# The big picture

Imagine that you would like to start up a new online store selling locally produced goods in your home country. In order to build a competitive and successful product, what information would you need to gather? You may want to investigate:

- competitors
- potential customers (who they are and how much they would pay for the goods)
- the IT requirements of an online store
- the rules and regulations of the industry
- the tax framework (in order to understand corporate taxes your business is likely to owe)
- the labour market and labour laws in relation to where you would like to hire people

You may need to use the skills you learned in Section 1.1.5 (/study/app/business-hl/sid-351-cid-762729/book/tool-swotsteeple-analysis-id-36504/) to conduct a STEEPLE analysis for your investigation.

Overview (/study/ap hl/sid-351-cid-762729/o

**Figure 1.** You may need to conduct market research when starting your own business.

Credit: MixMedia, Getty Images

To carry out your investigation, you will need to conduct market research. Market research can be defined as 'gathering information to aid marketing decisions'. Organisations carry out market research in order to gain a better understanding of their customers, competitors and markets. Through research, a business will discover its strengths and weaknesses. For example, you may learn how to better position your product or service by changing the marketing mix of your product in order to meet the needs of its target market.

This subtopic explores the reasons why businesses carry out market research. You will also learn about different market research methods and sources that businesses use.

## Concept

### Ethics

Market research is important for companies because it determines the marketing strategy they need to adopt. New technologies have made market research faster and easier. Businesses can now adjust their marketing campaigns according to the tastes and preferences of their potential customers.

Since market research deals with the use of data, which can often mean individual people's personal data, it is closely connected with the concept of ethics — the moral principles that govern people's behaviour. Many countries have laws in place to protect personal data that is collected. However, there are still many areas that businesses need to consider. For example, is it ethical to use personal data to sell additional products to an individual? Is it ethical to use a customer's viewing experience to entice them to stream a further hour of a show?

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

Businesses need to ensure their data protection policies not only conform with the law, but also align with the needs and desires of their customers. This article on protecting your privacy (https://www.cnet.com/home/smart-home/keep-amazon-google-and-apple-from-listening-to-your-conversations/) explains how Google, Amazon and Apple have adjusted their devices so that users can erase previously stored personal data.

## Making connections

In Higher Level Paper 3 you will be asked to 'identify and describe a human need'. Identifying a need generally comes from conducting market research and identifying gaps that the economy does not currently fill (IBDP Business Management guide).

**Learning objectives from the IBDP Business Management guide with assessment objective level:**

- **Examine** why and how organisations carry out market research (AO3)
- **Explain** the following methods/techniques of primary market research: (AO2)
  - surveys
  - interviews
  - focus groups
  - observations
- **Explain** the following methods/techniques of secondary market research: (AO2)
  - market analyses
  - academic journals
  - government publications
  - media articles
  - online content
- **Explain** the difference between qualitative and quantitative research (AO2)
- **Explain** the following methods of sampling: (AO2)
  - quota sampling
  - random sampling
  - convenience sampling
- **Apply** descriptive statistics tools in a given context (AO4)

Student view 4. Marketing / 4.4 Market research

# Why and how organisations carry out market research

## Why organisations carry out market research

Market research, or marketing research, allows companies to gain up-to-date and relevant information on their customers and competitors, and on other external stakeholders who may affect them.

Reasons to carry out market research may include:

- identifying consumers' needs and wants and understanding consumers' purchasing behaviour
- identifying potential changes in the market, such as changes in consumer spending patterns
- establishing what consumers like and dislike and testing new products
- evaluating existing marketing efforts in attracting consumers
- investigating new possibilities in existing or new markets

**Figure 1.** The electric vehicle market has been growing in the past years. Businesses may need to research the industry to see if there is room for new opportunities in this or related markets (such as electric charging stations or batteries).

Credit: Greg Pease, Getty Images

Social enterprise tends to focus on meeting a human need. Social enterprises may carry out research to identify which human needs they should address through their work or how well their activities manage to meet the need.

### Activity

**Learner profile:** Inquirers
**Approaches to learning:** Thinking skills (transfer)

Social enterprises aim to address a human need either directly or indirectly through their activity.

Browse the UNDP Business Call to Action (https://www.businesscalltoaction.org/membership-page#membership-members) page, which profiles a number of international social enterprises.

Find a business that interests you and identify a human need that the business is addressing. (Human needs were discussed in more detail in Section 1.1.2. (/study/app/business-hl/sid-351-cid-762729/book/the-doughnut-economics-model-id-36500/)) Consider the following questions:

1. How did the business identify the existence of the human need?
2. How did the business go about addressing the need?

Market-oriented businesses are likely to base their strategies on the results of their market research and to centre the strategies around the seven Ps of the marketing mix (see **Table 1**). (You were introduced to the seven Ps in Section 4.1.1 (/study/app/business-hl/sid-351-cid-762729/book/the-market-and-marketing-id-37436/) and will learn more about them in Subtopic 4.5 (/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-39004/)).

**Table 1.** The seven Ps of the marketing mix.

| Type of research | Description |
|---|---|
| **Product-based research** | When a company tests a new product, it releases the product to a specific area for a limited time. This enables the company to gain large amounts of information about how closely the product meets the needs of its target market. If test markets are successful, the product will enjoy a full-scale launch. If not, the product can be redesigned or scrapped. |

Overview (/study/ap hl/sid-351-cid-762729/o

| Type of research | Description |
|---|---|
| **Price-based research** | In highly competitive markets, new companies may be forced to base their prices on those of their competitors. If this is the case, companies must regularly research the market to find out the pricing strategies of competitors. Their own prices will then be adjusted to ensure that they are in line with the competition. |
| **Promotion-based research** | It is important for companies to understand which media their target market accesses. If a company selects the wrong media and customers do not see or react to the message, then money has been wasted. |
| **Place-based research** | Selecting the right distribution channels — the ways to distribute the product — can be the difference between success and failure. A range of research methods may be used for this. Interviewing consumer experts or simply asking the target market themselves can provide valuable insights. |
| **People-based research** | It is important that people representing a brand are well trained in how best to inform and support the customer. They need to offer the type of experience that would make the customer want to make further purchases. Businesses rely on research to understand the type of customer service experience that will ensure clients become repeat customers. |
| **Process-based research** | Process-based research focuses on how to implement an appropriate process for delivering the service. It may involve benchmarking or comparing a company's service quality and speed to that of leading competitors. |
| **Physical evidence-based research** | Market research around physical evidence involves researching the sensory and visual experiences of the customer. In a store, for example, this might include branding, the layout of the store or the store's ambience. Supermarkets very often perform a type of research called 'shelf testing', which helps them to understand where to best place a specific product. |

Market research is a key part of the marketing process/cycle. A business will rarely launch a new enterprise without performing thorough research.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

**Figure 2.** Supermarkets and food producers often carry out 'shelf testing' to work out where to best place a product.

Credit: Jacobs Stock Photography Ltd, Getty Images

### Exam tip

Market research and research and development (R&D) are two similar-sounding activities. Both take place during the development phase of a product.

Market research is how a company gains information on its customers and competitors, using methods such as surveys and interviews.

R&D is how products are developed. This involves experimentation, creating new designs and building prototypes.

## How organisations carry out market research

All market research can be broken down into two areas: primary market research and secondary market research (see **Figure 3**).

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

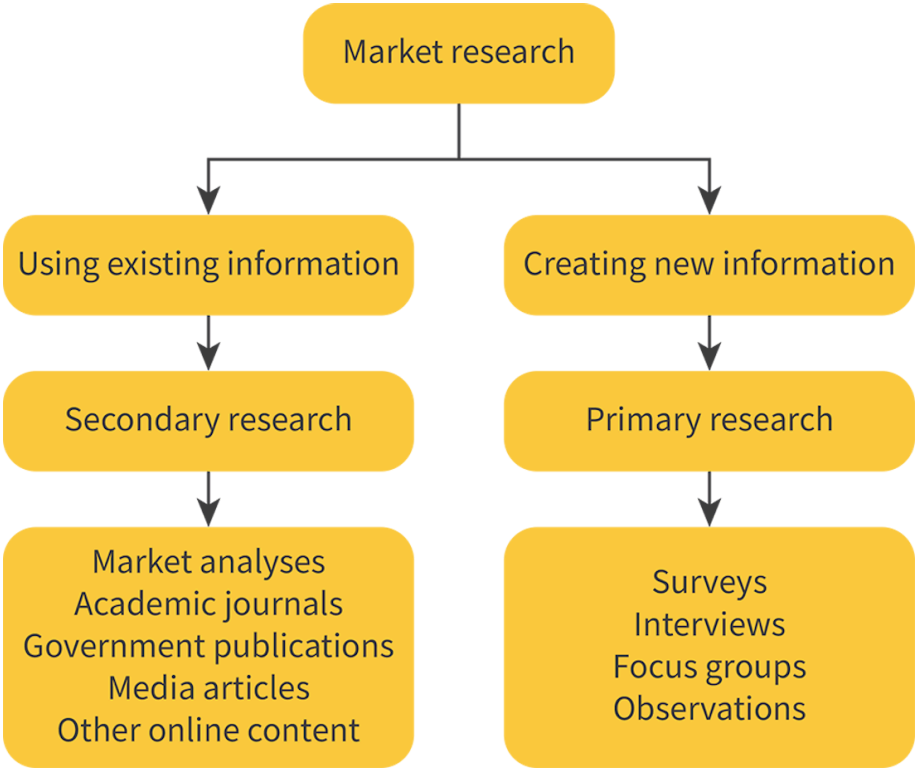



**Figure 3.** Primary and secondary market research.

More information for figure 3

The image is a flowchart illustrating the processes of market research, divided into two main branches: primary and secondary research. At the top, a black arch labeled "Market research" splits into two pathways:

1. **Using existing information (Secondary research):**
2. A diamond labeled "Secondary research" connects to a list:
    - Market analyses
    - Academic journals
    - Government publications
    - Media articles
    - Other online content
3. **Creating new information (Primary research):**
4. A diamond labeled "Primary research" connects to another list:
    - Surveys
    - Interviews
    - Focus groups
    - Observations

The flowchart visually organizes these components under the concept of market research, emphasizing separate methodologies for collecting information.

Student view

[Generated by AI]

Overview (/study/app/hl/sid-351-cid-762729/o

## Primary market research

Sometimes referred to as ‘field research’, primary market research involves creating new information, gathered by the business through surveys, interviews, observations, focus groups or other methods. Primary research aims to answer a specific research question. The information it produces is up to date and relevant. For example, by selecting specific people to interview, the business can focus its research on its target audience. The business can find out about the individuals’ tastes and preferences, the reasons why they make purchases, or whether they like the product. The main methods of performing primary market research (which are explained in Section 4.4.2 (/study/app/business-hl/sid-351-cid-762729/book/primary-market-research-methods-id-38997/)) are:

- surveys
- interviews
- focus groups
- observations

### Making connections

In the IBDP Design course, user research is a very important part of the design process. Understanding the needs and wants of the people who will be using the products that a designer creates is a critical part of the ‘investigating and analysing’ and ‘developing ideas’ stages of the design cycle. Thus, the skills for a designer and a market analyst are very similar.

