
Chapter 19. The Internet as a Market Place

Table of Contents

Introduction to The Internet as a Market Place	2
Context	2
Introduction	2
Objectives	2
Introduction	2
An illustrative example	2
Producing	3
Selling	4
Buying	5
Physical Goods and Digital Goods	6
Types of activity in the networked market place	7
Conclusion	7
Activities	7
Activity 1 - EDI	7
Activity 2 - Online Shops	7
Activity 3 - Online Selling	8
Activity 4 - Changes	8
Activity 5 - CDs	8
Activity 6 - Electronic Market Place	8
Activity 7 - Online Commerce	8
Review Questions	8
Review Question 1	8
Review Question 2	8
Review Question 3	9
Review Question 4	9
Review Question 5	9
Review Question 6	9
Review Question 7	9
Review Question 8	9
Review Question 9	9
Review Question 10	9
Discussion Topics	9
Answers and Comments	10
Activity 1	10
Activity 2	10
Activity 3	10
Activity 4	10
Activity 5	10
Activity 6	11
Activity 7	11
Review Question 1	11
Review Question 2	11
Review Question 3	11
Review Question 4	11
Review Question 5	11
Review Question 6	11
Review Question 7	11
Review Question 8	12
Review Question 9	12

Introduction to The Internet as a Market Place

Context

In much the same way as chapter 18, this unit builds on the previous chapters that have dealt with the structure and operation of the Internet and its software, and also with its application software.

Introduction

Since the Internet can connect the potential players in a market place and allow them to communicate and exchange information with each other, it can support a market place. In this case, the messages and information exchanged relate to the concerns of the market place: in this way, the Internet allows all those with access to the network to buy and sell in this market place.

The nature of the market place changes as it migrates to the Internet , and this is demonstrated by considering the changes that occur to each of producing, buying and selling. The major change to production comes from the way in which the value-added chain is affected by the connectivity provided by a networked environment. The main changes to selling can also be explained in terms of the benefits of rich connectivity. The changes to buying can be explained in terms of technology such as mobile agents which can thrive in an information-rich connected environment.

Examples are given to illustrate the way that the Internet is supporting a market place, and the way that it is changing the nature of the market place.

Objectives

At the end of this module, you should be able to:

- explain the ways that production can change with the assistance of the Internet;
- investigate ways that commerce can change when it moves to the Internet;
- analyse the ways that the Internet can change the role of the consumer.

Introduction

In parallel with this unit, you should read relevant sections of your textbooks.

The Internet supports a market place in which all those with access to the network can buy and sell. Producing, buying and selling can all migrate to the network, and the nature of each changes in the process. In this unit, each of these aspects is considered in turn so that the way in which the networked market place emerges is explained and the ways in which the market place changes as a result of its migration are revealed.

An illustrative example

In Japan, there has been for some time an established nation-wide chain of auction markets for the sale of second-hand cars. In 1985, the process of creating a corresponding single electronic market was begun. As it happened, the electronic market turned out to be rather different from the conventional market. The reasons for this were as follows:

- Because the buyers in the electronic market will not see the cars, they are inspected and catalogued prior to a sale.

- This means that buyers can look for what they want by searching a database rather than by travelling to different auctions.
- It also means the quality of a purchased car is assured, and the risk associated with buying a car in the conventional market is removed.
- It also means that cars in a dubious state are not sent to the electronic market.

The upshot is that the cars sold in the electronic market are more expensive. (this defies the conventional wisdom that electronic markets are cheaper than conventional ones.) But, of course, the cars that are sold are better cars!

This example illustrates how markets can change as they migrate to the network. The driver of change in this case is the connectivity of the network, which removes the need for travel, and the ability of the computers on the network to store and process information. It also shows how consumers benefit from electronic markets, even though the benefit in this case was not the usually expected one of lower prices.

