

(Block)chain reaction

Level: Intermediate

Time: 90 minutes +

Summary: This lesson is about supply-chain management (SCM) and blockchain, a new and more transparent form of recording and tracking where items are bought and produced. In this lesson, students:

1. study a text about supply-chain management and blockchain;
2. produce supply-chain information for an item they own;
3. discuss how much a product's provenance influences how they shop;
4. discuss how much their shopping habits have changed in recent years.

Materials: One copy of the worksheet per student

Group size: Any

Note: This lesson plan is for both pre-experience and in-work business students based on an original article first published in *Business Spotlight* issue 6/2018.

Warmer

Students briefly talk about their current shopping habits and how the items they buy get to their home.

Key words

Students match the key words and expressions with the definitions, then find the words in the article and notice how they are used in context.

Key:

- | | |
|--------------------------------|------------------------------|
| 1. <i>volatile</i> | 9. <i>verify</i> |
| 2. <i>count on</i> | 10. <i>mining</i> |
| 3. <i>remarkable</i> | 11. <i>sexual harassment</i> |
| 4. <i>infrastructure</i> | 12. <i>disclose</i> |
| 5. <i>suite</i> | 13. <i>impact</i> |
| 6. <i>new kid on the block</i> | 14. <i>run-up</i> |
| 7. <i>cryptocurrencies</i> | 15. <i>reconfiguring</i> |
| 8. <i>transactions</i> | |

Understanding the article

Students decide whether the statements are true or false and rewrite any that are false.

Key:

1. *T*
2. *F – Amazon doesn't use SAP. It is such a profitable business that it can afford to write its own supply-chain software.*
3. *F – Very little is known about Amazon's supply-chain infrastructure.*
4. *F – It is the technology behind cryptocurrencies.*
5. *T*
6. *T*
7. *F – It is very unlikely that suppliers and manufacturers would want to do that.*
8. *T*

Follow the chain

In pairs or groups of three, students choose one everyday item. They should decide which specific item the group wants to look at in more detail, e.g. Stephan's jeans or Maria's bag. Working backwards, they should list as many steps in the supply chain and production of this one specific item as they can. Where they have no information but think a step is missing from their list, they should add a question mark. Is it possible to follow that item's chain back to its source materials? How transparent is the supply chain of that item? Students could use the internet to establish some of these details. For example, they could conduct a search to find out where the clothes sold at a local retailer are made.

Then they do the same with a product that their company or place of work produces, uses or sells on a regular basis.

To extend this task, students could write up the information they have come up with or researched on flipchart paper or as a PowerPoint presentation and present it to the class.

Discussion 1

Students discuss the questions in small groups, come to agreements and make notes of their answers. Then open up the discussion to the whole class with each group contributing their thoughts and answers. Can the whole class agree on what and how much information customers really want and need?

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If the students' companies produce or sell products, find out how much supply-chain information their companies make available to customers.

Discussion 2

In this second discussion task, students talk about their own shopping habits and factors that influence where they buy things. The task can be done in small groups; one person from each group can then give feedback to the whole class about how their group's discussion went.

Teacher's notes

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1 Warmer

1. **Where do you do most of your shopping?**
 - a. on the high street or in a shopping mall
 - b. online
 - c. elsewhere (say where)
2. **How does the shopping get from the point of sale to your home?**

2 Key words

Match the key words and expressions to the definitions below. Underline them in the article, then read the article and note how they are used in context.

transactions	cryptocurrencies	new kid on the block	remarkable
count on	suite	infrastructure	volatile

1. likely to suddenly change or become dangerous without much warning _____
2. to need something to happen in a specific way _____
3. unusual in a way that surprises or impresses you _____
4. the set of systems within an organization that affect how well it operates _____
5. a set of computer programs that each do a part of a bigger task _____
6. a fresh arrival to a particular place or sphere of activity _____
7. digital currencies (systems of money), e.g. Bitcoin _____
8. the actions or processes of buying or selling something _____

sexual harassment	impact	mining	run-up
disclose	reconfiguring	verify	

9. check or prove that something is true or correct _____
10. the process of getting coal or metal from under the ground _____
11. the offensive or threatening behaviour of a person who regularly makes crude comments or touches someone in an uninvited and intimate way _____
12. give information to people, especially secret information _____
13. an effect or influence _____
14. the period of time just before an important event _____
15. rearranging the software of a computer so that it works in a better and improved way _____

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by Eamonn Fitzgerald



Despite the dramatic situations in many parts of the world, we are still able to get nearly everything that we want, when we want it. Blockchain and a well-functioning global supply-chain management make that possible.

that might not be how SCM works tomorrow. You see, there's a new kid on the block: blockchain.

