

Psychometric Testing

Maynooth University

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Agenda

- What are psychometric tests?
- Why are they used?
- Who uses them?
- Types of tests
- Advice for candidates
- Sample tests

What are they?

- Set of evaluation tools to measure knowledge, cognitive ability and/or personality
- Can be part of initial online application process (done at home) or part of an assessment centre (in employer's office)
- Mostly online but can also be paper based
- Timed to challenging time limits
- Candidates ranked on percentiles – eg 70th percentile means you scored better than 70% of the test population
- Different companies will have different percentile cut-off rates

Why do employers use them for selection?

- Viewed as highly objective and fairer than other methods – reduce bias and subjectivity.
- Relatively inexpensive way to screen a large volume of candidates
- Readily available and process is well known to candidates
- Provide clear equality and fairness for all candidates
- High level of predictive validity - Increase the likelihood of being able to predict future job performance
- Legally defensible results when rejecting candidates
- Employers will be hiring “to type” for personality tests

Who uses psychometric tests as part of selection process?

(List not exhaustive!)

Public Service (IRL & UK)	Central Bank	AON	EY	Tesco	Barclays
Kerry Group	AIB	Allianz	Electric Ireland	United Drug	ICON
Diageo	Bol	Accenture	HSE	Northern Trust	Lidl
Ford	Ulster Bank	Deloitte	ING	Vodafone	
SIG	GSK	Coca Cola	KPMG	Musgrave	
Davy	Aer Lingus	Credit Suisse	Marks & Spencer	Enterprise Ireland	

Aptitude / Ability Tests	Personality Questionnaires/Tests
<i>Measure how people differ in their ability to perform tasks</i>	<i>Measure how people differ in their style or manner of doing things, and in the way they interact with their environment and other people</i>
Numerical Reasoning Tests	MBTI – Myers Briggs
Verbal Reasoning Tests	Profiling for Success (PFS)
Inductive/Deductive Logic	Personality Types and Traits
Logical Reasoning	16PF
Mechanical Reasoning	OPQ32 (SHL)

Cognitive Ability

- **Cognitive ability** is the capacity to perform higher mental processes of reasoning, remembering, understanding, and problem solving.
- Involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning

Gottfredson, 1997

Sample Psychometric Tests

- Numerical reasoning – 6 questions
- Verbal Critical Reasoning – 6 questions
- Inductive Reasoning – 3 questions

- *All questions taken from www.jobtestprep.co.uk - free sample resources*

Numerical Reasoning

- Usually starts off fairly easy and gets progressively more difficult.
- If in employers office check if calculators are allowed
- Practise, Practise, Practise!
- Balance accuracy and speed
- Test can be designed not to be completed
- Determine marking scheme
- You need to be able to understand percentages and deal with other ratios – practise!

Job Prospects for University Graduates

Type of University	1990		2000	
	Unemployed	Employed	Unemployed	Employed
Private	155	1475	125	1350
State	125	1610	150	1250

1. *How many more employed were there in 1990 than in 2000?*

- A. 75
- B. 360
- C. 485
- D. 100
- E. 135

Job Prospects for University Graduates

	1990		2000	
Type of University	Unemployed	Employed	Unemployed	Employed
Private	155	1475	125	1350
State	125	1610	150	1250