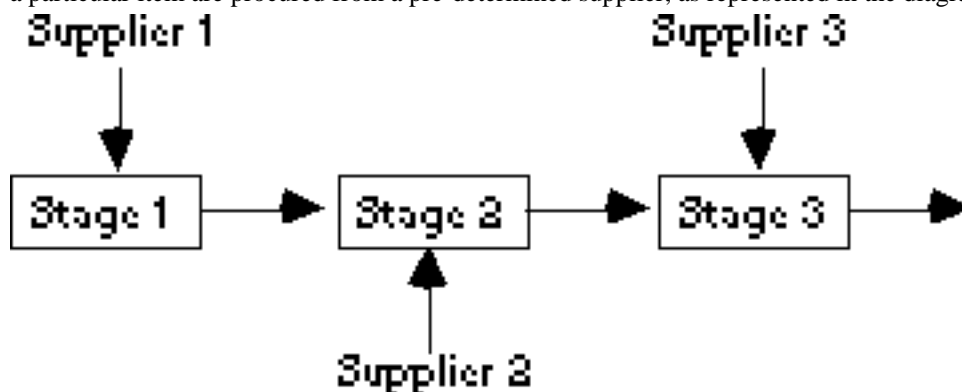
(The source for this topic is: 'Do electronic markets lower the price of goods?', by H. G. Lee, Communications A. C. M., Vol. 41, No. 1, pp. 73-80.)

To Do

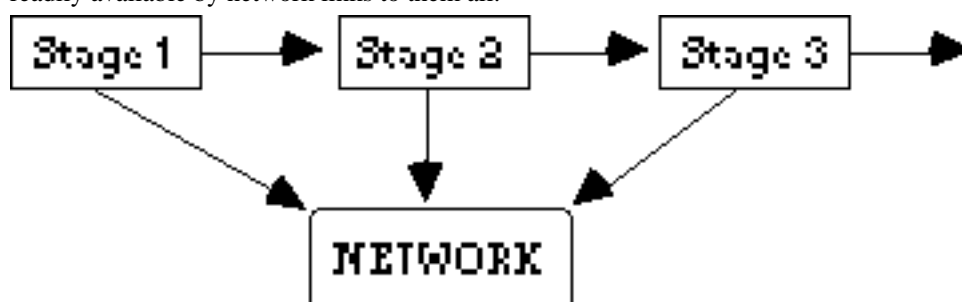
Do Review Questions 1 and 2.

Producing

The main change to manufacturing when it moves to a networked environment is the change from what are known as hierarchies to markets. The production process can be envisaged as a value-added chain that converts initial raw materials stage by stage to a finished product. With hierarchies, the products or services needed to complete one stage of the value-added chain involved in manufacturing a particular item are procured from a pre-determined supplier, as represented in the diagram.



In markets, these goods or services are acquired from the market of competing suppliers that is made readily available by network links to them all.



Thus, in a hierarchy each purchase is made at a previously agreed fixed price, whereas in a market it is made at the best current price.

A side effect of this change is to move from a rather rigid method of production to one that is more flexible. Hierarchies are well suited to mass production. The market arrangement can be used to create personalised variants of an item simply by inviting tenders for the necessary components. Of course, the specifications of these components will have to be clear expressed, particularly those of their interfaces.

A networked environment encourages the change from hierarchies to markets in various ways. The more important are: ready access to the network of contacts needed to support a market; the ability to communicate complex product descriptions; and reduced co-ordination costs that change the overall cost resulting from production and co-ordination in favour of the market approach.

To Do

Do Review Questions 3, 4 and 5.

Carry out Activity 1.

