

GCE AS/A LEVEL



# WJEC GCE AS/A LEVEL in BUSINESS

Teaching topics in line with  
the AO's

Technology affecting business  
operations (4-5 hours)



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**Technology affecting business operations (4-5 hours)**

In the specifications:

**(WJEC Unit 2 and Unit 4, Eduqas AS Component 2, Eduqas A Level Component 1 and Component 3)**

Technology	<p><u>WJEC Unit 2/Eduqas AS Component 2 and A Level Component 1</u></p> <p>Explain how new technology can be used by business, including the use of information technology, CAD, CAM and robotics.</p> <p>Explain the impact of new technology on various stakeholders of a business.</p> <p>Evaluate the importance and impact of technology in the operations of a business.</p> <p><u>WJEC Unit 4/Eduqas A Level Component 3</u></p> <p>Explain how technological factors, including automation and communication technology affect business activity.</p> <p>Evaluate the impact of technological factors on businesses and their stakeholders.</p>
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**Step 1 (before the lesson):**

Students research the different types of technology used by businesses in their day-to-day operations. This allows AO1 to be done independently which frees up more lesson time for AO2, AO3 and AO4.

Resources: WJEC Eduqas Business Opportunities and Functions (Chris Stockton)  
WJEC Eduqas A Level Business, year 2, Business Strategy, Analysis and a changing world

### Example student research

Type of technology	Description	Example
Computer aided design (CAD)	<i>Interactive computer software which can generate, design, store and test ideas which can be sent directly to CAM for designs to be made.</i>	<i>Designing cars and bridges.</i>
Computer aided manufacture (CAM)	<i>Use of computers/machinery in the production of goods/services.</i>	<i>Robotics that lift, weld and paint cars. Production line conveyer belts.</i>
Robotics (CAM)	<i>Machines that undertake tasks originally done by humans that speed up production and make fewer mistakes.</i>	<i>Car factories.</i>
Information and communication technology (IT)	<i>Businesses use of websites, apps, e-mails, digital media, video conferencing, excel spreadsheets and databases to store and communicate business information to staff and customers.</i>	<i>Schools/colleges use Sims databases. Most businesses have websites and apps.</i>
Automation technology	<i>Automation is another phrase that means using robots to carry out repetitive tasks. (See robotics).</i>	<i>Self-checkouts in supermarkets. Robots that manufacture cars.</i>

#### Step 2 (10 minutes):

Assess AO1 during the first few minutes of the lesson through questioning as a starter activity.

#### Step 3 (60 minutes):

Assess AO1 and AO2 by giving students real business scenarios/case studies to encourage application of knowledge.

#### **Example business case studies:**

Using the following videos can you describe how different businesses use different technologies within its operations (AO2). For each example try and work out the type of technology that is being used (AO1) and how it assists/hinders business operations (leading into AO3). (Some videos/articles e.g. Amazon panorama 28 minute video could be set along with the research task for homework to save time).

Amazon Drones: <https://www.youtube.com/watch?v=vNySOrl2Ny8>

Car factory (BMW production): [https://www.youtube.com/watch?v=-d\\_BypbhUPQ](https://www.youtube.com/watch?v=-d_BypbhUPQ)

John Lewis (from e-commerce order to delivery): <https://www.youtube.com/watch?v=6VQ58jxABjA>

Dark Supermarkets (multi-channel retailing Tesco): <https://www.youtube.com/watch?v=QONyKR0KdYs>

CAD (Car modeling): <https://www.youtube.com/watch?v=DEmjAr2xyyg>

Amazon (Panorama investigation): <https://www.youtube.com/watch?v=UQATFbLvIHK>

AirBnB <https://www.youtube.com/watch?v=dA2F0qScxrl>

Beacon technology

<https://www.youtube.com/watch?v=dpSGbWxjQNw&list=PLGP9Yo6QeqE57JxMlsmjh5s6WcrJEv7c8>

Dominos app <https://www.youtube.com/watch?v=nkay2K1XhwE> <http://www.bbc.co.uk/news/business-35714501>

Rise of the digital natives: [https://www.huffingtonpost.com/marcus-t-wright/rise-of-the-super-digital-native\\_b\\_4915720.html](https://www.huffingtonpost.com/marcus-t-wright/rise-of-the-super-digital-native_b_4915720.html) Ecommerce and hotels: <http://www.bbc.co.uk/news/business-29898641>

The fall of the high street: <http://www.dailymail.co.uk/news/article-2522356/Slow-death-high-street-Britons-online-shopping-nation-spending-1-175-each.html>

Just eat and the profits of restaurants: <https://www.ft.com/content/0bd3a6a0-9d1c-11e7-8cd4-932067fbf946>

High-street sales fall due to online shopping: <http://www.theweek.co.uk/80276/high-street-sales-fall-as-christmas-shoppers-go-online>

**Step 4 (30 minutes):**

Assess AO1 and AO2 by giving students business scenarios to encourage application of knowledge.

Scenario: You run a shop on the high-street that produces cakes for weddings and birthdays. Describe how each type of technology below can be used directly within your business to support its operations.

If the scenario changed to a factory producing cars and your answer still makes sense, you haven't applied your knowledge correctly (AO2).