## Secondary market research

Secondary market research uses information gathered by others. This means that it can be carried out rapidly and can give a quick overview of a market. A business can use secondary research to learn general information about its target market and the external environment (STEEPLE factors). For example, a business can use secondary research to learn about the age structure of the population. Secondary research can also be used to learn about whether the economy of an area is growing, or what the major sociocultural trends are.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

In Section 4.4.3 (/study/app/business-hl/sid-351-cid-762729/book/secondary-market-research-methods-id-38998/), the following sources of secondary research are analysed:

- a market analysis
- academic journals
- government publications
- media articles
- online content

### Exam tip

For your Business Management internal assessment (IA), you will be expected to 'base [your] research on primary and/or secondary research, selected for its suitability, depth and breadth' (IBDP Business Management guide).

## 2 section questions

**Question 1**

A company holds a series of small focus groups so that it can gather feedback on a new prototype. What part of the marketing mix does this research relate to?

1 Product ✓

2 Price

3 Promotion

4 People

**Explanation**

Research on a prototype is carried out in order to test potential customer reaction to a product. All other answers represent the components of the marketing mix that do not focus on a product.

**Question 2**

Student view

A business that owns a national chain of electronics stores asks all its customers which town they live in. The business will use this information to decide where to open its next store. What type of research is this?

Overview (/study/ap hl/sid-351-cid-762729/o

1 Primary research ✓

2 Secondary research

3 Desk research

4 Internet research

**Explanation**

Primary research leads to the creation of new information. In this case, gathering information directly from customers is primary research.



# Primary market research methods

Primary market research Primary market research

Primary research is the creation of new information. Businesses carry out primary market research when they need specific, up-to-date information.

The research methods that businesses use will depend on research objectives. Budget and time constraints will also be considered. The main methods of primary market research are surveys, interviews, focus groups and observations.

It is very expensive to conduct market research. It takes time and resources to plan and conduct the research, and then process the results. Most businesses are not experts in carrying out market research. The business may need to train researchers or hire specialists from outside the business to conduct the research. Primary market research needs to be done well so the business can be sure that the results obtained are reliable and unbiased.

## Making connections

In Business and Information Technology you may sometimes hear the term 'GIGO' — or 'Garbage In, Garbage Out'. This term refers to the idea that biased or faulty input data will result in inaccurate conclusions, which may guide a company towards poor business decisions.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

When conducting primary research, it is important to reduce the likelihood of bias — as far as possible — by considering the procedure as well as the language used for questioning respondents. Leading language may encourage respondents to answer the questions in the way that they think the business will want to hear. As a result, this research data may not reflect the market accurately. In the worst case scenario, a product may test well, but fail when launched.

**Figure 1.** GIGO: Research that uses poorly chosen inputs will lead to results that are useless at best.
Credit: Ngampol Thongsai / EyeEm, Getty Images

## Surveys

Surveys collect data from large numbers of respondents in a relatively short time. They are well suited for gathering quantitative data rather than qualitative data. Surveys come in many forms, including:

- online surveys sent out by email, or website evaluations
- surveys by phone, asking customers to rate the service they have received from a telephone call centre
- face-to-face surveys, which may take place on crowded streets or in shopping malls

### Exam tip

Take care not to confuse the words ‘questionnaire’ and ‘survey’. A questionnaire refers only to the form that is distributed and completed. Surveys can be conducted by questionnaire or by lengthy interviews, for example.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

A survey is the process; a questionnaire is the method used to carry out the survey.

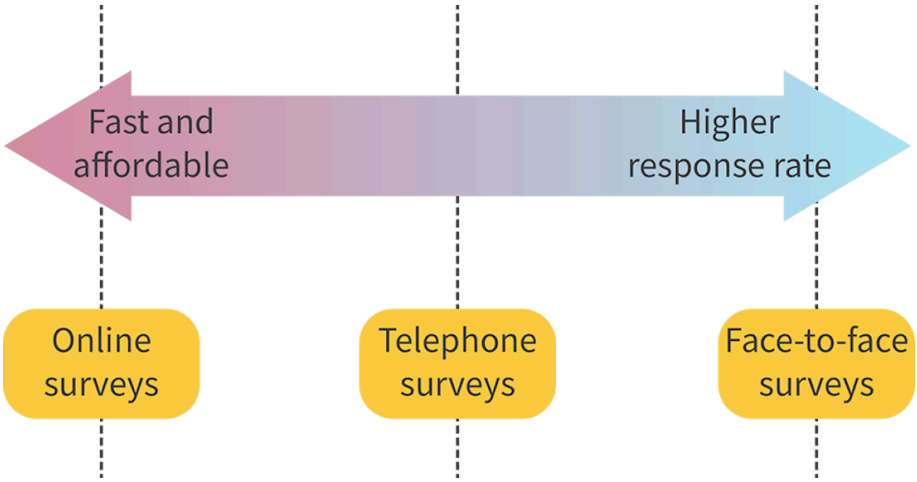



**Figure 2.** Surveys have a trade-off between affordability and response rate, depending on how they are conducted.

More information for figure 2

The image is a diagram illustrating the relationship between how surveys are conducted and their outcomes in terms of affordability and response rate. The diagram is split into a horizontal layout with two main descriptors at the top, 'Fast and affordable' on the left and 'Higher response rate' on the right. Below, there are branches leading to three different types of surveys labeled as 'Online surveys,' 'Telephone surveys,' and 'Face-to-face surveys.' The diagram implies a progression or trade-off between convenience and the quality of response rate across these survey types, with online surveys being the swiftest and most cost-effective, and face-to-face surveys having a higher response rate. Telephone surveys are positioned between these two extremes.

[Generated by AI]

# Interviews

Carrying out personal interviews is a lengthier surveying method and allows researchers to gain large amounts of qualitative data. Personal interviews can be conducted face-to-face, over the telephone or through video conferencing.

Interviews allow researchers to ask follow-up questions, so it is possible for the interviewer to get more detail on an idea or opinion. It is normal for interviews to be recorded so that they can be replayed and transcribed (written down) at a later date. Interviews may take a large amount of time to complete, so interviewees may need a financial incentive to take part.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

**Figure 3.** Interviews allow researchers to gather qualitative information.

Credit: baona, Getty Images

## Focus groups

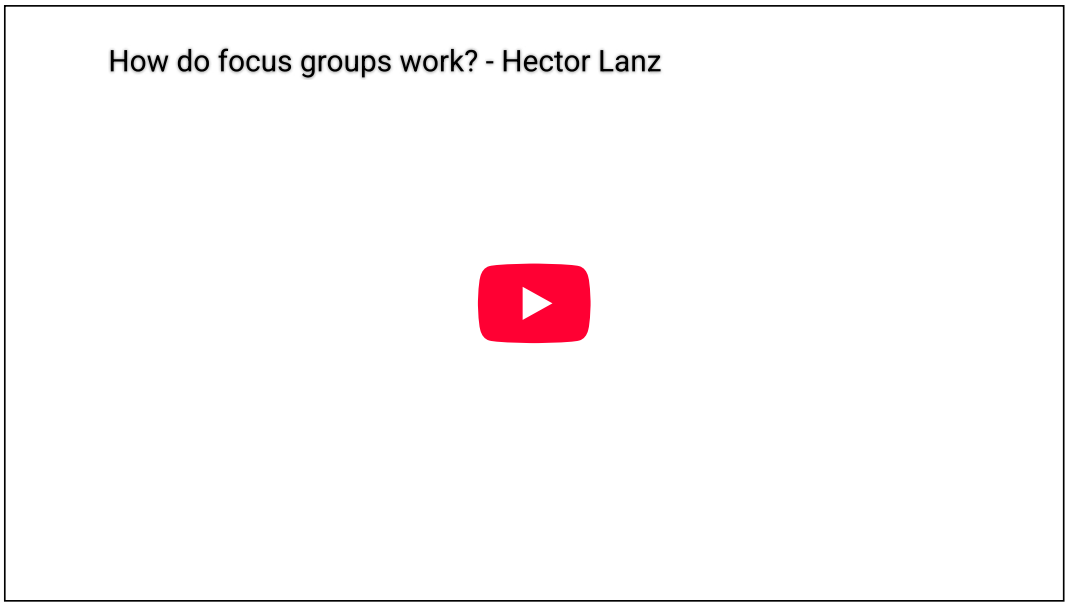
A focus group is an interview conducted with a small group of individuals, usually with similar characteristics. For example, a small group of parents with young children might be asked about children's products. The researchers will ask the participants to share experiences of the particular market or product in question.

As with interviews, focus group participants may be offered some sort of financial reward for taking part. The small number of people in a focus group may make it more comfortable for participants to take part in the conversation and share opinions freely. The researcher may organise the setting and the questions, or they may simply lead the conversation in a particular direction.

The following video explains in more detail how focus groups work.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o




**Video 1.** Focus groups and how they work.

# Observations

Observations allow for natural reactions of customers to be studied. For example, supermarkets use in-store security cameras to observe their customers. Individual consumers can be followed around the store and details such as the route they take and which promotions they notice are recorded. This can help managers design more effective layouts for their stores. Another example is websites that gather similar information. Many websites will automatically record every click a visitor makes on a page and the length of time a visitor spends on the site. This information can be used by a business to improve its products, promotions or processes.

Section Student... (0/0) Feedback Print (/study/app/business-hl/sid-351-cid-762729/book/why-how-market-research-id-38996/print/) Assign

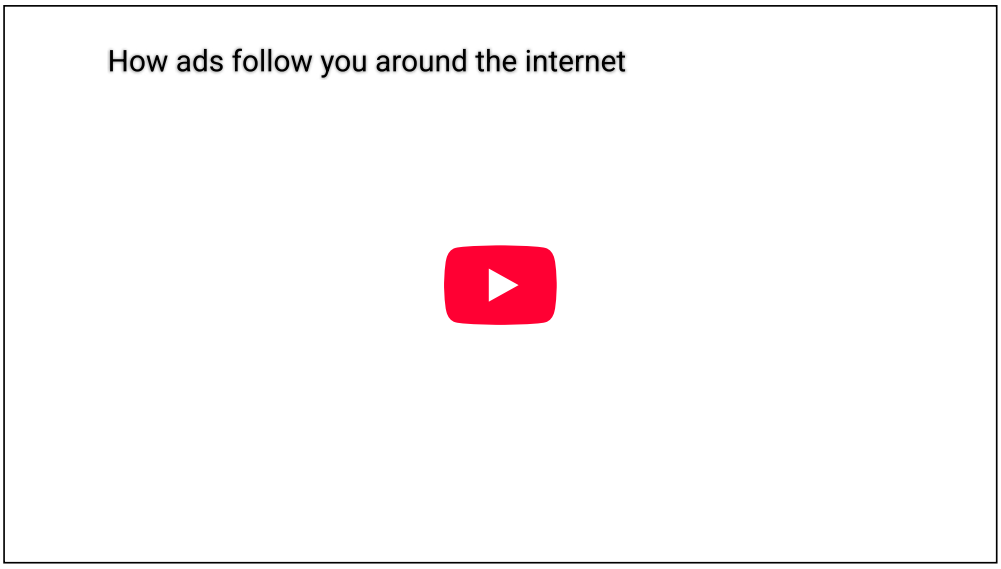
## Concept

### Ethics

You may have heard that websites use cookies to ‘track’ visitors’ clicks and preferences. Watch the video below explaining how advertisers target customers online.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o




**Video 2.** How advertisers target customers online.

After watching the video, think about the following questions:

- Were you aware that your online movements may be tracked so extensively by advertisers?
- What are the benefits of tracking through cookies? What are the drawbacks?
- Some people may argue that such tracking violates people's right to privacy. To what extent do you find online tracking ethical?