2. *What percentage of students was unemployed in 1990?*

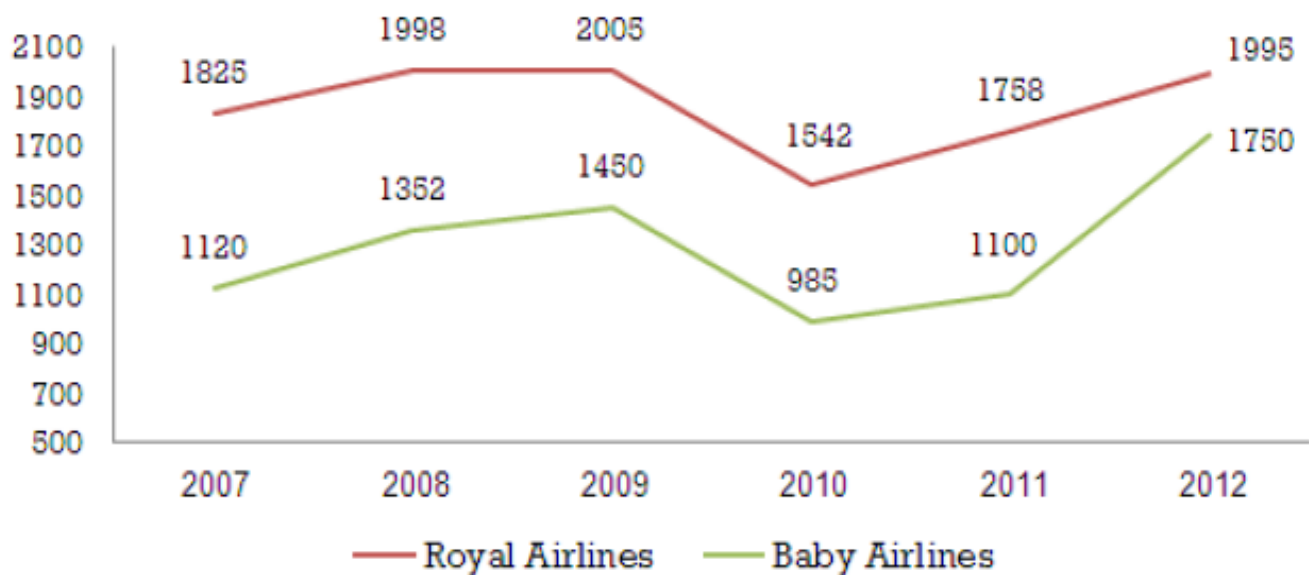
- A. 10.5%
- B. 0.8%
- C. 7.8%
- D. 8.3%
- E. 9.6%

Job Prospects for University Graduates

	1990		2000	
Type of University	Unemployed	Employed	Unemployed	Employed
Private	155	1475	125	1350
State	125	1610	150	1250

3. *What was the difference between the highest and lowest unemployment rate amongst the group of graduates?*
- A. 10.5%
 - B. 7.8%
 - C. 9.3%
 - D. 4.2%
 - E. 3.5%

Royal Air Services Passengers (in thousands)

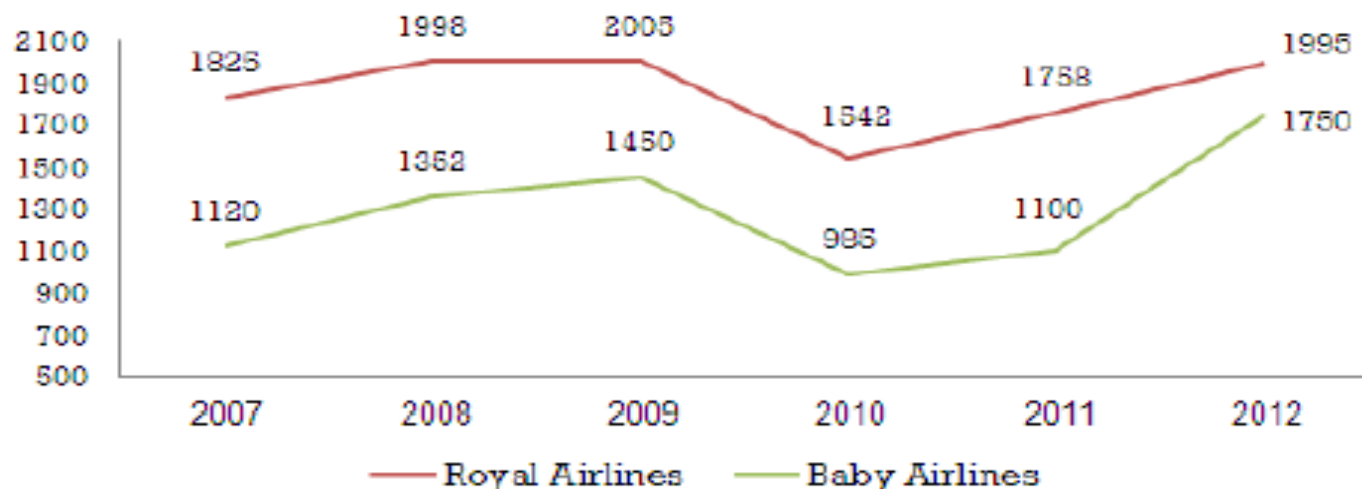


4. *Approximately what proportion of Royal Air Services passengers flew Royal Baby Airlines in 2010?*

