ratings** data. Continuous and constant electronic measurement allows to obtain data with a high degree of objectivity and representativeness.
- The panel is made up of a **sample of households representative** of the population, equipped with audience meters.
- The **audience meter** is a device attached to the TV set that detects if the TV is on or off, the channel being watched, and if the video player is recording or playing, and records this information automatically.
- The audience meter does not identify the broadcasting content. It **detects the channel and time**. Information about the content is provided by the Department of Minutage and Control of Programmes and Advertising.

- **Information provided by the panel:**
 - Audience rating and audience share for each channel per timeslot
 - Minute-by-minute evolution of the audience rating and audience share per channel
 - Report on programmes and their average audience rating, accumulated audience rating and audience share
- **This information is useful to advertisers and advertising agencies, because the price of advertising varies according to audience ratings and timeslots**



4.3.2.- Techniques from the supply side

A.- Retailer panel:

- **Manufacturers of tangible goods distribute through a large number of retail establishments.**
- **The products that leave the factory have not been necessarily sold. They may remain in the warehouses or sales rooms of the distributors for some time awaiting to be sold.**
- **The retailer panel carries out a continuous study of a representative sample of retail establishments from which companies may find out information about the evolution of their products in the distribution channel.**



Usefulness:

- **Allows companies to know their sales levels, product turnover, market penetration and market share of their brands, and the type of establishments where their products are sold.**
- **The companies must carry out an initial and final inventory in each period of reference.**
- **Companies require periodic information, provided frequently and involving a significant amount of data, which they cannot obtain by themselves.**

How it works:

- **The Research Institute identifies the products to be studied according to potential clients who might be interested in this information**
- **The distribution channels for that product are identified**
- **A very comprehensive census of establishments is required in order to select a permanent representative sample**
- **The establishments are provided with incentives to participate, either monetary or based on an exchange of information**
- **Data is collected by recording the data from the barcode scanners at cash registers, or by means of stock audit and control at the establishment**

Nielsen's retail panel areas in Spain

ÁREAS NIELSEN. AÑO 2008		
AREAS NIELSEN	TOTAL No.RETAIL OUTLETS	% OF TOTAL
A.M.B.	24.124	9,8
AREA 1	29.927	12,1
AREA 2	29.313	11,9
AREA 3	41.004	16,6
A.M.M.	23.053	9,3
AREA 4	24.826	10,1
AREA 5	31.040	12,6
AREA 6	28.037	11,4
CANARIAS	15.264	6,2
TOTAL	246.588	100,0

Source: ministerio de Agricultura y Pesca - 2012

- **The data obtained from the sample is extrapolated and the results presented**
- **The clients of the retailer panel are manufacturers and distributors**
- **Allows manufacturers to conduct a follow-up of their brands from the time they leave the factory until they are sold to the consumer**
- **Allows distributors to monitor the effectiveness of their strategies**

Advantages and disadvantages → see TABLE



Information provided:

- **Market quantification (volume and value)**
- **Importance of geographic areas and establishment types**
- **Product positioning and evolution of own and competitors' brands**
- **Follow-up of new products**
- **Characteristics of product distribution**
- **Price levels**
- **Distributors' purchasing policy**
- **Promotional activities at the establishment, etc.**

Advantages and disadvantages → see **TABLE**

Types of panels

- **Food**
- **Household cleaning products and perfumes**
- **Electrical household appliances**
- **Hospitality**
- **Jewellery shops**
- **Photography**
- **Sports shops**
- **Petrol stations**
- **Toy shops**
- **Pharmacies**
- **Wholesalers (cash & carry)**

B.- Presence at the point of sale:

- **Consists in collecting data from different types of retail establishments (representative sample) on the presence of certain products and brands we wish to study**
- **The auditor pays periodic visits to the establishments and records the presence of the products of interest in shop windows, showcases, shelves, etc.**
- **If the product is not visible, the auditor asks the retailer if that product is in stock and requests to see it**

- **The data is analysed and the results are used to prepare reports for the Institute's clients**
- **The information relates to indicators for comparing own presence and competitor's presence, classified by retailer type and by geographic area**

Advantages and disadvantages → see TABLE

What research institutes offer

➤ **Generic services:**

↳ **Panels**

↳ **Omnibus studies**

↳ **Marketing models:**

- **Market tests (experimental methodology)**
- **Studies forecasting the demand for new products**
- **Price elasticity studies**
- **Brand transfer studies**
- **Merchandising studies**
- **Advertising effectiveness and brand tracking**
- **Indices**

↳ **Databanks and sectoral reports**

➤ ***Ad-hoc* services**

What research institutes offer

➤ **Generic services:**

↪ **Panels**

↪ **Omnibus studies**

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➤ ***Ad-hoc* services**

What research institutes offer

➤ **Generic services:**

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➤ ***Ad-hoc* services**