Recently, some governments have started to require disclosure of data use, which means you may have seen pop-ups informing you about how your data will be used.


**Figure 4.** Companies are now required to let the user know how their data will be used.

Student view

Overview (/study/app/business-hl/sid-351-cid-762729/o

- To what extent do you think governments have an obligation to change companies' behaviour towards more ethical treatment of personal data?

Primary research is often thought of as being conducted by the business itself, however this is not always the case. Often an organisation does not have the in-house capacity to carry out such research and may outsource the work to a company that specialises in research.

## Case study

Ipsos is a French multinational company that specialises in market and political research.

An example of the type of service that Ipsos provides in order to help understand shoppers' behaviour is as follows:

- Ipsos uses interviews, secondary research, analysis of previously collected data and collecting data on the reputation of a business from online sources, such as customer reviews and social media.
- Ipsos collects 'in the moment' information on purchases and conducts post-purchase interviews.
- Ipsos uses shopper store behaviour by recording via video spy glasses, by in-store observation and recording, and by passive metering.

**Questions:**

1. Outline two reasons why a business may want to outsource its primary market research to a company such as Ipsos. [2 marks]
2. Identify one example of primary market research and one example of secondary market research in the text above. [2 marks]

### Question 1

Reasons for outsourcing primary research may include the high cost of in-house research, and stronger expertise of a third party in conducting research.

**Outline** is an AO1 level command term, requiring you to give a brief summary.

- One mark is given for outlining one reason.
- Two marks are given for outlining two reasons.

### Question 2

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

Examples of primary market research: interviews, diaries, observations, metering.
Examples of secondary market research: secondary research, analysis of prior research of existing data, social media, customer reviews.

**Identify** is an AO1 level command term, requiring you to provide an answer from a number of possibilities.

- One mark is given for identifying one primary market research method.
- One mark is given for identifying one secondary market research method.


**Figure 5.** Market research companies can use video spy glasses to record a shopper's experience.

Credit: Ekkasit919, Getty Images

## Exam tip

You are likely to use primary and secondary research for your IB Business Management internal assessment (IA). Primary research is best used when looking at a local business, and it may include the following methods:

- face-to-face and online surveys/questionnaires
- face-to-face and online interviews
- focus group discussions

(From the IBDP Business Management guide)

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

A common problem students face when conducting primary research for the internal assessment is arriving at an appropriate sample. Sampling methods will be further discussed in Section 4.4.5 (/study/app/business-hl/sid-351-cid-762729/book/sampling-methods-id-39000/).

## 2 section questions

**Question 1**

A small restaurant is updating its menu. The chef has created many new dishes and wants to know what a small number of customers think of them. Which method of primary market research would be most appropriate for the chef's needs?

1 A focus group ✓

2 A questionnaire

3 Observations

4 Interviews

### Explanation

Focus groups often allow participants to try the product and give feedback. Focus groups involve a small number of participants and would allow the restaurant to present different dishes to taste. Questionnaires may not allow participants to test the dishes. Observations may show customer reaction, but not explain the reason for a given reaction. Interviews may be appropriate, but are more time consuming and expensive than focus groups.

**Question 2**

A fitness studio is considering extending its opening hours on one day each week. It wants to quickly find out which day its customers would prefer. Which method of primary market research would be most appropriate to use?

1 A questionnaire ✓

2 A focus group

3 Interviews

4 Observations

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

**Explanation**

A questionnaire is the fastest and most cost-conscious way to collect the data. Other methods may also be appropriate, but will be more time-consuming and costly.



# Secondary market research methods

Secondary market research Secondary market research

You have probably used secondary research in the past, for example, in your History class. Secondary research involves the use of information that has already been gathered. This section looks at the following sources of secondary market research: market analyses, academic journals, government publications, media articles and online content.

## Market analyses

If companies want in-depth market research information of a particular market, they have a choice. They can either pay a market research agency to carry out new research, or they can purchase a market analysis report that has already been published. Paying a market research agency to carry out new research will give the business the most up-to-date information. But it is expensive to pay for new research. It is less expensive for a business to buy market analysis reports that have already been published.

Specialist market research agencies such as Euromonitor (https://www.euromonitor.com) (which researches more than just European countries) write and sell detailed market intelligence reports for practically every market imaginable. The reports can include details about competitors in a particular industry, information about groups of consumers or even descriptions of country-specific business regulations.

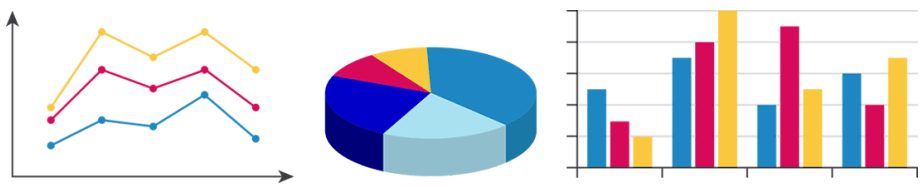


**Figure 1.** A market analysis report can inform the business about market conditions and trends.

More information for figure 1

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

The image displays a combination of a line graph, a pie chart, and a bar chart.

1. **Line Graph:**
2. The line graph shows three differently colored lines, possibly representing different datasets or categories. Each line trends upward, downward, or remains flat over the horizontal axis, suggesting variation in data over time or another variable along the x-axis.

3. **Pie Chart:**

4. The pie chart is comprised of several segments in various colors, indicating the proportionate distribution of data. Each segment's size reflects its relative importance in the dataset.

5. **Bar Chart:**

6. The bar chart shows vertical bars of different heights, colors, and patterns. The bars are grouped in threes, and each group might represent a different category, with the height implying the value or frequency of the data in each category.

The combination of these charts suggests a comprehensive analysis encompassing different methods of data visualization to portray trends, distributions, and comparative quantities or categories.

[Generated by AI]

## Activity

**Learner profile:** Inquirer
**Approaches to learning:** Thinking skills (transfer)

Read the Euromonitor analysis of personalised health products (https://www.euromonitor.com/article/personalisation-in-vitamins-and-dietary-supplements), which is an example of a market analysis that a business may purchase. Then answer the following questions:

1. Which trends are you able to identify?
2. How might a business use this market analysis?

Student view

Overview (/study/app/business-hl/sid-351-cid-762729/o

# Academic journals

Academic journals contain articles on new research and academic theory. The articles are published by academics from leading universities. Many business management theories, such as Maslow's Hierarchy of Needs or the Boston Consulting Group matrix, were first published in academic journals.

Academic journals are a useful source for businesses who need information on contemporary issues such as management and motivation theory. Sometimes, you may need to pay a fee to access an article. However, universities and schools normally pay for access to sites such as Jstor (https://www.jstor.org) and Google Scholar (https://scholar.google.com).

**Exam tip**

When writing your extended essay (EE), you will most likely need to consult academic journals. Ask your school librarian to find out whether journal databases such as Jstor are available at your school. Remember to keep track of all publications consulted during the research process, as you will need to reference them in your work.

# Government publications

Governments from all over the world regularly publish data covering topics such as population statistics and economic conditions (for example economic growth, unemployment and inflation). This data is normally considered reliable and up to date. Governments normally release their data for free and update it regularly.

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

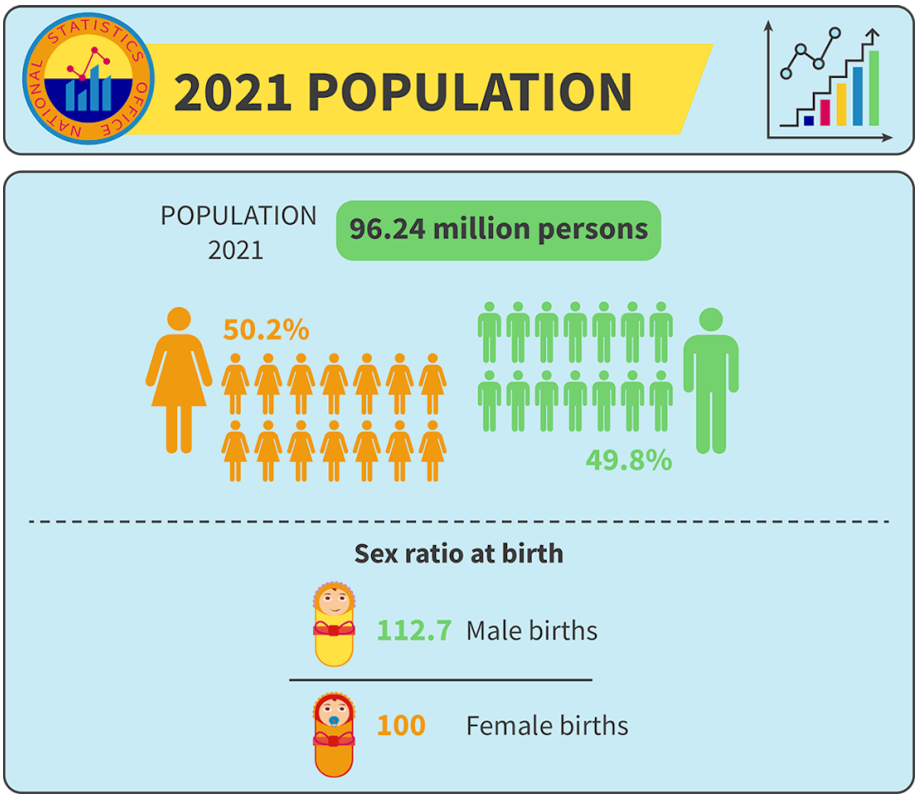



**Figure 2.** Governments routinely publish national statistics.

More information for figure 2

The image is an infographic titled "2021 Population" from the National Statistics Office. It presents data on population distribution and sex ratio at birth. At the top left corner, there is a logo of the National Statistics Office and an illustration of a bar chart and line graph at the top right.

The central section displays two groups of icons representing people. On the left is a group of orange female figures with the label "50.2%," and on the right is a group of green male figures labeled "49.8%." Above these icons, there is a total population figure of "96.24 million persons" in a green box, with a small text "Population 2021" above it.

