A. Technology & new businesses

1. Consider the quote below from Jeff Bezos, founder of Amazon, and answer the questions below.

The three most important things in retail are location, location, location. The three most important things for our consumer business are technology, technology, technology.

a. How is Amazon's business model different from traditional retail?
b. To what extent do you agree with his point of view? Why?

B. New businesses

1. Choose the best synonym for the underlined word.

1. When you bid for something, you
   a. compete with others to obtain it by offering a price;
   b. choose not to participate in it;
   c. agree to deliver it on a specific date.
2. Your company's headquarters are
   a. all the locations where the company has offices;
   b. the main offices of the company;
   c. the first set of offices that the company had.
3. A retiree is a person who
   a. is shy and withdrawn.
   b. officially no longer has a working or professional career.
   c. fires people from their jobs.
4. If you require lodging, you need
   a. a place to stay.
   b. transport from one place to another.
   c. a haircut.
5. A task is
   a. something you have to do;
   b. something you want to do;
   c. something difficult and time consuming.
6. Fees are
   a. websites where people with a common interest get together;
   b. distribution networks.
   c. the money you pay in exchange for a service.
7. With gamification techniques
   a. workers are assigned randomly to a task.
   b. workers are evaluated and ranked.
   c. workers compete to be chosen to do something.
8. A broker is
   a. a person who repossesses the goods of a person in debt, in lieu of the debt.
   b. a person who buys used cars.
   c. a person or business who buys and sells goods or assets for others.
9. When you found a business, you
   b. bought it in a takeover bid.
   a. are working or worked in the financial sector.
   c. create it.
10. A technology or business that is disruptive
    a. uses technology to improve the efficiency of the business.
    b. has a rapid and major effect on technologies or business that existed before.
    c. is globalised and operates across frontiers.

2. Explain a SWOT analysis.

	Positive Factors	Negative factors
Internal	Strengths	Weaknesses
External	Opportunities	Threats

3. Consider the examples of new businesses. Perform a SWOT analysis on each one.

a. TaskRabbit is an online and mobile marketplace that allows users to outsource small jobs and tasks to others in their neighborhood. Users name the task they need done and the price they are willing to pay, and a network of pre-approved contractors bid to complete the job. The user then selects the TaskRabbit who is the best match for the task. TaskRabbit was founded by Leah Busque in 2008 and has received $37.5 million in funding. Busque founded TaskRabbit when she had no time to buy dog food, basing it on the idea of "neighbors helping neighbors."

People wishing to become a TaskRabbit must apply online, go through background checks, and pass an online quiz based on the company's manual, previously having to also submit a video interview. The firm says that its workforce is composed of students, unemployed workers, retirees, and stay-at-home moms, with ages ranging from 21 to 72. The firm generates revenue by taking on average a 20% cut of each task, previously on a sliding 12-20% scale depending on total price.

TaskRabbit employs gamification techniques. A leaderboard ranks the top workers, displaying their levels and average customer reviews.

Source: https://en.wikipedia.org/wiki/TaskRabbit

b. Can you tell us a little about girlmeetsdress.com and your reasons for founding it? Girl Meets Dress is a disruptive e-commerce business with a mission to democratise luxury – believing that everybody deserves a Cinderella experience. We provide millions of women with the ability to rent designer dresses and accessories for a fraction of the retail price.

The Girl Meets Dress story began in 2009 when I was working as UK PR manager for French luxury brand Hermes – and like my previous roles in the fashion industry, it involved lending the collection of dresses and accessories out on a daily basis to fashion magazines, shoots, celebrities and journalists. I thought to myself "wouldn't it be amazing if we could all borrow dresses for just one event, and wear a different designer for every event in our calendar?" When my co-founder Xavier and I looked into the market we saw that no one was doing it.

When we launched back in 2009, the recession mindset dominated. It meant that "cost per use" was a huge driver, as being smart with money and where to spend it was highly regarded. But it was also clear that people have since realised that experience and time are the most precious commodities we have, and that consequently ownership is becoming more irrelevant than ever before.

Source: http://www.theguardian.com/media-network/media-network-blog/2014/jun/11/girl-meets-dress-anna-bance

c. Uber Technologies Inc. (stylized as **U B E R**) is an American international transportation network company headquartered in San Francisco, California. Founded in 2009, the company develops, markets and operates the Uber mobile app, which allows consumers with smartphones to submit a trip request which is then routed to Uber drivers who use their own cars. By May 28, 2015, the service was available in 58 countries and 300 cities worldwide. Since Uber's launch, several other companies have copied its business model, a trend that has come to be referred to as "Uberification".

The legality of Uber has been challenged by governments and taxi companies, who allege that its use of drivers who are not licensed to drive taxicabs is unsafe and illegal. Uber's pricing is similar to that of metered taxis, although all hiring and payment is handled exclusively through Uber and not with the driver personally. At the end of a ride, the complete fare is automatically billed to the customer's credit card.

Uber uses an automated algorithm to increase prices to "surge" price levels, responding rapidly to changes of supply and demand in the market, and to attract more drivers during times of increased rider demand, but also to reduce demand. Customers receive notice when making an Uber reservation that prices have increased. The practice has often caused passengers to become upset and invited criticism when it has happened as a result of holidays, inclement weather, or natural disasters. Uber has said its prices are the premium that the customers pay for a cab service that is not only reliable, but also punctual and comfortable.