Selling

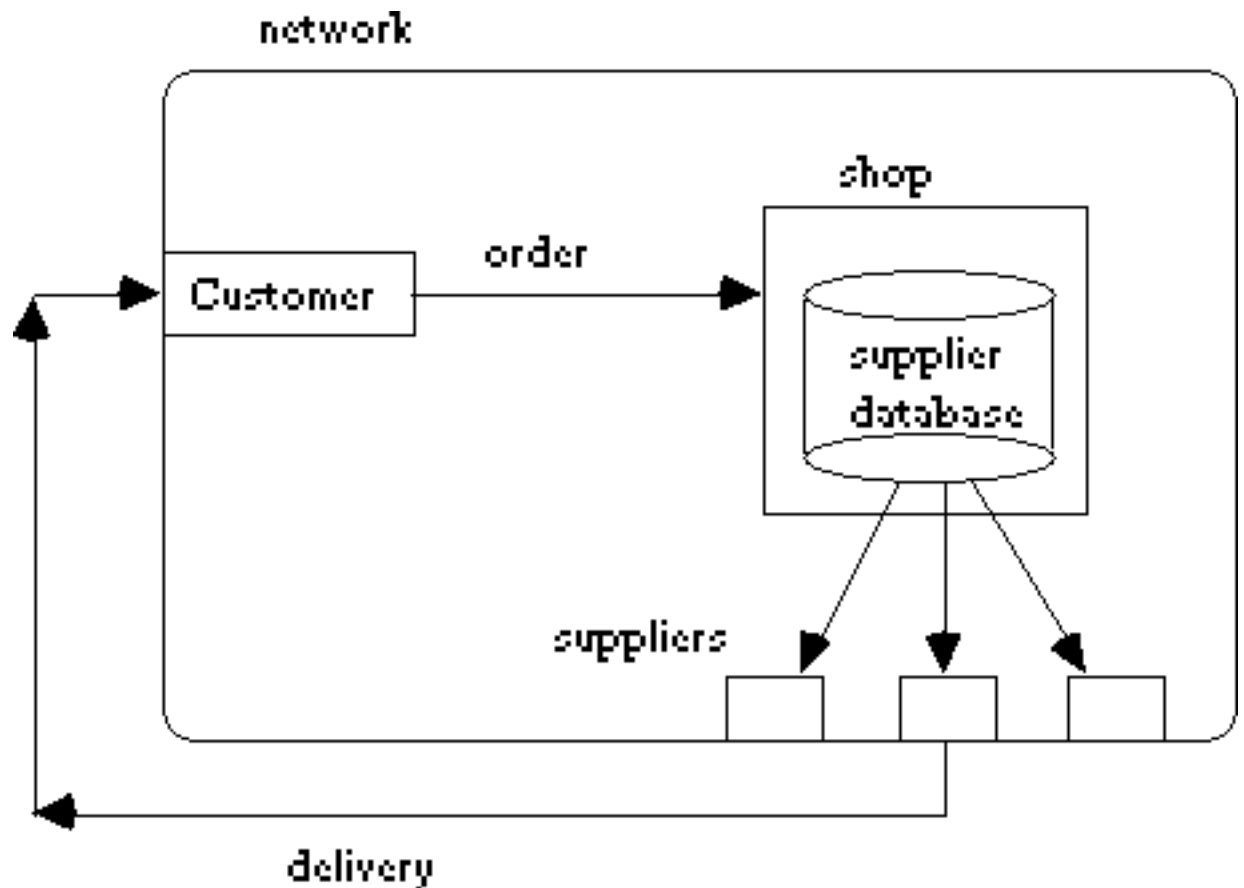
Goods can be sold from Web sites. A major issue is the adoption of a "virtual sales outlet". The historical progression of virtual shops on the Internet has been from: "the virtual shop" to "the virtual shopping mall" to "the virtual discount store". The virtual shop showed no real advantage over the real shop. The virtual mall had the disadvantage that each store in the mall made use of a different customer interface, which tended to try the patience of customers too much. The virtual discount store solved this problem by using a single interface to sell goods of all kinds: it also tapped a large networked market place to secure enhanced discounts.

The early form adopted by Amazon.com can be taken as a prime example of how the Internet can be used to advantage for selling. It also shows how the nature of this activity changes as it migrates to the network.

- Amazon.com began as the Internet's version of both the book shop and the discount store. In the real world, to be successful, a book shop needs a good stock of books and ready access to others not currently in stock: a discount store needs to sell large quantities of goods. The first can be achieved with automated supply chains that respond rapidly and flexibly.
- The sale of large quantities of goods requires stock management so that the prices of products and the product mix can be changed on a short-term basis.