Type of technology	Your answer
Computer aided design (CAD)	
Robotics (CAM) (Automation)	
Information technology (IT)	
Communication technology (ICT)	

Example: Robotics such as a machine that mixes chocolate/cake ingredients together to speed up the process of mixing. Communication technology, such as websites that display prices, weights and nutritional information for each cake.

**Step 5 (45 minutes):**

Assess AO3 by asking students to explain the positive and negative impact of these different types of technologies on the cake shop (or on other business examples from the previous video links); explaining how three different stakeholder groups might be positively and negatively affected.

**Example: Robotics technology**

**Positive impact on the business:**

- Increased productivity and output
- Fewer mistakes
- Improved quality

**Positive impact on different stakeholders:**

- Shareholders: more dividends through greater revenues and profit due to increased output.
- Customers: increased satisfaction from faster delivery times and consistent quality of the final product, prices may fall due to increased productivity.
- Employees: jobs become easier as the robotics will cut out much of the labour intensive part of the production e.g. manual mixing of the ingredients that make up the cake.

### Negative impact on the business:

- Cost of introducing the new technology and the costs of maintaining it.
- Initial installation and teething problems.
- Re-training workers how to use the new robotics.

### Negative impact on stakeholders:

- Shareholders: short term costs of investing in the new technology and maintaining the new technology may result in dividends being lower than expected or prices having to rise to cover these costs.
- Customers: may have to pay higher prices due to the increased initial cost of investment of technology. They may receive wrong/faulty/delayed orders during the introduction stage of the technology.
- Employees: jobs may be re-designed, enlarged which could increase workload. Some employees may lose their jobs and be replaced by robotics/machinery.

### Step 6 (30 minutes):

Assess AO4 by asking students to weigh up the benefits against the drawbacks, so a final judgment can be made with supporting depends on factors, to evaluate whether technology will always impact businesses and stakeholders positively/negatively.

### Evaluative questions to help students:

- All businesses? (E.g. car manufacturing versus hair salons).
- Availability of budgets and current cash flow situation.
- Effect on competition?
- Target market (digital natives versus the elderly).
- Short-term versus long-term effects.

Example: *Whether technology is beneficial to businesses and its stakeholders **depends on** short term costs of introduction versus long term gains from productivity, customer loyalty and sales. It also **depends on** the type of business as manufacturing businesses would find it more important to use robotics, while services sector businesses would find it more useful to use websites and apps. Communication and sales technology can increase competition and so a crucial **depends on factor** will be the nature of the industry and whether current or future competition uses technology to enhance its operations and marketing.*

**Step 7 (80 minutes):**

Classwork/timed exam preparation

Task 1: Eduqas AS level Component 2 2016 Q4d (8 mark past paper question)

Task 2: Eduqas A level Component 3 2017 Q1a (10 mark past paper question)

Task 3:

- a. Explain the different types of technology that could be used by a business such as Ikea who manufacturers and sells furniture.**

**[10]**

	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>
<b>Band 3</b>	<b>4 marks</b> Excellent understanding of different types of technology used by businesses (two or more types).	<b>4 marks</b> Excellent application of how a furniture business can use different types of technology within its operations/marketing (two or more types).	
<b>Band 2</b>	<b>2-3 marks</b> Good understanding of different types of technology used by businesses (one to two).	<b>2-3 marks</b> Good application of how a furniture business can use different types of technology within its operations/marketing. (one to two).	<b>2 marks</b> Good analysis of the impact of two or more technologies on businesses.
<b>Band 1</b>	<b>1 mark</b> Limited understanding of different types of technology used by businesses (one to two).	<b>1 mark</b> Limited application of how a furniture business can use different types of technology within its operations/marketing. (one to two).	<b>1 mark</b> Limited analysis of the impact of one to two technologies on businesses.

b. Discuss the view that the introduction of technology brings more benefits than costs to different stakeholders. [20]

	AO1	AO3	AO4
<b>Band 3</b>		<p><b>6-8 marks</b> Excellent analysis of the impact of technology on different stakeholders. The analysis is balanced and detailed.</p>	<p><b>6-8 marks</b> Excellent well balanced evaluation with depend on factors well explained. Clear judgements are made.</p>
<b>Band 2</b>	<p><b>3-4 marks</b> Good understanding of how technology can impact upon different stakeholders. Key stakeholders are identified with reference to a number of different types of technologies.</p>	<p><b>3-5 marks</b> Good analysis of the impact of technology on different stakeholders. The analysis is uneven with some well-developed points.</p>	<p><b>3-5 marks</b> Good, reasonably well balanced evaluation. Judgements are made with an attempt to support their evaluation.</p>
<b>Band 1</b>	<p><b>1-2 marks</b> Limited understanding of how technology can impact upon different stakeholders. A limited number of stakeholders are identified with reference to a limited number of types of technology.</p>	<p><b>1-2 marks</b> Limited analysis of the impact of technology on different stakeholders. Superficial analysis that lacks depth.</p>	<p><b>1-2 marks</b> Limited, one-sided evaluation. Superficial unsupported judgements. The evaluation is uneven and one-sided. There is no conclusion.</p>

If targeting AS students, this question could be changed to a 15 mark question with AO1 (3 marks), AO3 (6 marks), AO4 (6 marks).