- A. 25%
- B. 30%
- C. 35%
- D. 40%
- E. Cannot Say

Royal Air Services Passengers

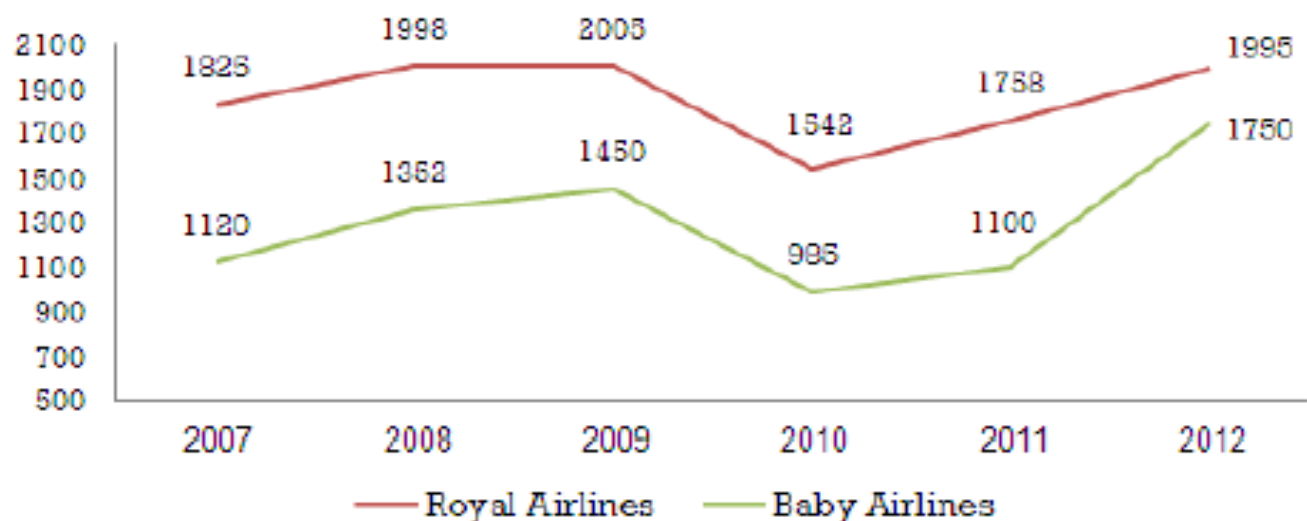
(in thousands)



5. In 2015, Royal Airlines and Royal Baby Airlines are each expected to sell 10% more than the number of tickets sold by Royal Airlines in 2009. The average Royal Baby Airlines ticket price is £75, and the average Royal Airlines ticket price is £232. What are the expected revenues from ticket sales in 2015 for Royal Air Services?

- A. 677 thousand
- B. 677 million
- C. 677 hundred
- D. 6.77 million
- E. 558 million

Royal Air Services Passengers (in thousands)



6. *Approximately what proportion of overall ticket sales did Royal Baby Airlines account for in 2012?*

- A. 39%
- B. 41%
- C. 43%
- D. 45%
- E. 47%

Verbal Reasoning

- Tests can relate to:
 - Comprehension – True/False/Can't Say – based on what you read ONLY– NOT prior or existing knowledge
 - Analysing information and making deductions
 - Word Meaning
 - Vocabulary
 - Grammar

Quiz Time!

1. Find two words which have the same meaning

Serious	Expedient
Beneficial	Benevolent
Favourite	Favourable

2. Synonyms

Deceit is to fraud as decision is to:

- Conclusion
- Solve
- Indecision

3. Antonyms

Aggravate

- Vex?
- Annoy?
- Pacify?