Source: https://en.wikipedia.org/wiki/Uber_(company)

d. **Airbnb** is an online marketplace for people to list, find, and rent lodging. It has over 1,500,000 listings in 34,000 cities and 190 countries. Founded in August 2008 and headquartered in San Francisco, California, the company is privately owned and operated by Airbnb, Inc.

Airbnb's primary source of revenue comes from service fees from bookings. Fees range between 6% and 12% depending on the price of the booking. Airbnb also charges the host 3% from each guest booking for credit card processing.

On the Airbnb website users are categorized as "Hosts" and "Guests," both of whom must register with Airbnb using a variety of means. A valid email address and valid telephone were initially the only requirements to build a unique user profile on the website, however as of April 2013, a scan of a government issued ID is now required.

Profiles include details such as user reviews and shared social connections to build a reputation and trust among users of the marketplace. Other elements of the Airbnb profile include user recommendations and a private messaging system.

Source: https://en.wikipedia.org/wiki/Airbnb

e. **Craigslist** (styled **craigslist**) is a classified advertisements website with sections devoted to jobs, housing, personals, for sale, items wanted, services, community, gigs, résumés, and discussion forums.

Craig Newmark began the service in 1995 as an email distribution list to friends, featuring local events in the San Francisco Bay Area. It became a web-based service in 1996 and expanded into other classified categories. It started expanding to other U.S. cities in 2000, and now covers 70 countries.

In December 2006, at the UBS Global Media Conference in New York, Craigslist CEO Jim Buckmaster told Wall Street analysts that Craigslist had little interest in maximizing profit, and instead preferred to help users find cars, apartments, jobs and dates. Craigslist's main source of revenue is paid job ads in select cities in the US and paid broker apartment listings in New York City. The company does not formally disclose financial or ownership information. Analysts and commentators have reported varying figures for its annual revenue, ranging from $10 million in 2004, $20 million in 2005, and $25 million in 2006 to possibly $150 million in 2007.

Over the years Craigslist has become a very popular online destination for arranging for dates and sex. The personals section allows for postings that are for "strictly platonic", "dating/romance", and "casual encounters". Advertisements for "adult" (previously "erotic") services were initially given special treatment, then closed entirely on September 4, 2010, following a controversy over claims by state attorneys general that the advertisements promoted prostitution.

Source: https://en.wikipedia.org/wiki/Craigslist

C. Rachel Botsman

1. Watch the video https://www.youtube.com/watch?v=TPfARbM8RVY and complete the gaps in the text.

Today I'm going to talk to you about something that I'm really passionate about, which is _____. What the likes of Facebook and Flickr actually started to show was _____ in ways and on a scale that has never been possible before. We're at the start of a transformation in our consumer economy that I believe is _____. It's about how technologies are enabling the sharing and exchange of all kinds of assets from cars to money to knowledge in ways that are starting _____ _____. What's actually happening here for users is this important shift where _____; _____.

Now what technology does is create this unbound_____ to match millions of 'haves' with millions of 'wants', whatever they may be. The other thing it does is it creates the social glue for _____ to form between traders over the virtual and real world fence. Now these two ingredients – _____ – are actually the basis of the sharing evolution or sharing revolution. Now I think it's interesting that we talk a lot about tactics and channels and, you know, the latest gadgets, and we make it very complicated, but when you zoom out, there are actually four very clear phases around the _____.

2. Using information from the video, order the four phases of the sharing revolution.

   a. Technology enables people to connect or reconnect with each other.
   b. Technology enables people to share multimedia with each other.
   c. Technology enables people to share information with each other.
   d. Technology enables people to share all kinds of assets.

3. Use the words and expressions in the box to complete the flowchart.

redistribution markets Collaborative consumption systems pay to use product
collaborative lifestyle Hyper-consumption system
share & exchange non-product assets Ebay Airbnb e.g. video cassette
reallocate resources from where something is not needed to where it is
product service system pay to own product e.g. time, money, skills
TaskRabbit e.g. not the video cassette but the movie girlmeetsdress.com