Blockchain is the technology behind cryptocurrencies, and the idea is that for each "link" along a chain of users, a database associated with a particular coin (or pair of hiking boots) updates automatically to register the change of ownership or status. The identity of each user is recorded and the list of all the transactions is available to everyone along the chain.

In theory, then, blockchain could make it possible for companies and customers to verify the origin and background of the things we buy. Were children in Africa involved in mining the cobalt that's part of the lithium-ion battery in my mobile phone? Is the sexual harassment of women in Myanmar's garment factories being reported and recorded? Some people would like to know. *Supply Chain 24/7*, a newsletter that covers the technology, calls blockchain a "game changer".

To make blockchain useful, of course, every supplier and manufacturer would have to agree to disclose information about their practices, including information about origin, work conditions and environmental impact. Realistically, in a high-speed world where the goal of SCM is to assemble and transport things quickly, it's hard to see that happening.

As we wait for all those boxes to arrive in the run-up to Christmas, here's a near-future SCM scenario involving machine learning, where computers "learn" by using data. Instead of causing chaos, earthquakes, airline strikes and currency crises would see intelligent SCM networks automatically reconfiguring themselves to find less risky suppliers.

In the meantime, I'm confident that my 2019 desk calendar will arrive early on Friday, 21 December.

EAMONN FITZGERALD writes daily at www.eamonn.com. He uses social media to build relationships for organizations.

- 1 Our world is volatile – earthquakes in Indonesia, Ryanair strikes, currency crisis in Turkey – there's drama every day. The funny thing is, though, that despite chaos, you can almost always count on getting that pair of hiking boots you order online whenever you want them.
- 2 So how is it possible to predict the arrival of a DHL or UPS courier nearly to the hour with that package? The answer is supply-chain management, or SCM, as insiders call it.
- 3 The SCM industry is global and complex, and it's an increasingly attractive area of work for people who are interested in the business of keeping customers happy. You can even get a degree in SCM now. The University of Bath, in southwest England, for example, offers an MSc in operations, logistics and supply-chain management.
- 4 When it comes to SCM, Amazon is the boss. The speed with which it can get a set of bed sheets or a 2019 desk calendar to your door at an attractive price is remarkable. Not surprisingly, Amazon doesn't say much about its supply-chain infrastructure, and very few people outside the company know much about how it manages its logistics operations.
- 5 Companies like Amazon can afford secrecy because they can afford to write their own supply-chain software. For the rest of the world, there's SAP. The company, with its 93,800 employees and revenue of €23.77 billion in 2017, offers a suite of applications joined together through a database. Companies buy SAP "modules" and the supply-chain module interconnects with the rest of the suite. And that's how SCM works today, but

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3 Understanding the article

Are these statements true (T) or false (F) according to the article? Correct any that are false.

1. Many companies around the world use SAP software to manage their supply chain.
2. Like many other companies, Amazon uses SAP supply-chain software.
3. Amazon has a transparent supply chain and it is easy to follow how it manages its logistics operations.
4. Blockchain is a completely new technology and is not yet used in other fields of business.
5. Blockchain makes every transaction visible to everyone who is involved in the chain.
6. Blockchain would allow customers to see where their purchases have come from as well as the working conditions of the people down the chain.
7. Suppliers and manufacturers are very likely to want to give out all of this information to their customers.
8. SCM is such an important part of business that it is even possible to take a university degree in it.

4 Follow the chain

a. Choose something you own, such as your phone, jeans or bag. Working backwards, write down:

- where you bought it;
- how you think it got to the shop;
- where it was assembled;
- how the parts were transported;
- where the raw materials came from, etc.

Make your list as detailed as possible and add question marks where you think you are missing some supply-chain information.

b. Do the same for an item that your company produces, sells or needs to use. How much information are you lacking in your supply chains?

5 Discussion 1

- How much information should retailers provide about where their products come from and are put together?
- Where should this information be made available?
- How much do customers really want to know about the background of the things they buy?
- Would knowing details about the working conditions in factories and mines in other countries make us change our shopping habits?

6 Discussion 2

- How have your shopping habits changed over the past 10–15 years?
- If an item you want to buy is on sale in different places, how do you decide where to buy it?