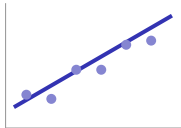


Marketing

A-Level Business ■ Topic 8

A-Level Business



What we will cover

- 1 Time-series forecasting
- 2 Correlation
- 3 Elasticity
- 4 Marketing strategy
- 5 Ansoff & portfolio
- 6 Recap

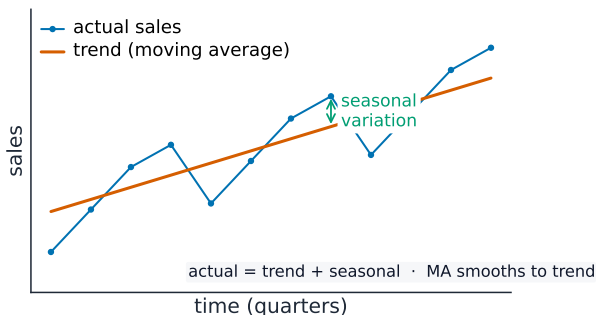


firms compete on data

1

Marketing analysis

Sales forecasting and time-series



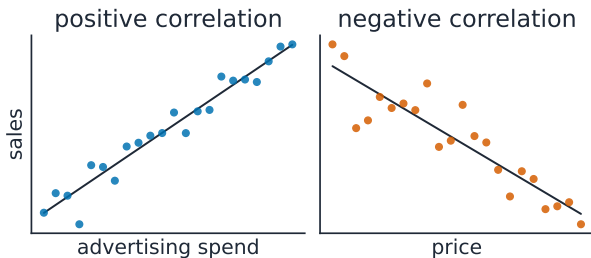
Time-series

analysis 时间序列分析 splits past sales into:

- the **trend** 趋势 – long-run direction (a **moving average** 移动平均 smooths it)
- **seasonal variation** 季节性波动 = actual – trend

Forecasts **extrapolate** 外推 the trend – never certain.

Correlation



correlation $\neq$ causation · line of best fit shows direction

Correlation 相关性 measures how two things move together:

- **positive** 正相关 – both rise together
- **negative** 负相关 – one rises as the other falls

Correlation is not causation
– another factor may be at work.

Reading a scatter, reading an elasticity

Positive correlation **Positive correlation** 正相关: when one rises, the other rises too.

Negative correlation **Negative correlation** 负相关: when one rises, the other falls.

Correlation is not cause A strong line can still be a coincidence, or both variables can follow a third. Say what the causal mechanism would be.

Globalisation 全球化 – the world becoming more connected – has made both the data and the rival's response arrive faster.

Reading a time series, and forecasting from it

the trend

the underlying direction over several years, found by a moving average

seasonal variation 季节性波动

the regular rise and fall within a year – ice cream sells more in summer

cyclical variation

the swing with the business cycle, over several years

random variation

what is left, and what cannot be forecast

extrapolation 外推

a forecast extends the trend into the future and then adds the usual seasonal variation back

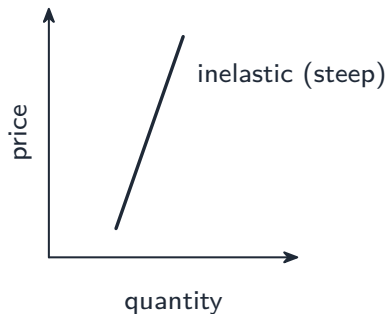
the caution

extrapolation assumes the past pattern continues – which a shock breaks

With quarters 100, 140, 180, 120 the four-quarter average is 135, so Q1's seasonal variation is –35. Add that back to the projected trend to forecast next Q1.

Elasticity in marketing decisions

- **PED** 需求价格弹性 – elastic: cut price for more revenue; inelastic: raise it
- **YED** 需求收入弹性 – how sales move with incomes (booms vs slumps)
- **XED** 需求交叉弹性 – effect of a rival's or partner's price



Three elasticities, three decisions

Price elasticity of demand

Price elasticity of demand 需求价格弹性 (PED): for a **price elastic** 富有弹性 product, cutting the price raises total revenue; for a **price inelastic** 缺乏弹性 one, raising the price does.

Income elasticity of demand

Income elasticity of demand 需求收入弹性 (YED): how sales will change as incomes rise or fall – which is how a firm plans for booms and recessions.