“Companies wishing to increase their growing pace occasionally use the method of franchising which provides the new owner with the permit to use their business identity and in return to purchase products exclusively from the company. However most companies will aim to minimise the use of this method and often prefer the expansion of the companies’ own branches. Companies who have previously used franchising learnt the essential need to monitor the business operation of the franchised branch. Difficulties arise from franchisees and companies disagreeing on business policies such as customer care, service delivery efficiency and quality of human interaction. Inadequate attention to the monitoring of franchisees on the part of the companies is typically the cause of subsequent problems.”

- 1. Franchising is likely to become the most popular method of business expansion**
- 2. Franchisees may have different views than the ‘mother’ company on how to manage the franchised business**
- 3. Service delivery efficiency has reduced companies’ will to franchise**

Answer True, False or Cannot Say for each

“In the past, home heating systems have been operated using different sources of energy such as wood, electricity and kerosene. But these are expensive when compared to a more recently developed source – solar energy. Solar energy is an alternative, but its application for heating is limited to small numbers of appliances. There is also the difficulty of obtaining solar energy for heating purposes in winter time when it is most needed and its major resource, the sun, is hardly effective”

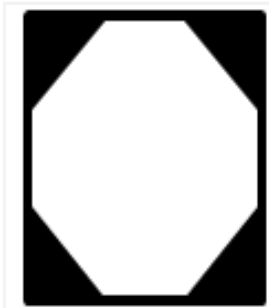
1. Solar energy is hardly available in Winter
2. The use of solar energy for heating is restricted to a few heating devices
3. There are other major resources that can be used to provide solar energy instead of the sun


Answer True, False or Cannot Say for each

Abstract Reasoning

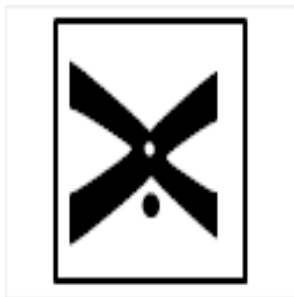
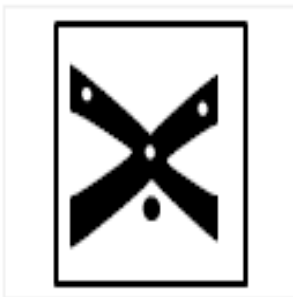
- Testing a candidates visual thinking
- Usually a series of:
 - Symbols – odd one out?
 - Signs
 - Rotations – if X lever is turned to the left, what direction will Y turn in
 - Sequences – what comes next?

Choose the Image (from 2nd row) that completes the pattern in 1st row

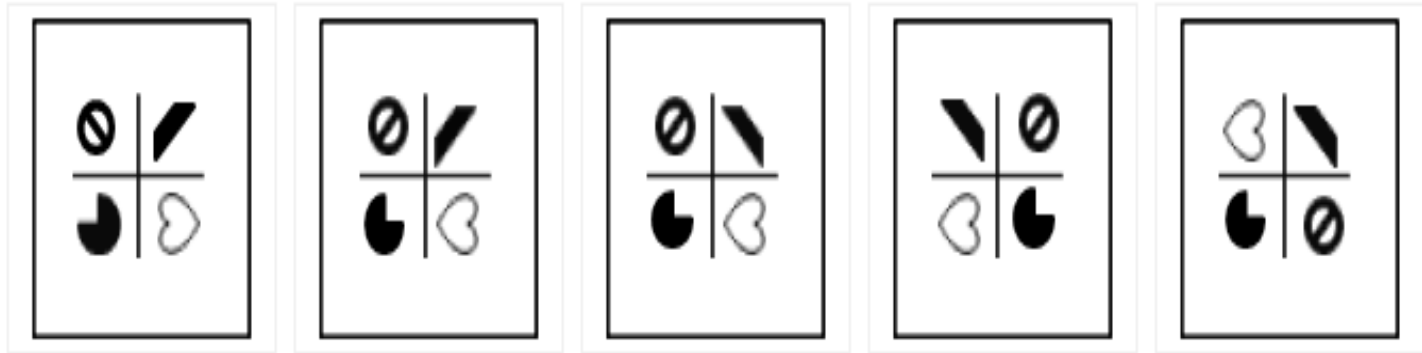
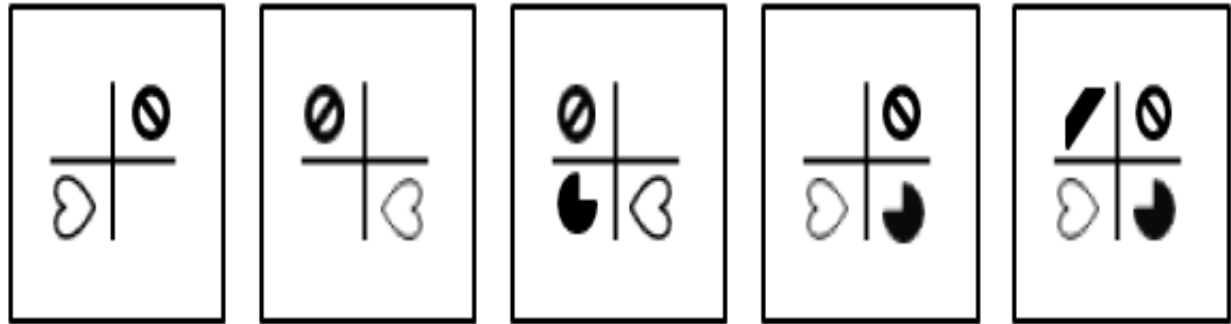