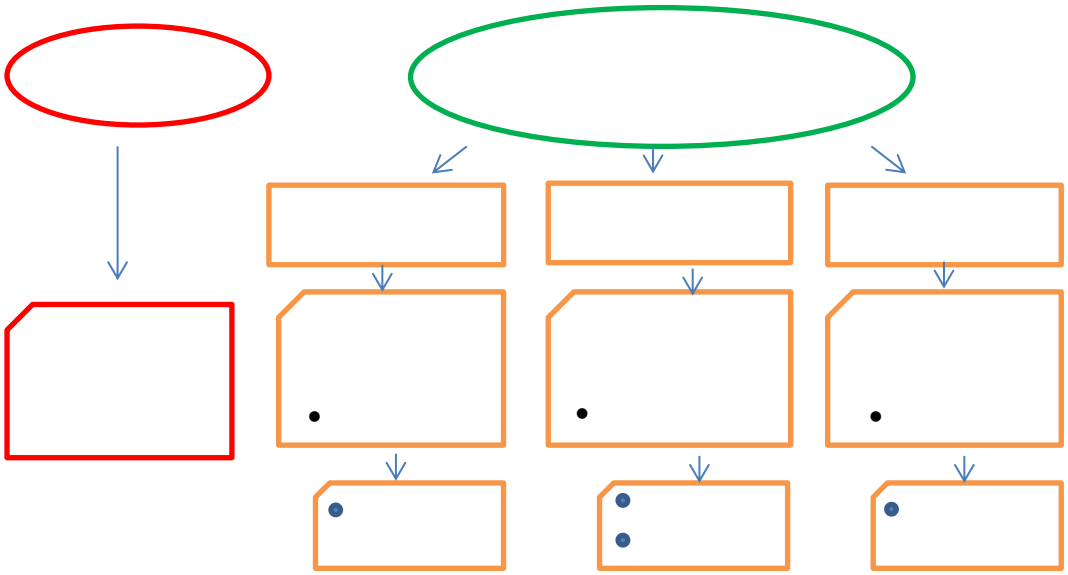

Figure 1: Collaborative consumption vs hyperconsumption

D. The sharing economy

1. Choose the best answer to illustrate the meaning of the underlined expression (p 6, 7).
2. From each of the texts that follow on pages 8-11, 2 sentences have been swapped with sentences from 2 other texts. The group's first task will be to recreate the original articles by replacing the alien sentences with those that belong.

a. Read your article to identify the 2 sentences that do not belong.
b. Reread your article and take notes on the content of the article. Ignore the alien sentences.
c. Explain your article to the other students in your group so that they can identify if yours is the text from which their alien sentences were taken.
d. As you listen to your group members' explanations, identify the texts from which your alien sentences were taken.
e. Reassign the alien sentences to their original texts.
f. As a group, synthesise the information from the 4 articles into a visual form, e.g. a diagram, flowchart or table. To do this you will need to decide on a conceptual analysis that classifies the all the main information from the 4 texts.
g. Present your results to the class.

1. Vocabulary

1. What can you fall foul of?
   a. The law, when you break it without meaning to.
   b. A person, when you have a disagreement with them.
   c. A job, when you commit a misdemeanour.
2. Who lives in a kennel?
   a. A bird.
   b. A horse.
   c. A dog.
3. Someone who is a rentier
   a. rents or leases the house in which he/she lives.
   b. lives on income from property or investments.
   c. outsources the production processes to another company.
4. Incentivize
   a. is a verb meaning to motivate or encourage (someone) to do something.
   b. is a noun meaning the thing that motivates someone to do something.
   c. is an adjective meaning encouraging.
5. In which country did serfdom exist in the 19th century?
   a. U.S.A.
   b. Ireland.
   c. Russia.
6. Burden
   a. is a verb meaning to give someone a heavy load.
   b. is a noun meaning a heavy load.
   c. is an adjective meaning heavy.
7. Turnaround costs are the costs a company incurs when
   a. it takes successful steps to correct a period of deteriorating financial performance.
   b. its sales reach a peak.
   c. it files for bankruptcy in an effort to reduce/restructure heavy debt loads.
8. When you pay through the nose, you
   a. pay a lot, possibly more than the product is worth.
   b. pay for a service before you receive it.
   c. pay using a credit card.
9. In what situation would you trump someone or something?
   a. When you're playing cards.
   b. When you're surfing the internet.
   c. When you're at work.
10. Snags are
    a. Sausages.
    b. Obstacles, difficulties or hurdles.
    c. Tangles in hair or a fishing line for example.
11. Who would be more likely to scrape a living?
    a. A bank manager.
    b. A trader.
    c. An artist.
12. When you sweat existing assets,
    a. you make money out of something you already own, without further investment.
    b. you need to service or repair something that you already own because it is run down from use.
    c. work very hard and physically.
13. Something that is shabby
    a. is in poor condition.
    b. is dark and gloomy.
    c. is highly sought after.
14. Hassle
    a. is a verb meaning to give someone a hard. time
    b. is a noun meaning a nuisance.
    c. is an adjective meaning difficult.
15. Handy
    a. is a verb meaning to help someone do something.
    b. is an uncountable noun meaning clarity or. transparency
    c. is an adjective meaning useful.
16. Something that is discrete
    a. is low-key, doesn't draw attention to itself.
    b. is separate or distinct.
    c. is law-abiding and correct.
17. If you clamp down on something, you
    a. are more vigilant and punish wrong-doers.
    b. tighten the legislation governing the activity in question.
    c. open up opportunities for newcomers.
18. When something is daunting,
    a. it is intimidating.
    b. It seems that it will be difficult to deal with.
    c. it makes you nervous.

Student A

Do the economics of self-driving taxis actually make sense? (Part 1)

Izabella Kaminska
The Financial Times, 20 October 2015

Financial blogger Frances Coppola runs through how and why the "sharing economy" is grossly mis-representing itself to consumers by daring to suggest it's anything but a traditional for-profit — or more pertinently rentier — enterprise.

Coppola states:

> Indeed the whole idea of the "sharing economy" seems to be based not on the idea of working together to produce something for mutual benefit (the cooperative principle) but on millions of people scraping a living by selling services and renting assets to each other. **How does this add value to the economy over the longer term? There is no production.** It is entirely consumption. Recycling is all very well – and we do need secondary markets – but we cannot build an economy solely on sweating existing assets. The best-known example is Airbnb, based in San Francisco, which has helped 4m people find places to stay since it was founded in 2008—2.5m of them during 2012 alone.