Below the population figures, the infographic shows the "Sex ratio at birth," illustrating 112.7 male births per 100 female births. The male births are depicted by a small figure of a baby icon in green and the female births with a similar icon in yellow.

Overall, the infographic visually communicates the distribution of the population by gender and presents the sex ratio of births clearly.

[Generated by AI]

Student view

Overview (/study/ap hl/sid-351-cid-762729/o

### Exam tip

A simple Google search for information can sometimes produce unreliable results. Here is a list of some trusted sources of information that you may find useful in the Business Management course:

- Gapminder (https://www.gapminder.org)
- Our World in Data (https://ourworldindata.org)
- World Bank (https://data.worldbank.org)
- Trading Economics (https://tradingeconomics.com)
- Google Public Data (https://www.google.com/publicdata/direcory)

Identify one or two local or national government sources that you can use for your internal assessment research. These sources can show population or economic data and other local or national statistics.

## Media articles

Media articles are published in both printed and electronic newspapers and magazines. They are updated regularly and provide current local and/or national information. Many sites also offer alert services, whereby breaking news about a selected company or topic can be sent directly to a user.

For your internal assessment research, you may need to use media articles to find information on publicly and privately held companies. The following websites may be a helpful place to start:

- Forbes (https://www.forbes.com/?sh=2faa3bc12254)
- Bloomberg (https://www.bloomberg.com/europe)
- Yahoo Finance (https://finance.yahoo.com)
- The Financial Times (https://www.ft.com)
- The Wall Street Journal (https://www.wsj.com)

### Activity

**Learner profile:** Inquirer
**Approaches to learning:** Research skills (media literacy)

Student view

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The sources above are from the UK and the US.
Identify three reliable media sources from your country that can be used for your internal assessment.

# Other online content

Online content is a general category, as most of the sources above are also available online. Other online content that may be useful includes:

Section Student... (0/0) Feedback Print (/study/app/business-hl/sid-351-cid-762729/book/primary-market-research-methods-id-38997/print/) Assign

- social media and social media analytics, such as Instagram Analytics (researchers can also use other companies' social and other digital media to analyse the market segment)
- company websites that look at the space and the competitors
- data on share/currency/fund pricing
- e-commerce sales data from businesses' pages
- investor relations pages, including press releases and company reports

**Figure 3.** Instagram analytics is one way for a business to advertise, sell and monitor its popularity.

Credit: MR.Cole_Photographer, Getty Images

There is so much information available on the internet, that it can be difficult to determine which information is the best for your research. When interpreting business data, keep in mind the principles you learned in Section 1.3.5 (/study/app/business-hl/sid-351-cid-762729/book/strategies-and-tactics-id-36521/):

Student view

- **Currency.** Is the information up to date?
- **Relevance.** Is the information relevant for your research?
- **Authority.** Is the source of your data authoritative? Does it have a good reputation?

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- **Accuracy.** Is the information correct? You may need to cross check the information with other sources, or look closely at the original sources of information.
- **Purpose.** Why has this source published this information? Is there a motive behind the publication that you should be aware of?

**Table 1** compares the uses and limitations of primary and secondary research.

**Table 1.** Comparison of primary and secondary research.

| | Uses | Limitations |
|---|---|---|
| **Primary research** | Provides direct information about customers' tastes and preferences. | Can be expensive and time-consuming to carry out. |
| | Provides information about reasons for purchases. | Staff may need training to carry out the research. |
| | Provides unique information that can give a competitive advantage. | Can be difficult to construct effective questions and experiments. |
| **Secondary research** | Provides information at lower cost than primary research. | The business must rely on the research methods of others. |
| | Provides broader contextual information about the whole economy, population or general trends. | Information that the business wants may not exist. |
| | Published information is often already available. | Existing information may not be fit for the business's purpose; it could relate to a different issue, different subject or different target market. |

### Exam tip

The IBDP Business Management guide outlines the following to help Business Management students identify secondary sources for the internal assessment:

- articles from the local, national or international press
- business accounts
- business plans
- extracts from company websites
- transcripts of a relevant audio-visual file

Student view

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- financial reports
- government and other statistics
- journal publications
- market research surveys
- mission statements

(Source: IBDP Business Management guide)

Publicly held companies are required by law in most countries to publish their financial documents. Finding financial data for privately held companies may be more difficult and will require more planning.

## 3 section questions

**Question 1**

A multinational fast-food restaurant chain is considering entering a new country. Before making the decision, it wants to assess the competition in each potential market. Which method of secondary research would be most appropriate for it to use?

1 Market analysis reports ✓

2 Academic journals

3 Media articles

4 Government publications

### Explanation

Market analysis reports contain detailed information about customer trends and competition. If a business wants a quick but in-depth overview of a market, these types of reports are ideal.

Academic journals are unlikely to contain the specific information the multinational company needs. Government publications usually do not contain information about a company's competition. Media articles will take a long time to read through and won't easily contain all the information necessary.

While all sources may be somewhat helpful, a market analysis report will give the most targeted overview of the market in question.

Student view

**Question 2**

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A manager has noticed that the productivity of her workforce has fallen. She wants to research the latest theories on staff motivation. Which secondary market research source would be most appropriate for the purpose?

1 Academic journals ✓

2 Government publications

3 Media articles

4 Market analysis reports

### Explanation

Academic journals contain the very latest research and theories relating to business management. Relevant journals such as *The Harvard Business Review* can provide insight into issues such as staff motivation.

The other options will not contain academic level research about motivational theory.

**Question 3**

A recent accident at a chemical plant has caused environmental damage to a national park. The company that owns the plant has taken full responsibility. Now it wants to find out what the public opinion about its brand is. Which method of secondary research would be most appropriate for it to use?

1 Media articles ✓

2 Market analysis reports

3 Academic journals

4 Government publications

### Explanation

Looking at recent newspaper articles will show the company how the accident has been reported in the media. In addition to this, stories of public protest may also be found. In fast-changing situations, media articles are the only form of secondary research that can offer up-to-date information.

Market analysis reports, government publications and academic journals are unlikely to cover this particular incident.

Student view

# Qualitative and quantitative research

Qualitative and quantitative research Qualitative and quantitative research

## Quantitative research

Quantitative research refers to collecting numerical data or information that can be counted. Surveys and observations allow for easy collection of quantitative data. It is normal for surveys to ask closed or multiple-choice questions so that their results can be analysed easily. These questions might be related to price, income and quantities purchased. Secondary research methods, such as government population statistics or market analysis reports, are also excellent sources of quantitative data.

### Making connections

In Subtopic 5.9 (/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-39043/) you will learn about management information systems, including quantitative research using big data. Big data is a term that describes very large data sets. Proliferation and usage of massive amounts of data has led to an ability to analyse and make financial decisions rapidly with the use of technology.

An example of this is algorithmic stock trading, where computers can execute trades at speeds much faster than humans. Another example is when a doctor may use a patient's personal data in conjunction with other background data to arrive at an accurate diagnosis and treatment plan.

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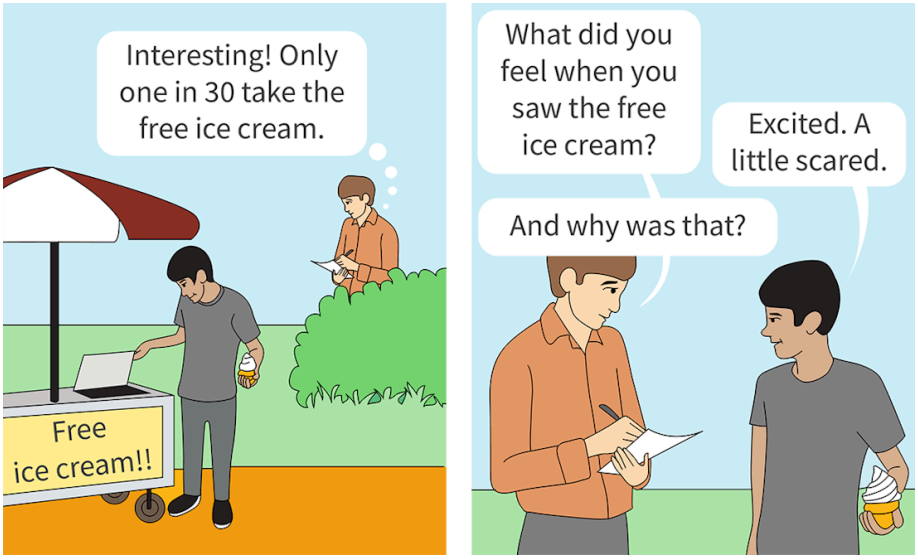


**Figure 1.** Using both quantitative and qualitative research.

# Qualitative research

Qualitative research involves collecting non-numerical data, such as opinions. In qualitative research, the key question asked is 'Why?' For example, a participant might be asked why they would select a particular brand over its rival, or why they like or dislike a new advertising campaign.

Qualitative research may, for example, involve finding out which clothing colours sell better to different groups. More complicated information might include how people respond to shop layouts or advertisements, or how they rate the quality of the product versus the price. Conducting surveys by interviewing people or hosting focus groups, or even by simply listening in on customer service calls, will provide this information more easily.

**Figure 2.** Qualitative research aims to find non-numerical data, such as opinions on products.

Credit: Jill Giardino, Getty Images

Student view

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# Blending quantitative and qualitative research

One key difference between quantitative and qualitative research is their sample sizes. Quantitative research will seek to gather a relatively small amount of information from a large number of respondents. Qualitative research is the opposite; sample sizes are smaller, but much more information is gathered from each respondent.

Many research projects will use both qualitative and quantitative data. The mix will be decided by financial and time constraints, as well as by the objectives of the research. When choosing between qualitative and quantitative data, the key question researchers must ask themselves is, which is more important for their research: quality or quantity? Large businesses will be happy to conduct expensive qualitative research when they are about to take a big risk, such as developing a new product. It would be important to know whether the product will actually sell, so high quality and detailed information must be collected.

### Theory of Knowledge

Read this article on how Facebook collects quantitative and qualitative data (https://www.forbes.com/sites/kateoflahertyuk/2021/05/08/all-the-ways-facebook-tracks-you-and-how-to-stop-it/?sh=2b2e4cd55836) on its users to build a complete consumer profile.

Answer the following question:

- Can companies know us better than we know ourselves?

## 2 section questions

**Question 1**

Which of the following sources of market research would be more useful for quantitative research than for qualitative research?

1 Government publications ✓

2 Other online content

3 Academic journals

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4 Media articles

**Explanation**

Governments around the world release statistical data that is often quantitative in nature. This data covers topics ranging from economic conditions to population demographics and more.

The other options could also be a source of quantitative data, but not consistently.

**Question 2**

Which of the following methods of market research would be more useful for qualitative research than quantitative research?

1 Focus groups ✓

2 Questionnaires

3 Surveys

4 Observations

**Explanation**

The objective of forming a focus group is to gather opinions from a small group of people. During focus group sessions, participants are asked for their viewpoints and encouraged to discuss these with others. Although it is possible to gather some quantitative data in these meetings, they are most useful for qualitative research.