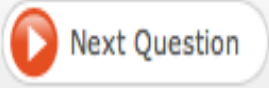
 Next Question

Choose the Image (from 2nd row) that completes the pattern in 1st row



Choose the Image (from 2nd row) that completes the pattern in 1st row



 Next Question

Personality Tests - Questionnaires

- To ascertain what motivates you / drives you
- To see if you are a good fit to the company or team
- Personality tests have internal validity scale to catch out people who are trying to fake it
- Result of only personality test usually not solely used to screen out a candidate
- More commonly used for internal promotion/development within a company
- No right or wrong answers. All types are equal
???????

Sample MBTI Questions

1. WHEN YOU GO SOMEWHERE FOR THE DAY, WOULD YOU RATHER
 - A. PLAN WHAT YOU WILL DO AND WHEN, OR
 - B. JUST GO?

2. IF YOU WERE A TEACHER, WOULD YOU RATHER TEACH
 - A. FACT COURSES, OR
 - B. COURSES INVOLVING THEORY?

3. ARE YOU USUALLY
 - A. A “GOOD MIXER”, OR
 - B. RATHER QUIET AND RESERVED?

4. DO YOU MORE OFTEN LET
 - A. YOUR HEART RULE YOUR HEAD. OR
 - B. YOUR HEAD RULE YOUR HEART?

5. IN DOING SOMETHING THAT MANY OTHER PEOPLE DO, DOES IT APPEAL TO YOU MORE TO
 - A. INVENT A WAY OF YOUR OWN, OR
 - B. DO IT IN THE ACCEPTED WAY?

MBTI Axes

Extroversion	Introversion
Sensing	Intuition
Thinking	Feeling
Perceiving	Judging

EXTROVERSION	INTROVERSION
initiating expressive gregarious active enthusiastic	receiving contained intimate reflective reserved
SENSING	INTUITION
concrete realistic practical experimental traditional	abstract imaginative conceptual theoretical original
THINKING	FEELING
logical reasonable questioning critical tough	empathetic compassionate accommodating accepting tender
PERCEIVING	JUDGING
casual open-ended pressure-prompted spontaneous emergent	systematic planning early starting scheduled methodical

ESFJ

How to maximise performance

- Take advantage of practise tests – LOTS of them.
- Make sure you FULLY understand what you have to do before you start the timer
- Always work through the few sample questions they give before the real test starts
- Watch time – don't spend too long on nay one question
- Ask who the test provider is – SHL is a favourite amongst graduate recruiters

Accessing Test Samples

- www.savilleconsulting.com/products/aptitude_preparation_guides.aspx
- www.jobtestprep.co.uk
- www.assessmentday.co.uk
- www.gradireland.com
- www.practicepsychometrictests.com
- www.practiceshltests.com
- www.shldirect.com
- www.psychometricsonline.com
- www.publicjobs.ie/en/careers/advice/sample_tests.htm
- <http://www.aptitudeonline.co.uk>
- www.ase-solutions.co.uk



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