This of course fits perfectly into the bigger productivity puzzle striking economies everywhere.

As we've argued before, one of the reasons you can see the computer age everywhere but in the productivity statistics is arguably because rather than incentivising real growth and the creation of new wealth — you know, the sort which helps more people get exclusive access to the sort of stuff the one per cent takes for granted — information technology may only be redistributing existing stuff "more efficiently". Except that this sort of efficiency isn't costless. Similarly, before welcoming strangers into your home it is reassuring to read reviews from other hosts they have stayed with.

But we digress.

Student B

Do the economics of self-driving taxis actually make sense? (Part 2)

Izabella Kaminska
The Financial Times, 20 October 2015

The most under appreciated cost [of the sharing economy] may in fact be the disappearance of professionals and highly-skilled labourers from the economy, and their replacement with shabby generalists. As Coppola notes, such a loss inevitably leads to a "shabby economy", where the frugal generalist "makes do and mends" and where no-one buys anything unless they absolutely have to and everyone is running down existing assets instead: "The sharing technology may be innovative, but the economic vision underlying it is stagnation, not prosperity."

We argued back in July for example that the way Airbnb actually differentiates itself in the hospitality market is largely by throwing amateurs at the professional hospitality market. This is fine, if you don't care much for professional hospitality. It may also have environmental benefits, by making more efficient use of resources.

That's not to say that Airbnb doesn't provide established hoteliers, short-term renters and B&B professionals with a competing advertising portal to market their services. That it certainly does. But that's not the aspect of the business considered to be innovative or game changing — since online marketing hubs have existed for a long time and this, at best, is just another attempt to create a competing network effect. No, the supposedly game-changing element of Airbnb's model is providing amateur hospitality hosts with the impression they too can make steady profits from renting rooms like professionals. Hosts, who by and large, want to have their cake and eat it: namely, rent rooms at premium short-term let rates without any of the hospitality burden or hassle.

Except, as any professional holiday short-term lettings business will tell you, there's more to short-term letting than just handing over keys on changeover day. Profits don't come easy. That is the principle behind a range of online services that enable people to share cars, accommodation, bicycles, household appliances and other items, connecting owners of underused assets with others willing to pay to use them. Location can also make a huge difference to profitability. And that's without accounting for tax, licensing and other regulatory burdens. Hence why after a few months of 'disrupting' traditional hospitality, many Airbnb hosts realise it can be much more economical to go for longer-term rentals with fewer turnaround costs (especially if their buildings or neighbours frown upon short-term rentals).

Student C

The sharing economy (Part 1)

The Economist, Mar 9th 2013

All eyes on the sharing economy

Collaborative consumption: Technology makes it easier for people to rent items to each other. But as it grows, the "sharing economy" is hitting roadblocks

WHY pay through the nose for something when you can rent it more cheaply from a stranger online? An economy that exists solely on consumption has no long-term future. Dozens of firms such as Airbnb, which lets people rent out their spare rooms, or RelayRides, which allows other people to rent your car, act as matchmakers, allocating resources where they are needed and taking a small cut in return.

Such peer-to-peer rental schemes provide handy extra income for owners and can be less costly and more convenient for borrowers. Occasional renting is cheaper than buying something outright or renting from a traditional provider such as a hotel or car-rental firm. The internet makes it cheaper and easier than ever to aggregate supply and demand. Smartphones with maps and satellite positioning can find a nearby room to rent or car to borrow. Online social networks and recommendation systems help establish trust; internet payment systems can handle the billing. All this lets millions of total strangers rent things to each other. The result is known variously as "collaborative consumption", the "asset-light lifestyle", the "collaborative economy", "peer economy", "access economy" or "sharing economy".

It is surely no coincidence that many peer-to-peer rental firms were founded between 2008 and 2010, in the aftermath of the global financial crisis. Some see sharing, with its mantra that "access trumps ownership", as a post-crisis antidote to materialism and overconsumption. There are a lot of costs to be accounted for ranging from cleaning, laundry, maintenance, damage, supervision and insurance to personal touches like fresh flowers to the sharing of local knowledge. But whatever the motivation, the trend is clear. "People are looking to buy services discretely when they need them, instead of owning an asset," says Jeff Miller, the boss of Wheelz, a peer-to-peer car-rental service that operates in California. …

Student D

The sharing economy (Part 2)

The Economist, Mar 9th 2013

… As they become more numerous and more popular, however, sharing services have started to run up against snags. There are questions around insurance and legal liability. Some services are falling foul of industry-specific regulations. Landlords are clamping down on tenants who sub-let their properties in violation of the terms of their leases. Tax collectors are asking whether all the income from sharing schemes is being declared. Meanwhile, the big boys are moving in, as large companies that face disruption from sharing schemes start to embrace the model themselves. As the sharing economy expands, it is experiencing growing pains.