The other options are useful for quantitative research.



# Sampling methods



Student view

All market research aims to better understand what each customer thinks about a product. However, involving all customers in research would be very expensive. To get an understanding without polling everyone, businesses select a representative group called a sample for their

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research. This sample is expected to represent all customers of a specific product, referred to as the population (see **Figure 1**).


**Figure 1.** A sample is a subgroup of a population that is selected for research purposes.

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More information for figure 1

The image is a diagram illustrating the concept of a sample being a part of a target population. It depicts a large orange circle labeled "Target population," representing the overall group under study. Inside this circle, there is a smaller blue circle labeled "Sample," signifying the subset of the population selected for research. This visual representation helps explain how a sample is a subset chosen to represent the broader target population in research studies.

[Generated by AI]

Population choice matters. A researcher needs to decide which population they should use for their research. For example, when finding out opinions about new models of reading glasses, only those who wear reading glasses (and not the general population) should be of interest.

Section Student... (0/0) Feedback Print (/study/app/business-hl/sid-351-cid-762729/book/qualitative-quantitative-research-id-38999/print/) Assign

Sample choice and size are also very important. If you base your research on a very small sample size, the information you gather may not be a good representation of the entire population. However, using a very large sample size will increase the cost and the complexity of the market research.

The methods that are used to choose a sample are referred to as sampling methods. Sampling methods can be characterised as probability and non-probability sampling. Probability sampling refers to a technique whereby each subject has the same chance of being selected. Non-probability sampling is non-random, meaning that not all subjects have an equal chance

Student view

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of being selected. Out of the three sampling methods presented below, only random sampling is thought of as probability sampling. Random sampling is generally considered to be the least biased sampling method. It is a method that is used, for example, in political polling.

### International Mindedness

Eurobarometer is a European Union (EU) polling organisation that monitors public opinion in the EU area. Since EU countries have vastly different population sizes, the organisation needs to adjust its sample size based on the size of the population.

The following is an explanation of how the organisation arrives at its sample size:

*'Ordinarily, in order to guarantee the representativeness of results, Eurobarometer surveys rely on a randomly selected sample of at least 1000 persons aged 15 years and more per country or territory reported. A sample size of 500 persons is used in countries or territories with a population of below one million inhabitants.*

*In cases where a survey is conducted only among a specific demographic (e.g., people aged between 15-24, people employed in an SME, etc.) the sample size may be adapted accordingly.'*

Source: Eurobarometer (https://europa.eu/eurobarometer/about/eurobarometer)

There are various sampling methods that researchers can use, including:

- random sampling
- quota sampling
- convenience sampling

## Random sampling


**Figure 2.** Random sampling.

Student view

More information for figure 2

The diagram illustrates the concept of random sampling. It features a grid with multiple colored dots—blue, yellow, and pink—arranged in a repeating pattern on the left side of the image. An arrow labeled "Random sample" points towards the right side of the image, where a few dots are isolated. This represents the selection process in random sampling, where a representative subset is chosen from a larger group.

[Generated by AI]

Random sampling is a sampling method whereby everyone in the population has the same chance of being selected to take part in the research (see **Figure 2**). For example, imagine a sailing club wants to find out the views of its members on purchasing a new boat. If random sampling is used, then a list of members could be entered into a random name generator. The first 20 names generated can be contacted and asked their views. This sampling size is considered the most representative.

Watch the video below from the Pew Research Center on how a random sample is selected.


**Video 1.** How random sampling and weighting are used to gain a fair representation of a whole population.

# Quota sampling

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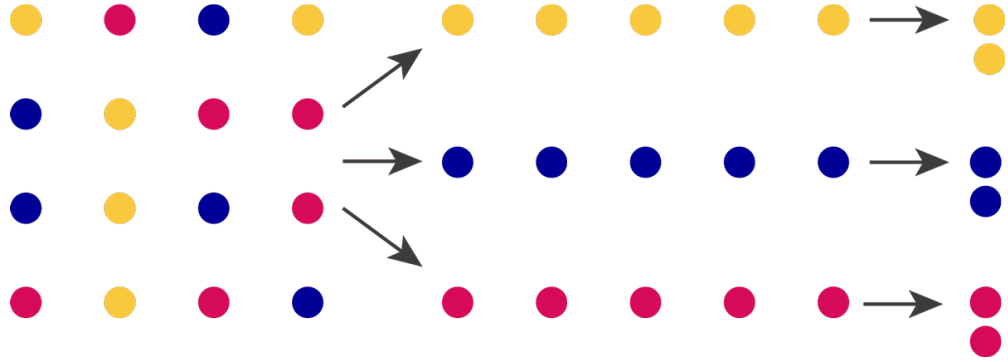

**Figure 3.** Quota sampling.

More information for figure 3

The image is a diagram illustrating quota sampling. It shows a series of colored dots arranged in rows, representing different strata or subgroups within a population. Each row contains dots of a single color: yellow, red, or blue, indicating separate strata. Arrows point from these rows to smaller groups of dots on the right side of the image, demonstrating how samples are selected from each stratum. The diagram visually represents the process of dividing a population into subgroups and selecting samples based on convenience rather than random selection, emphasizing the proportionate size of each sample to its corresponding stratum.

[Generated by AI]

Quota sampling involves first dividing the population into strata (plural of stratum), or subgroups, based on a given characteristic. A sample is then taken from each stratum (subgroup), not randomly but based on convenience. This might be proximity to the researcher, for example (see **Figure 3**). The size of the sample should be proportionate to the stratum size. Quota sampling is not based on random selection and so is a non-probability sampling method.

Advantages of quota sampling include that it is faster and easier to administer, and that it is generally less expensive than random sampling. It can also take population proportions into account.

## Convenience sampling

Student view

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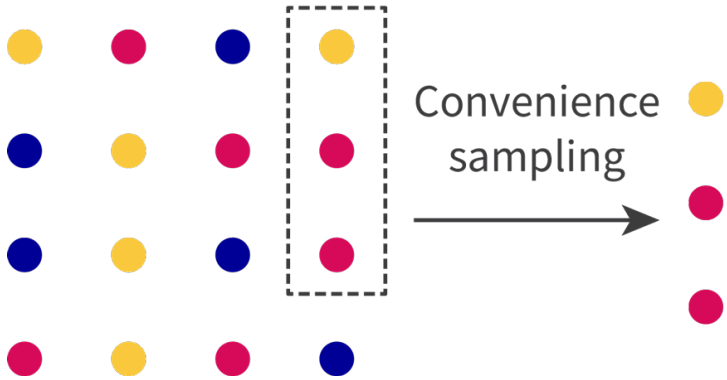


**Figure 4.** Convenience sampling.

More information for figure 4

The image is a diagram illustrating the concept of convenience sampling. There are scattered colored dots (red, yellow, and blue) on the left side. A section with a dashed outline indicates the selected sample, containing only red dots. An arrow points from this section to a smaller group of red dots on the far right, labeled 'Convenience sampling.' The diagram symbolizes the non-random selection process in which only easily accessible samples are chosen, regardless of their representativeness.

[Generated by AI]

Convenience sampling is a method whereby the sample is made up of whichever people are willing to take part in the research (see **Figure 4**). This is by far the least representative form of sampling and is a non-random form of sampling. For example, a researcher may only ask those who happen to walk past them in a supermarket. Supposing a researcher was conducting a survey on height and body size and they had a sample size of ten people. If it happened that the first ten people to pass them were six-foot tall bodybuilders, then they would report that 100% of the population were six-foot tall bodybuilders!

Using convenience sampling makes it simple to carry out the research (hence the name). However, it is unlikely that the sample will represent the target population accurately. Unless very large sample sizes are used, convenience sampling is of limited use.

## Bias in sampling

Researchers often talk about bias in sampling, meaning some groups have a higher chance of being selected than others.

Student view

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While all sampling methods can result in skewed or unreliable results, researchers need to carry out a cost/benefit analysis and consider the objectives of research to determine the method they would like to use. Random sampling would be more expensive but also more accurate; convenience sampling would be less expensive but potentially highly inaccurate.

## Theory of Knowledge

Sampling methods carry a different degree of bias. Consider the different sampling methods and answer the following question:

- Is it possible to eliminate the effect of researcher bias when conducting market research? (IBDP Business Management guide)

## Activity

**Learner profile:** Inquirers
**Approaches to learning:** Research skills

Suppose you would like to start selling custom made Samsung phone cases with your school logo at your school.

1. What would be the population that you are targeting?
2. Suggest a sampling method you could use to assess customer interest in the product most accurately.

# 2 section questions

**Question 1**

A local charity is conducting research to find out what people think about global warming. To gather data, researchers stand in a shopping centre and question anyone who is willing to talk to them. What type of sampling is this?

1 Convenience sampling ✓

2 Random sampling

3 Quota sampling

4 Primary research

Student view

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**Explanation**

This is an example of convenience sampling. The target market is not segmented in any way, nor is there any attempt to select respondents at random. Primary research is a form of marketing research, not a sampling method.

**Question 2**

A researcher is looking to find a representative sample of a population. They are not in a rush and have a large budget. Which sampling method would you recommend?

1 Random sampling ✓

2 Convenience sampling

3 Primary research

4 Secondary research

**Explanation**

Random sampling is an approach whereby each item or person has the same probability of being chosen, making it the most accurate. Convenience sampling is not as representative of a whole population. Primary research and secondary research are not sampling methods.



# Tool: Descriptive statistics

Tool: Descriptive statistics Tool: Descriptive statistics Tool: Descriptive statistics Tool: Descriptive statistics

As part of the Business Management course, you will need to collect and analyse data. Descriptive statistics are tools that may help you present and interpret the data that you have collected. You should be familiar with most from your Mathematics course. Descriptive statistics studied in this course include:

- mean
- mode
- median
- standard deviation

Student view

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- pie charts
- bar charts
- infographics
- quartiles

# Mean, mode and median

Mean is another word for average. The mean is found by adding together two or more numbers and dividing the total by the number of items. Mode refers to the most frequently occurring value from a set of values. Median is the middle value in a list of ordered numbers.

A mean or average is often used in reporting prices, such as the price of either a litre or a gallon of gas. Very high or very low numbers can skew the mean. Very often the median is then used to see the full picture. When talking about housing prices in an area, for example, it is more helpful to look at the median rather than the mean, as this ensures that one very expensive property does not increase the average.

Look at the distribution of IB diploma scores in **Figure 1**. Remember that the mode is always at the peak of a distribution of a given set of numbers, but this is not always true for the mean and median. For example, the mode of May 2021 IB diploma scores is 34 points, but the mean is 33.02 points.