Cross elasticity of demand

Cross elasticity of demand 需求交叉弹性 (XED): how a rival's price change, or the price of a partner product, will affect its own sales.

Each answers a different question: my price, my customers' incomes, someone else's price.

2

Marketing strategy

Marketing strategy and planning



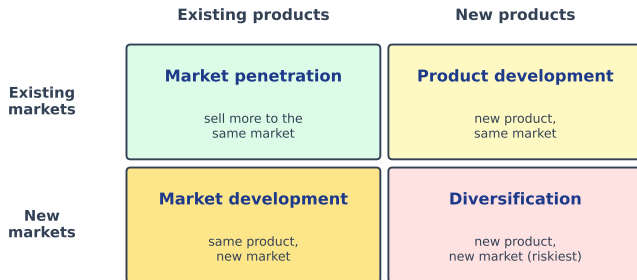
A **marketing strategy** 营销战略 is the long-term plan for marketing to meet objectives. **Marketing planning** 营销规划 studies the market, picks target customers, and sets the mix. Two tools shape it: [Ansoff's matrix](#) and portfolio analysis.

Ansoff's matrix

Ansoff's matrix 安索夫矩阵 maps growth by product $\times$ market:

- **market penetration** 市场渗透 – safest
- **product development** 产品开发
- **market development** 市场开发
- **diversification** 多元化 – riskiest (new $\times$ new)

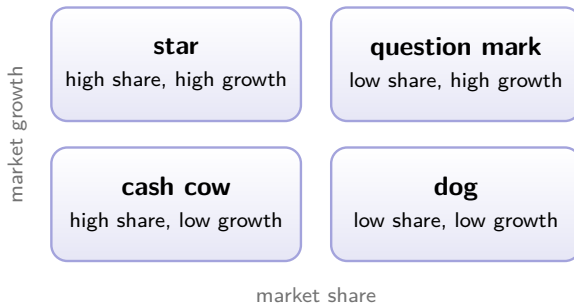
Ansoff's matrix, in detail



Exam: risk rises toward diversification — new product × new market is highest risk

Ansoff's matrix: four growth strategies, with risk rising to the bottom-right (diversification).

Product portfolio analysis



Portfolio analysis 产品组合分析 balances the range – steady **cash cows** fund risky new products.

Entering international markets

Enter a new country by **exporting** 出口, a **joint venture** 合资企业, or an own branch – rising commitment & control. **Localisation** 本地化 adapts the mix (product, language, price) to local tastes & laws.

Entering international markets, in detail



Enter a new country by **exporting** 出口, a **joint venture** 合资企业, or an own branch – rising commitment & control.

Exam tips

- Read **time-series** data: separate the underlying trend from seasonal variation, and extrapolate with caution.
- Interpret **correlation** (strength and direction) but never assume it proves causation.
- Use **Ansoff's matrix** to classify a growth strategy and judge its risk (diversification is riskiest).
- Use **elasticity values** to justify a pricing or promotion decision numerically.

3

Recap

Worked example – elasticity and revenue

A firm cuts price by 10% and demand rises 25%. Find PED and say whether the cut was right.

- $PED = \frac{\% \Delta Q_d}{\% \Delta P} = \frac{25}{10} = 2.5$ (ignoring the minus sign).
- $PED > 1 \Rightarrow$ demand is **price elastic**.
- Quantity rose **proportionally more** than price fell $\Rightarrow$ **total revenue rises**.
- So yes – but check that the extra volume still **covers the variable cost**.

Elastic $\Rightarrow$ cut price to raise revenue. **Inelastic** $\Rightarrow$ raise it. Revenue is not profit: always check costs before calling it a good decision.

Topic 8 – key takeaways

1

Time-series

trend + seasonal variation;
extrapolate

2

Correlation

moves together $\neq$ causes

3

Ansoff

penetration safest, diversification
riskiest

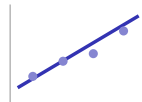
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Portfolio

balance stars, cash cows, dogs

Check yourself

- 1 Seasonal variation = actual minus what?
- 2 Does strong correlation prove causation?
- 3 Ansoff's safest growth strategy?
- 4 Which Boston product funds the others?



Answers 1. the trend value 2. no 3. market penetration 4. the cash cow