By far the most prominent sharing services are those based around accommodation and cars. The hidden costs include potential data serfdom, the need to forecast one's behaviours ever earlier to the "information system" so it can pre-emptively account for you in the style of an HFT algorithm, and/or increased dependency on marketing and reactance techniques to ensure you simply won't want the stuff that the system can't afford to give you. People can list anything from a spare bed to an entire mansion on the site, setting rental rates and specifying house rules (such as no smoking or pets). Anyone looking for somewhere to stay in a particular city can enter their dates and browse matching offers from Airbnb's 300,000 listings in 192 countries; Airbnb takes a cut of 9-15% of the rental fee. Others offering similar services include Roomorama, Wimdu and BedyCasa.

Car-sharing schemes divide into peer-to-peer car-rental services in which you pay to borrow someone else's car (Buzzcar, Getaround, RelayRides, Tamyca, Wheelz, WhipCar) and taxi-like services (Lyft, SideCar, Uber, Weeels) in which people use their cars to ferry paying passengers. Some peer-rental schemes focus on particular types of customer, such as students, or particular types of vehicle, such as high-performance cars. Peer-to-peer taxi services use location-aware smartphone apps, coupled with a central dispatcher, to bring drivers and passengers together.

Variations on these models include DogVacay and Rover, both of which are dog-kennel services (like Airbnb for dogs), and Boatbound, which offers short-term, peer-to-peer boat rental. There are also peer-rental sites for car-parking spaces (Airbnb for cars, in effect), bicycles, photographic kit, musical instruments, garden equipment, outdoor gear, kitchen appliances, and so on. These sites generally start off serving a particular city or region, as Airbnb did in San Francisco. But the more successful ones have expanded to cover multiple cities and entire countries.

All these services rely on ratings and reciprocal reviews to build trust among their users. Staying in a stranger's apartment in another city seems much less daunting when you can read testimonials from previous guests. But it's not so great if you do, because the service certainly doesn't augment the availability of professional hospitality services. Many platforms also carry out background checks, looking into their users' driving and credit histories and checking for criminal records. In addition, some peer-rental services (including Airbnb, RelayRides and Lyft) integrate with Facebook to let owners and renters check to see whether they have friends (or friends of friends) in common.

E. Game-changing technology

http://bigthink.com/flash-foresight/20-game-changing-technology-trends-that-will-create-both-disruption-and-opportunity-on-a-global-level

1. What technology do you think has had the most impact on businesses in the last few years?
2. In the original text some of the nouns or nominal groups were in bold. As you read, identify which nouns or nominal groups you would highlight so that they stand out. What rationale motivated your choices?

1.	Over the next years the following technologies will transform how we sell, market, communicate, collaborate, educate, train, innovate, and more.
5.	Big Data. Big Data is a term used to describe the technologies and techniques used to capture and utilize data with the goal of bringing visibility and insights to make decisions. Analytics using cloud services will be used as a complement to existing information management systems and programs to manage the data increase. This data integration and analytics will require skills and cross-functional buy-in in order to remove the data and organizational compartments that still exist. The increase in data makes this a trend.
10. *15.*	Cloud computing and cloud services will be embraced by business, as this represents a shift in how organizations obtain and maintain software, hardware, and computing capacity. As consumers, we first experienced public clouds (think about when you use Google or Apple's iCloud). Then we saw private clouds and hybrid clouds from businesses such as Flextronics, Siemens, Accenture, and others, using the cloud to cut costs in human resources and sales management functions. Cloud services enable the transformation for business processes.
20.	On demand services will be offered to companies needing to deploy services. Hardware as a Service (HaaS) joins Software as a Service (SaaS), creating what some have called "IT as a service." All will grow for companies, with players in business process categories. These services will help companies cut costs as they provide access to software programs and technology without having the expense of IT staff and time-consuming, expensive upgrades. As a result, IT departments in industries will be freed to focus on enabling business process transformation, which will allow organizations to improve their return on their technology investments.
25.	Virtualization of storage, desktops, applications, and networking will see acceptance and growth by businesses as virtualization security improves. We will see the virtualization of processing power, allowing mobile devices to access supercomputer capabilities and apply it to processes such as purchasing and logistics.
30.	Smart phones & tablets become our primary personal computers, and the mobile web becomes a capability. An enterprise mobility strategy becomes important for organizations as we see mobile data, mobile media, mobile sales, mobile marketing, mobile commerce, mobile finance, mobile payments, mobile health, and more increase. This mobility will allow business to transform how they market, sell, communicate, collaborate, educate, train, and innovate using mobility.
40.	Intelligent electronic agents using natural language voice commands was launched with Apple's Siri, which was followed by Android, Microsoft, and others offering a mobile electronic concierge on your smart devices including your phone, tablet, and television. Retailers will have a Siri-like sales assistant, and maintenance workers will have a Siri-like assistant. The possibilities are many.

3. How objective does the text sound? To what extent does it make you feel that technology is really revolutionizing business? Justify your answers with examples of language from the text.
4. The words highlighted in the text are fairly bland. Replace each one with one of the options from the box.

silos	tame	endless	mandatory	maximize
explode	break down	explosion		

What effect do these changes have?

5. Compare the following two sentences.

   Over the next years the following technologies will transform how we sell, market, communicate, collaborate, educate, train, and innovate.

   Over the next five short years the following game-changing technologies will transform how we sell, market, communicate, collaborate, educate, train, innovate, and much more.

Which sentence has more impact? How was this achieved?