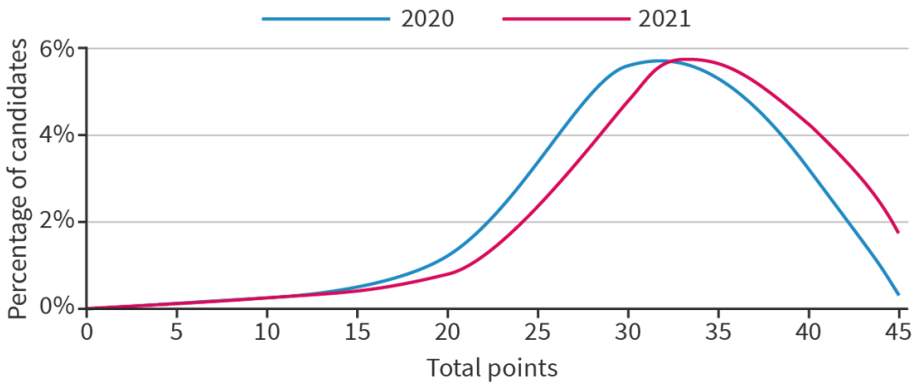


**Figure 1.** Distribution of IB diploma scores.

More information for figure 1

The image is a line graph depicting the distribution of International Baccalaureate (IB) diploma scores for the years 2020 and 2021. The X-axis represents the total points ranging from 0 to 45, while the Y-axis shows the percentage of candidates, marked in intervals up to 6%. There are two lines on the graph: a blue line for the year 2020 and a pink line for 2021.

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Both lines begin at the lower left, rise to a peak, and then decline. The peak for 2021 is slightly higher and shifts a bit to the right compared to 2020, indicating a higher mode for 2021. The graph demonstrates that the mode for 2021 is around the 34-point mark, consistent with the provided data, while the 2020 mode is slightly lower. Overall, the distribution curves illustrate the differences between the two years in terms of candidate percentages for each score range.

[Generated by AI]

### Making connections

You should be familiar with mean, median, mode and distribution from your Mathematics course.

# Standard deviation

Standard deviation – sometimes written using the Greek letter sigma (σ) – looks at the dispersion of data around its mean. A high standard deviation indicates that the data is spread out. A low standard deviation indicates that the data is clustered around the mean (see **Figure 2**).

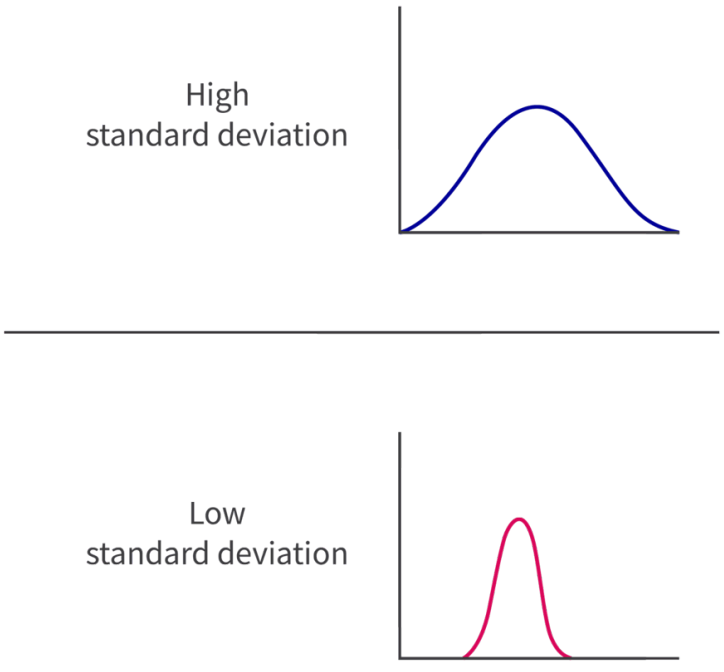


**Figure 2.** High and low standard deviation.

More information for figure 2

Student view

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The image consists of two separate graphs that illustrate the concept of high and low standard deviation.

The top part of the image shows a graph with a curve representing a high standard deviation. The data is spread out, creating a wider curve, indicating a greater dispersion around the mean.

The bottom part of the image displays a graph with a curve that is narrower, representing a low standard deviation. Here, the data points are clustered closely around the mean, resulting in a more peaked curve.

Each graph includes text that labels the curves as "High standard deviation" and "Low standard deviation", respectively. The curves visually demonstrate the difference in data dispersion between high and low standard deviations.

[Generated by AI]

As shown in **Figure 3**, in a normally distributed set of data (a bell-shaped curve set):

- about 68% of data falls within one standard deviation of the mean
- about 95% of data falls within two standard deviations of the mean
- about 99.7% of data falls within three standard deviations of the mean

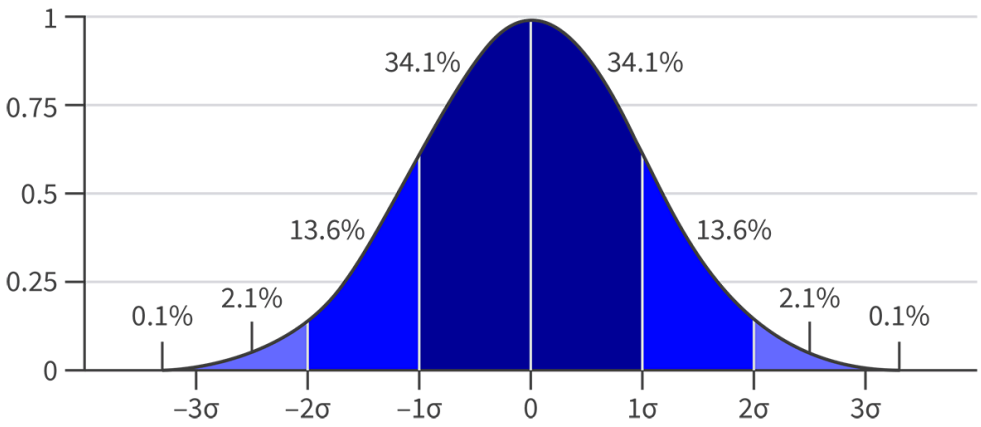


**Figure 3.** In a normally distributed set of data, 68.2% of data falls within one standard deviation of the mean.

More information for figure 3

The image is a bell curve illustrating a normal distribution. In the center of the curve, representing the mean, 68.2% of the data falls within one standard deviation. The curve is symmetrically divided into two halves. Each half contains segments indicating one, two, and three standard deviations from the mean. The widths of each segment decrease as

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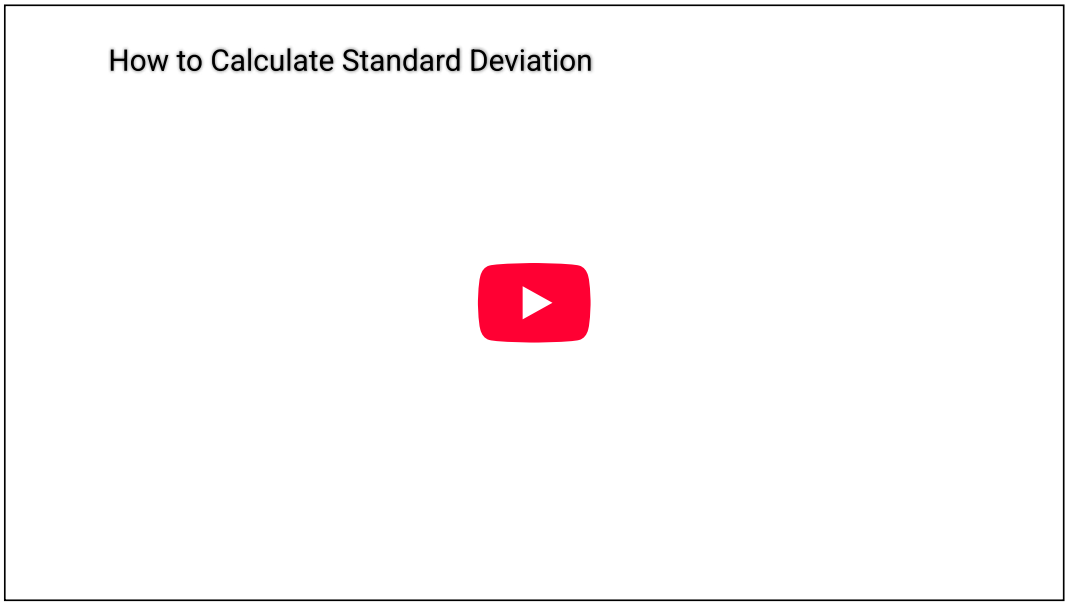
they move away from the center. Each segment is labeled with the percentage of data it represents. This visualization helps illustrate how standard deviation describes the spread of data in a normal distribution, where most data points are close to the mean and fewer data points exist at the extremes.

[Generated by AI]

One of the key standard deviation applications in business is to analyse the price changes of a share of a publicly held company and to understand the statistical likelihood of an event taking place.

You will not need to calculate the standard deviation in your Business Management exam, but if you are interested in how it is calculated, the following video will take you through it.




**Video 1.** A step-by-step explanation of how standard deviation is calculated.

## Activity

**Learner profile:** Inquirer
**Approaches to learning:** Thinking skills (transfer)

Company XYZ's annual revenue data is shown in **Table 1.**

**Table 1.** Company XYZ's annual revenue.

Student view

| Year | Revenue |
|---|---|
| 2020 | $181 billion |
| 2019 | $160 billion |
| 2018 | $136 billion |
| 2017 | $110 billion |
| 2016 | $89 billion |
| 2015 | $74 billion |
| 2014 | $65 billion |

1. What would the mean revenue for the years 2014 to 2020 be?
2. What would the median revenue for the years 2014 to 2020 be?
3. The standard deviation for the set of data above is 40.87. Based on this standard deviation, if the 2021 revenue were to be $450 billion, would this be characterised as an outlier?

1. (181 + 160 + 136 + 110 + 89 + 74 + 65) ÷ 7 = $116.43 billion
   This is the sum of the revenues divided by 7.
2. The numbers are already listed in ascending order. The middle of the 7 numbers is $110 billion.
3. $450 billion is more than three standard deviations away from the mean (which is 116.43). It is therefore improbable, or an outlier.

## International Mindedness

Be mindful of regional differences when presenting and interpreting data. For example:

- In some countries, a comma is used to separate thousands; in other countries a full stop or a space is used. In the USA, for example, the number ten thousand would be written as 10,000, while in Germany it would be written as 10.000. In Russia the correct way of writing the number would be 10 000. This Kognity book uses a space to separate thousands.

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- European countries mostly use the metric system (metres, kilometres, kilograms, etc.), while the USA uses the imperial system (feet, miles, pounds, etc.).

# Bar Charts and pie charts

A bar chart is a chart with rectangular bars showing the values represented (see **Figure 4**). Bar charts are generally used to compare different occurrences of the same event or item. For example, you can use a bar chart to compare price changes of one product over time as well as to compare prices of similar products.

A pie chart is a circular graph in which segments of the circle represent percentages of the total (see **Figure 4**). Pie charts are generally used to represent percentages of a whole, such as the breakdown of sales by product.

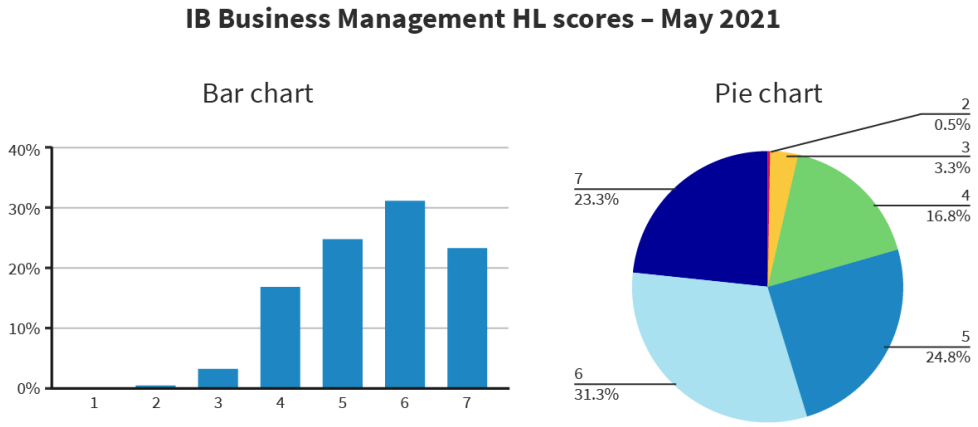


**Figure 4.** A bar chart is often used to compare, while a pie chart is used to show parts of a whole.

More information for figure 4

The image shows two charts comparing IB Business Management HL scores from May 2021. On the left, a bar chart displays scores from 1 to 7 on the horizontal axis, with percentages from 0% to 40% on the vertical axis. The bars show that scores are clustered mostly between 4 and 6, with Score 4 at 20%, Score 5 at around 28%, and Score 6 at 35%. On the right, a pie chart visualizes the same data, indicating the percentage contribution of each score value to the total. Score 6 has the largest segment at 31.3%, followed by Score 5 at 24.8% and Score 7 at 23.3%. The least percentage was Score 2 at 0.5%.

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## Activity

**Learner profile:** Inquirer
**Approaches to learning:** Research skills (information literacy)

You may or may not have used Microsoft Excel or Google Sheets (or a different spreadsheet program) in your studies to create bar charts and pie charts. The skill of creating your own graphs using technology will be of great use for presenting data in your internal assessment.

1. Company XYZ's annual revenue data is shown again in **Table 2**.

**Table 2.** Company XYZ's annual revenue.

| Year | Revenue |
|---|---|
| 2020 | $181 billion |
| 2019 | $160 billion |
| 2018 | $136 billion |
| 2017 | $110 billion |
| 2016 | $89 billion |
| 2015 | $74 billion |
| 2014 | $65 billion |

Use the data in **Table 2** to create a bar chart. Remember to label the axes correctly and fully (for example with the units and the currency), to use the appropriate units and to give the bar chart a title. Ensure that the title is specific (for example, include the name of the company, the year range and the units).

2. Company XYZ's revenue composition in 2020 is as follows:

Advertising revenue: 80%
Cloud revenue: 8%
Other revenue: 12%

Use the data above to create a pie chart. Remember to give the pie chart a title and to label each segment.

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# Infographics

An infographic is a graphic representation of information (see **Figure 5**). It is used to show research findings or to break down data in a visual way. You should be very careful when relying on infographics to convey information. Infographics may be artistically represented but may often not be drawn to scale.

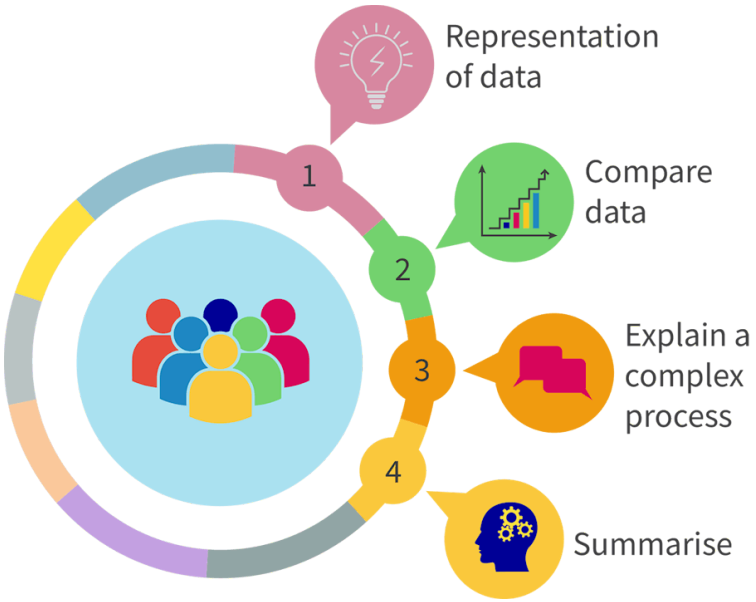


**Figure 5.** Infographics can be a useful way to visualise data, but the data may not necessarily be drawn to scale.

More information for figure 5

The infographic consists of four numbered segments, each representing a concept with a unique icon. In the center, there are icons of multicolored human figures grouped together. On the top right, segment 1 shows a lightbulb icon indicating ideas or innovation. Segment 2 features a bar graph icon, suggesting data or statistics. Segment 3 contains speech bubbles, denoting communication or dialogue. Segment 4 includes a head with gears, reflecting thinking or processing. Each segment is visually distinct with different colors and illustrations.

[Generated by AI]

# Quartiles

Quartiles result from dividing a set of numbers into quarters (see **Figure 6**). For example, a country's income data might be represented by looking at:

- the lowest 25% of income earners

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- the second lowest 25% of income earners
- the second highest 25% of income earners
- the highest 25% of income earners

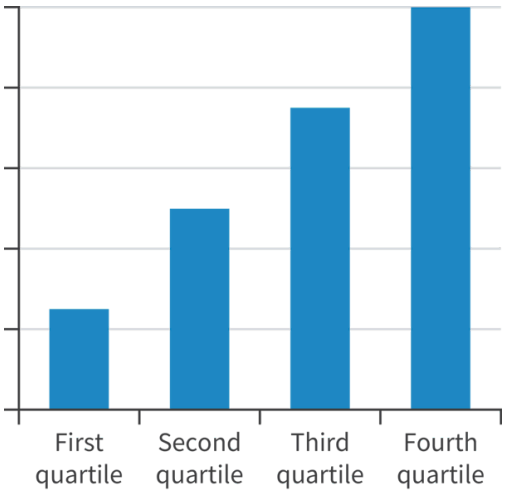


**Figure 6.** Quartiles result from dividing a set of numbers into quarters.

More information for figure 6

The image is a geometric diagram featuring a series of interlocking shapes. The diagram is composed of blue and gray polygons forming a pattern that resembles a zigzag or staircase design. The blue shapes are diamond-like and stacked in a way to create a continuous pattern with the gray background. The diagram does not contain any text and appears abstract, focusing on the arrangement and repetition of shapes to form a cohesive structure.

[Generated by AI]

# Problems with data presentation and interpretation

'*There are three kinds of lies: lies, damned lies, and statistics.*'
(Attributed to former UK Prime Minister, Benjamin Disraeli.)

Descriptive statistics are an excellent way to understand the meaning of data. However, interpreting graphic representations of data takes some skill. When looking at data, you need to pay close attention to the following:

- **The title of the diagram.** Take the time to read and understand the title of the diagram. Titles may be misleading, sometimes intentionally.
- **Axes and scale.** The two diagrams in **Figure 7** look very different. At first glance the first graphic appears to show significant growth and the second graphic appears to show no

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growth. In fact, the two diagrams show the same data but with different scales chosen for the *y*-axis.

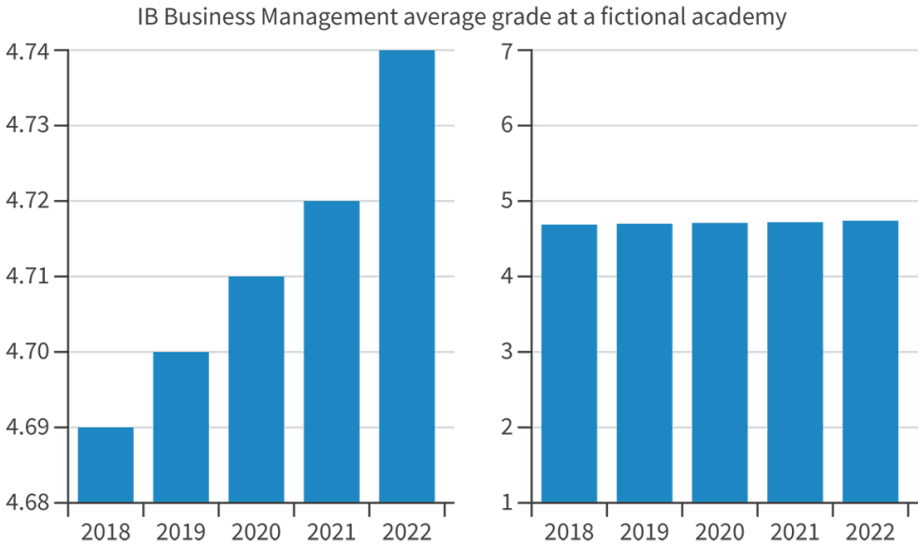


**Figure 7.** Using the same data but changing the scale of the vertical axis.

More information for figure 7

The image presents two bar charts side by side, illustrating how changing the scale of the vertical axis affects the visual representation of data. Both charts have a horizontal axis representing categories or data points and a vertical axis displaying quantity. The chart on the left features a more extended range on its vertical axis with denser gridlines, giving the appearance of more minor variances between the bars. The right chart's vertical axis scale is compressed or shorter, causing greater visual differences in the height of the bars, even if the values are the same. This visualization emphasizes the importance of understanding axis scaling when interpreting data from bar charts.

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- Year range of data. Sometimes data is ‘cherry picked’ by year. This means that only the data that is convenient to the writer is presented. You should always pay close attention to the *x*-axis chosen for data over time (see **Figure 8**).