6. In the repeated text on p 13, replace the numbers 1. – 27. with an expression that **expands the scope**.

Numbers 1-7	*Numbers 8-13*
many enterprise wide much massive the exponentially increasing streams of many increasingly	of all sizes many increasingly all all more
Numbers 14-19	*Numbers 20-27*
increasingly increasingly all large many small as well as large	all size any size large and small to name a few
	continued continue to many all

7. Replace the numbers 28. – 40. with an expression from the box that augments the sense of **urgency or importance**.

Numbers 28-40		
rapid critical rapid rapid rapidly rapidly	rapid growth of rapidly must have soon This was only the beginning, as	fast growing hard that cannot be ignored major

8. Replace the numbers 41. – 51. with an expression from the box that suggests **innovation**.

Numbers 41-51		
high speed advanced new level of new	advanced the latest new new	powerful new level of what will become

1.	Over the next five short years the following game-changing technologies will transform how we sell, market, communicate, collaborate, educate, train, innovate, and much more.
5. *10.*	**[28.] ___ Big Data.** Big Data is a term used to describe the technologies and techniques used to capture and utilize**[1.]** ___ data with the goal of bringing **[2.]** ___ visibility and insights to make **[29.]** ___ decisions. **[41.] ___ analytics** using **[42.]** ___ cloud services will **[3.]** ___ be used as a complement to existing information management systems and programs to tame the **[4.]** ___ data explosion. This**[43.]** ___ data integration and analytics will require **[5.]** ___ **[44.]** ___ skills and cross-functional buy-in in order to break down the **[6.]** ___ data and organizational silos that still exist. The**[30.]** ___ increase in data makes this a **[31.]** ___ trend **[32.]** ___.
15.	**Cloud computing and [45.] ___ cloud services** will be **[7.]** ___ embraced by business **[8.]** ___, as this represents a **[33.]** ___ shift in how organizations obtain and maintain software, hardware, and computing capacity. As consumers, we first experienced public clouds (think about when you use Google or Apple's iCloud). Then we saw **[9.]** ___ private clouds and hybrid clouds from businesses such as Flextronics, Siemens, Accenture, and **[10.]** ___ others, **[11.]** ___ using the cloud to cut costs in human resources and sales management functions. **[34.]** ___ cloud services enable the **[35.]** ___ transformation for **[12.]** ___ business processes.
20. *25.*	**On demand services** will **[13.]** ___ be offered to companies needing to **[36.]** ___ deploy **[46.]** ___ services. **Hardware as a Service (HaaS)** joins **Software as a Service (SaaS)**, creating what some have called "IT as a service." All will grow **[37.]** ___ for **[14.]** ___ companies, with **[15.]** ___ **[47.]** ___ players in **[16.]** ___ business process categories. These services will help companies cut costs as they provide access to **[48.]** ___ software programs and **[49.]** ___ technology without having the expense of a **[17.]** ___ IT staff and time-consuming, expensive upgrades. As a result, IT departments in **[18.]** ___ industries will be **[19.]** ___ freed to focus on enabling business process transformation, which will allow organizations to maximize their return on their technology investments.
30.	**Virtualization of storage, desktops, applications, and networking** will see **[20.]** ___ acceptance and growth by **[21.]** ___ businesses as virtualization security improves. We will **[22.]** ___ see the virtualization of processing power, allowing mobile devices to access supercomputer capabilities and apply it to processes such as purchasing and logistics, **[23.]** ___.
35. *40.*	**Smart phones & tablets become our primary personal computers**, and **the mobile web** becomes a **[38.]** ___ capability. An **enterprise mobility strategy becomes mandatory** for **[24.]** ___ organizations as we see mobile data, mobile media, mobile sales, mobile marketing, mobile commerce, mobile finance, mobile payments, mobile health, and **[25.]** ___ more explode. This **[50.]** ___ mobility will allow **[26.]** ___ business to transform how they market, sell, communicate, collaborate, educate, train, and innovate using mobility.
45.	**Intelligent electronic agents** using natural language voice commands was launched with Apple's Siri, which was **[39.]** ___ followed by Android, Microsoft, and others **[27.]** ___ offering **[51.]** ___ a mobile electronic concierge on your smart devices including your phone, tablet, and television. **[40.]** ___ retailers will have a Siri-like sales assistant, and maintenance workers will have a Siri-like assistant. The possibilities are endless.

9. How do the changes affect the impact of the text?

F Artificial Intelligence

1. Consider the information conveyed in the graph (figure 1) and answer the following questions.
   a. What does the graph show?
   b. What is the most important/noteworthy trend or information that it shows?
   c. How is that trend or information relevant to the theme of technology? What issues does it raise?