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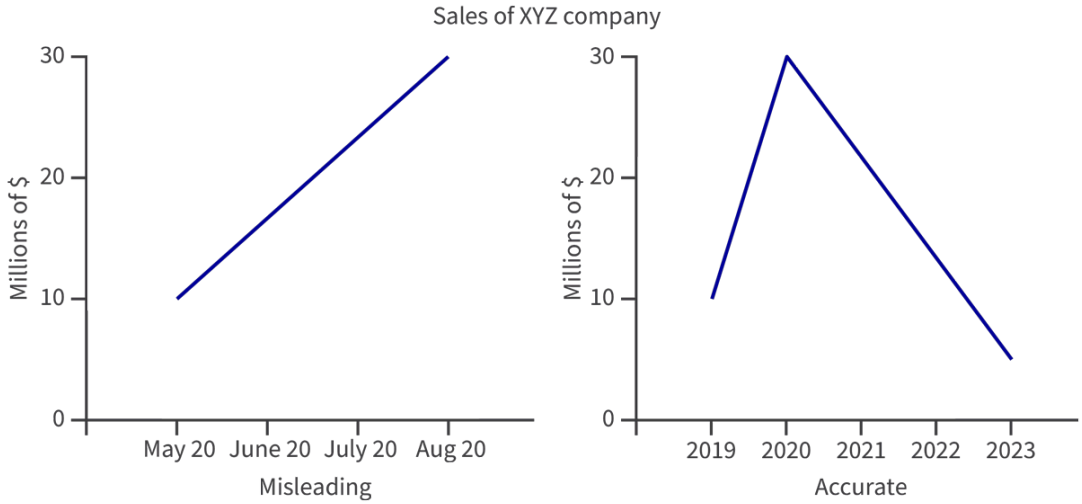


**Figure 8.** Using the same data but changing the scale of the horizontal axis.

More information for figure 8

The image displays two line graphs comparing sales data for XYZ company with different horizontal scales. The first graph (left) labeled 'Misleading' shows data points from May 2020 to August 2020, with a steep incline from 10 to 30 million dollars. The X-axis is labeled with months (May, June, July, August) in 2020 and the Y-axis is labeled in 'Millions of $' ranging from 0 to 30. The second graph (right) labeled 'Accurate' shows data from 2019 to 2023, capturing a more comprehensive trend: sales rise sharply to a peak in 2020, followed by a decline. The X-axis is labeled with years (2019, 2020, 2021, 2022, 2023) and the Y-axis has the same range as the first graph. This comparison illustrates how changing the scale of the horizontal axis can affect the perceived representation of sales trends.

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- **Correlation versus causation.** Correlation is a statistical term outlining a relationship between two variables, which may or may not be a causal one. Remember that just because events are correlated, it does not mean that one is caused by the other (see **Figure 9**).

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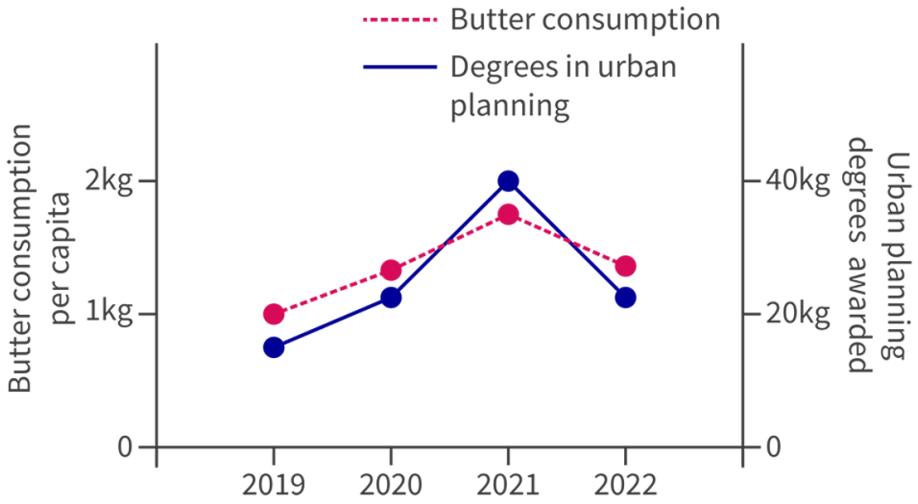


**Figure 9.** Correlation, not causation.

More information for figure 9

The image is a diagram illustrating a collection of data flows with pink and blue directional arrows. These arrows point towards various nodes, signifying different data points or categories. The overall layout appears to create a network, showing how each element is interconnected. The arrows might indicate processes or dependencies between different parts of the diagram. This could represent abstract flow of activities or processes used for depicting correlation versus causation, considering the context provided.

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Watch the following video to understand how statistics may be used in a misleading way.


**Video 2.** Examples of how statistics can be misleading.

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## Concept

### Ethics

As seen in the examples above, it is quite simple to present data in misleading ways, and you will need to be careful when relying on data to make conclusions. For this reason, presentation of data carries with it ethical considerations.

## Exam tip

As part of this course, you will need to write an internal assessment, which is a research project about a real business issue or problem facing an organisation.

You will need to select your own primary and/or secondary sources. If primary research is conducted, you will also need to present data in a way that allows you to analyse the business and answer the research question.

# 3 section questions

**Question 1**

Which method of data presentation is recommended if you want to show percentages of a whole?

1 A pie chart ✓

2 A bar graph

3 A normal distribution

4 An infographic

**Explanation**

If you want to display percentage data, such as market shares or people's preferences, then a pie chart can do this quickly and clearly.

The other methods do not show percent shares of a whole.

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**Question 2**

In a normal distribution, how much of the data falls within one standard deviation?

1 68% ✓

2 95%

3 99.7%

4 100%

### Explanation

In a normal distribution, 68% of data falls within one standard deviation. The other answers are incorrect.

**Question 3**

Which method of data presentation would you recommend to a fellow student who wants to show data divided into quarters?

1 Quartiles ✓

2 Quantiles

3 Quintiles

4 A line graph

### Explanation

Quartiles provide a method of dividing the data in a way that shows quarters. A quantile does not specify a number of divisions. A quintile refers to dividing data into five parts. A line graph does not show quarters.

4. Marketing / 4.4 Market research

# Terminology exercise

Student view

**Check that you understand the terminology used in this subtopic by dragging the correct word into each space.**

Market research involves gathering information from both primary and secondary market research. Research that involves creating new information gathered through surveys, interviews, observations, focus groups, camera studies or other methods is called market research. Research that relies on already published information and can complement primary research is called market research. Research is described as when the researcher gathers non-numerical data, while research refers to information that can be counted and has a numerical value.

A researcher carrying out primary research often faces a large population and needs to use . This is a technique of selecting a subset of individuals from a given population to make an estimation or prediction of the population as a whole. The most representative of these techniques is , whereby all members of the population have the same chance of being chosen. The least accurate method is sampling. Another sampling option is sampling – dividing the sample into strata and using convenience sampling to choose subjects.

To analyse data, researchers often use descriptive statistics. For example, they look at the average, also known as the . The measure used to look at the dispersion of data around the mean is deviation.

convenience | sampling | primary | quota | random sampling | qualitative | quantitative | secondary | mean | standard

Check

**Interactive 1.** Terminology Exercise: Market Research Fundamentals.

4. Marketing / 4.4 Market research

# Checklist

Student view

## What you should know

By the end of this subtopic, you should be able to:

- define the following terms: (AO1)
  - market research
  - primary research
  - secondary research
  - qualitative research
  - quantitative research
  - sampling
- examine why and how organisations carry out market research (AO3)
- explain the following methods/techniques of primary market research: (AO2)
  - surveys
  - interviews
  - focus groups
  - observations
- explain the following methods/techniques of secondary market research: (AO2)
  - market analyses
  - academic journals
  - government publications
  - media articles
  - online content
- explain the difference between qualitative and quantitative research (AO2)
- explain the following methods of sampling: (AO2)
  - quota sampling
  - random sampling
  - convenience sampling
- apply descriptive statistics tools in a given context (AO4)



# Reflection

## Teacher instructions

The goal of this section is to encourage students to pause at the end of the subtopic and to reflect on their learning. Students can use the questions provided below to guide their reflection. The questions encourage students to look at the bigger picture and to consider how the subtopic's contents might have impacted the way they view the subject.

The following table shows you how each prompt aligns to the DP *Business management guide*:

| Prompt # | Syllabus alignment |
|---|---|
| 1 | **Learner profile:** Thinkers |
| 2 | **Concept:** Ethics |
| 3 | **Learner profile:** Open-minded |
| 4 | **Learner profile:** Caring |
| 5 | **Learner profile:** Principled |

Students can submit their reflections to you by clicking on 'Submit'. You will then see their answers in the 'Insights' part of the Kognity platform.

## Reflection

In this subtopic you learned about market research.

Take a moment to reflect on your learning so far. You can use the following questions to guide your reflection. If you click 'Submit', your answers will be shared with your teacher.

1. How do you think artificial intelligence (AI) will change market research?
2. Is it ethical for businesses to use one's personal data for research?

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3. Look at the data on IB Business Management scores presented in two different ways in **Figure 1.** How does the way data is presented change perception of such data? (see Section 4.4.6 (/study/app/business-hl/sid-351-cid-762729/book/tool-descriptive-statistics-id-39001/)).
4. To what extent can using creative ways to present data cross ethical boundaries?
5. Is it ever possible to avoid bias in sampling?

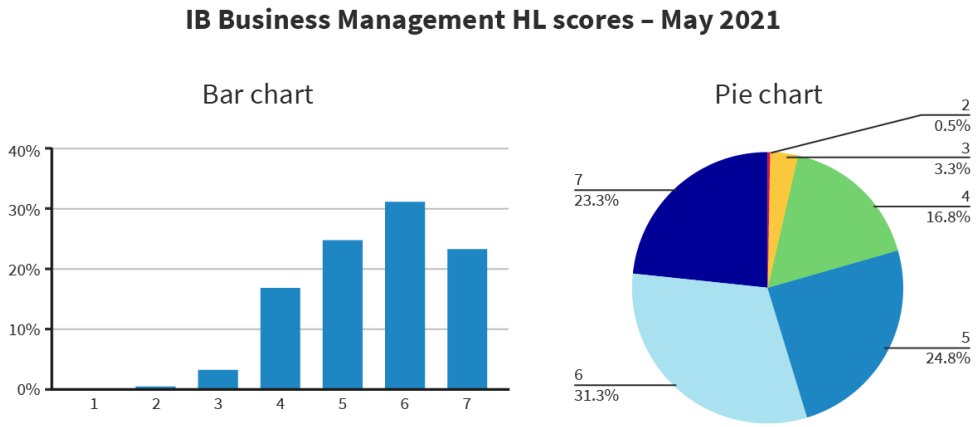


**Figure 1.** IB Business Management HL scores — May 2021.

More information for figure 1

The image consists of two charts related to IB Business Management HL scores for May 2021.

On the left, a bar chart is displayed: - The X-axis represents scores ranging from 1 to 7. - The Y-axis shows percentages from 0% to 40%. - The bars indicate the frequency of each score: - Score 1: Slightly above 0%. - Score 2: Approximately 1%. - Score 3: Around 10%. - Score 4: About 20%. - Score 5: Approximately 30%. - Score 6: Just over 30%. - Score 7: Near 25%.

On the right, a pie chart complements the data: - Segment labels and their percentages: - Score 2: 0.5%. - Score 3: 3.3%. - Score 4: 16.8%. - Score 5: 24.8%. - Score 6: 31.3%. - Score 7: 23.3%.

Both charts provide a visual representation of the distribution of scores, highlighting that scores 5 and 6 are the most frequent.

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⚠ Once you submit your response, you won't be able to edit it.

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0/2000

Submit

## Rate subtopic 4.4 Market research

Help us improve the content and user experience.

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