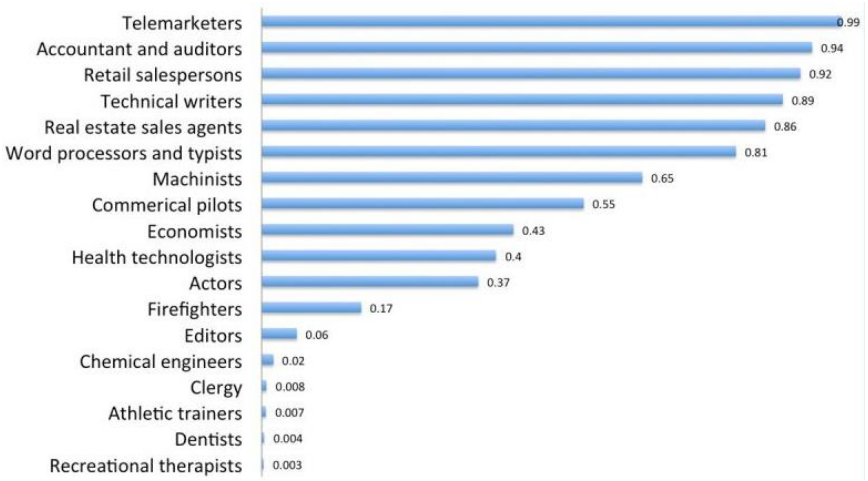

Figure 2: Probability Robots will take your job in next 20 years, 1= Certain

Source: Business Insider from *The Economist*, 17 Jan. 2014

2. Rewrite the sentence using the expression given, retaining the original meaning.

   <u>There is a high probability that</u> telemarketers will be replaced by robots.

   It is highly likely

   … almost certainly…

3. Use the expressions given to rewrite the information.

   a. According to the Economist, there is a high probability that retail salespersons will be replaced by robots in the next 20 years. According to the US Bureau of Labor Statistics the number of retail salespersons is expected to grow by about 250,000 in the US by 2026.
      Although the Economist reports that ….
   b. The Economist has identified athletics trainers, dentists and recreational therapists as the professions least likely to be replaced by robots. The US Bureau of Labor Statistics has identified health related professions such as personal care aides and home health aides as the occupations with the highest growth rate.
      similarly
   c. The US Bureau of Labor Statistics forecasts that there will be an increase of more than 100,000 accountants and auditors by 2026. The Economist predicts that there is a 94% probability that accountants and auditors will be replaced by robots.
      Despite …
   d. The US Bureau of Labor Statistics project little job growth for stock clerks and order-fillers. The Economist predicts that it is very likely that word processors and typists will be replaced by robots.
      similarly

e. The US Bureau of Statistics projects that jobs in marketing research and analytics will grow by 22.8% by 2026. According to the Economist, telemarketers are almost certainly going to be replaced by robots in the next 20 years.
however

f. The Economist predicts that the likelihood that machinists will be replaced by robots is 65%. The US Bureau of Statists forecasts that jobs for maintenance and repair workers will grow by 7.9% by 2026.
Notwithstanding

g. It is highly unlikely that editors will be replaced by robots. It is highly likely that technical writers will be replaced by robots.
Unlike

G. AI and robots threaten to unleash mass unemployment, scientists warn

1. In part 1 *(lines 1.-24)* complete each gap in the text with one word.
2. In part 2 *(lines 25-43)* put the verb into the correct tense or form.

1. Scientists have warned that rapid strides in [1]……. development of artificial intelligence and robotics threaten the prospect of mass unemployment, affecting everyone from drivers to sex workers. Intelligent machines will [2]……. replace human workers in all sectors of the economy, senior computer scientists [3]…….
5. the American Association for the Advancement of Science meeting [4]……. Washington at the weekend.

"We are approaching the time [5]……. machines will be able to outperform humans at almost [6]……. task," said Moshe Vardi, computer science professor at Rice University in Texas. "Society [7]……. to confront this question before it is
10. upon us: if machines [8]……. capable of doing almost any work humans can do, what will humans [9]…….? A typical answer is that we will be [10]……. to pursue leisure activities," Prof Vardi said. "[But] I do not find the [11]……. of leisure-only life appealing. I believe that work is essential [12]……. human wellbeing."

"AI is moving rapidly from academic research into [13]……. real world," said
15. Bart Selman, professor of computer science at Cornell University. "[14]……. are starting to 'hear' and 'see' as humans do . . . Systems can [15]……. to move and operate among us autonomously." He said companies [16]……. as Google, Facebook, IBM and Microsoft were scaling up [17]……. in AI systems to billions of dollars a year.
20. Professors Vardi and Selman said governments — and society as a [18]……. — were not facing up to the acceleration of AI [19]……. robotics research. Prof Selman helped draft an open letter issued last year by the Future of Life Institute in Cambridge, Massachusetts, urging policymakers to explore the risks [20]……. with increasingly intelligent machines.

25. Among the 10,000 or so signatories to the letter [be]……. Elon Musk, the tech entrepreneur whose company Tesla Motors [have]……. a large AI research programme [aim]……. at [develop]……. self-driving cars. Mr Musk [fund]……. research at Cornell University "on keeping AI beneficial to humans", [say]……. Prof Selman. The project [predict]……. whether and, if so when, "super-intelligence" —
30. all-round superiority of machine to human intelligence — [achieve]…….

According to Prof Selman, one of the fastest advancing areas of AI [be]……. machine vision,and particularly facial recognition. "Facebook [recognise]……. faces better than any of us," he [say]……. Machine vision [be]……. key to the self-

driving vehicles that scientists [predict]……. [take over]…….our roads in the next
35. 25 years. Prof Vardi [say]……. automated driving [cut]……. accidents by 90 per cent or more, compared with vehicles [drive]……. by error-prone people.

"With so many lives saved and injuries [prevent]……., it [be]……. hard morally for anyone [argue]……. against it," he said. Yet around 10 per cent of all US jobs [involve]……. [drive]…….a vehicle, he [add]……., "and most of those
40. [disappear]…….".

Prof Vardi [say]……. it [be]……. hard [think]……. of any jobs that [not be]……. vulnerable to robotics and AI — even sex workers. "[you, bet]……. against sex robots?" he [ask]……. "I [not be]……."

Clive Cookson in Washington *The Financial Times*, February 14, 2016

H. AI

http://video.ft.com/4712786256001/Davos-2016-the-rise-of-AI/companies

Listen and watch the video and answer the following questions.

1. What new tasks are robots now being used to do? Complete each task with up to 5 words.

a. Drive …
b. Respond …
c. Diagnose …

2. Complete the sentences with information (not necessarily the words) from the video:

a. In the first machine age, machines…
b. In the second machine age, machines have …
c. In the first wave of the second machine age, machines ….
d. In the second wave of the second machine age, machines …

3. What can't robots currently do? Tick the things mentioned.

a.	Pick up a coin	☐
b.	Recognise faces	☐
c.	Walk up stairs	☐
d.	Detect fraud	☐
e.	Show creativity	☐
f.	Motivate and coach people	☐
g.	Carry out routine information processing tasks	☐
h.	Drive trucks	☐

4. What advice does Erik Brynjolfsson give to policy makers? Tick the things he mentions.

a.	They should acknowledge that robots will massively change job markets.	☐
b.	They should create more creative jobs.	☐
c.	They should displace jobs.	☐
d.	They should reorient education to foster creativity.	☐
e.	They should foster entrepreneurship.	☐
f.	They should foster research and development.	☐
g.	They should consider changes to the tax legislation for wealth distribution.	☐

1.	Over the next five short years the following game-changing technologies will transform how we sell, market, communicate, collaborate, educate, train, innovate, and much more.
5.	**[28.]Rapid growth of Big Data.** Big Data is a term used to describe the technologies and techniques used to capture and utilize**[1.]** the exponentially increasing streams of data with the goal of bringing **[2.]**enterprise-wide visibility and insights to make **[29.]**rapid critical decisions. **[41.]High speed analytics** using **[42.]**advanced cloud services will **[3.]**increasingly be used as a complement to existing information management systems and programs to tame the **[4.]**massive data explosion. This**[43.]** new level of data integration and analytics will require **[5.]**many **[44.]**new skills and cross-functional buy-in in order to break down the **[6.]**many data and organizational silos that still exist. The**[30.]** rapid increase in data makes this a **[31.]**fast growing hard trend **[32.]**that cannot be ignored.
10.	
15.	**Cloud computing and [45.]advanced cloud services** will be **[7.]**increasingly embraced by business **[8.]**of all sizes, as this represents a **[33.]**major shift in how organizations obtain and maintain software, hardware, and computing capacity. As consumers, we first experienced public clouds (think about when you use Google or Apple's iCloud). Then we saw **[9.]**more private clouds and hybrid clouds from businesses such as Flextronics, Siemens, Accenture, and **[10.]**many others, **[11.]**all using the cloud to cut costs in human resources and sales management functions. **[34.]**This was only the beginning, as cloud services enable the **[35.]**rapid transformation for **[12.]**all business processes.
20.	**On demand services** will **[13.]**increasingly be offered to companies needing to **[36.]**rapidly deploy **[46.]**new services. **Hardware as a Service (HaaS)** joins **Software as a Service (SaaS)**, creating what some have called "IT as a service." All will grow **[37.]**rapidly for **[14.]**small as well as large companies, with **[15.]**many **[47.]**new players in **[16.]**a multitude of business process categories. These services will help companies cut costs as they provide access to **[48.]**powerful software programs and **[49.]**the latest technology without having the expense of a **[17.]**large IT staff and time-consuming, expensive upgrades. As a result, IT departments in **[18.]**all industries will be **[19.]**increasingly freed to focus on enabling business process transformation, which will allow organizations to maximize their return on their technology investments.
25.	
30.	**Virtualization of storage, desktops, applications, and networking** will see **[20.]**continued acceptance and growth by **[21.]**both large and small businesses as virtualization security improves. We will **[22.]**continue to see the virtualization of processing power, allowing mobile devices to access supercomputer capabilities and apply it to processes such as purchasing and logistics, **[23.]**to name a few.
35.	**Smart phones & tablets become our primary personal computers**, and **the mobile web** becomes a **[38.]**must-have capability. An **enterprise mobility strategy becomes mandatory** for **[24.]**all size organizations as we see mobile data, mobile media, mobile sales, mobile marketing, mobile commerce, mobile finance, mobile payments, mobile health, and **[25.]**many more explode. This **[50.]**new level of mobility will allow **[26.]**any size business to transform how they market, sell, communicate, collaborate, educate, train, and innovate using mobility.
40.	
45.	**Intelligent electronic agents** using natural language voice commands was launched with Apple's Siri, which was **[39.]**rapidly followed by Android, Microsoft, and others **[27.]**all offering **[51.]**what will become a mobile electronic concierge on your smart devices including your phone, tablet, and television. **[40.]**Soon retailers will have a Siri-like sales assistant, and maintenance workers will have a Siri-like assistant. The possibilities are endless.