Moving this type of activity to the network automatically provides both the connections needed to support the supply chain and the computers needed for inventory management. These ideas can be taken a step further by realising that the virtual retailer need carry no stock at all! All orders are simply passed on to manufacturers or distributors who deliver the goods from their warehouses. This reduces the costs of selling, so that goods can be sold even more cheaply.

The following diagram illustrates this model by representing a situation where customers, shops and suppliers all have sites on the network. The customer sends an order to the on-line shop which searches its supplier database for a supplier, or suppliers, who can fulfil the order. The orders are passed on to the selected supplier who then fulfils the order by making a delivery by conventional means 'outside' the network.



To Do

Do Review Questions 6, 7 and 8.

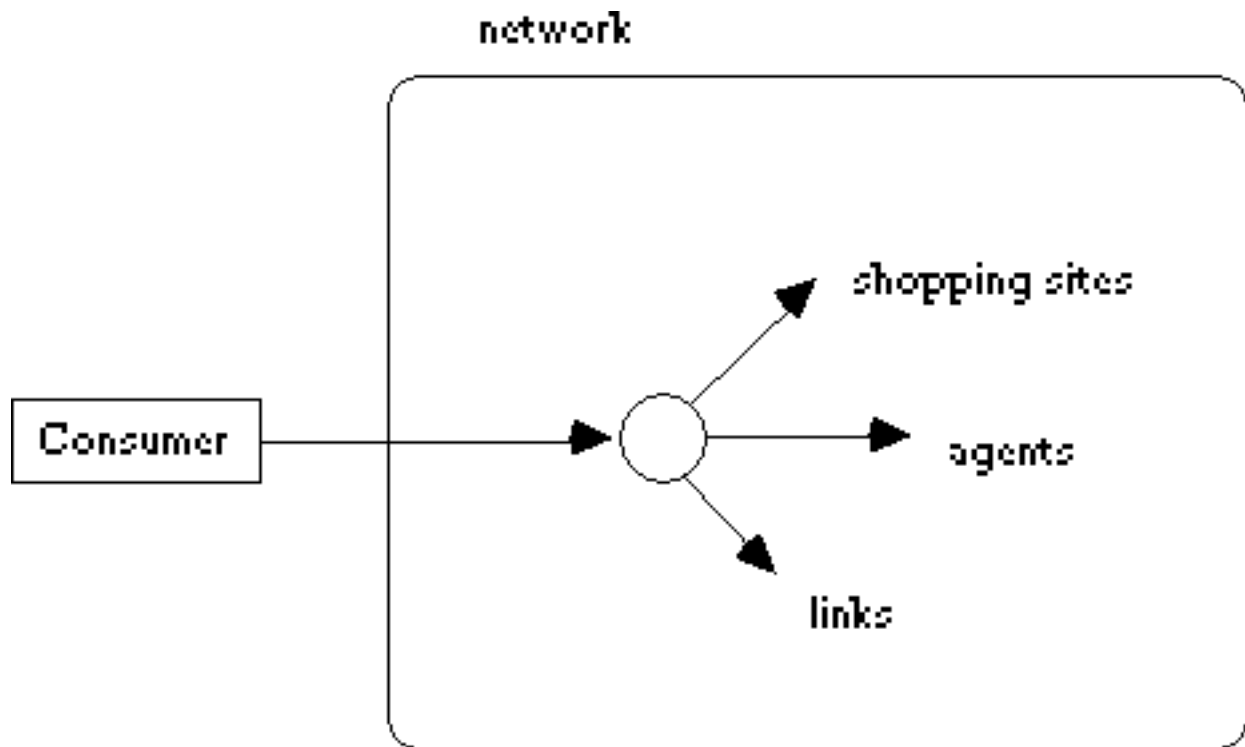
Carry out Activities 2 and 3.

Buying

The existence of virtual stores such as Amazon.com and CDNow.com clearly favours consumers by providing ready access to facilities where goods may be ordered at any time at a price less than that generally available in high-street shops. Also, once virtual stores are in place on the network, consumers themselves can carry out availability checks and cost comparisons with the use of an appropriate agent. This tends to move the balance of power between producers and consumers towards the consumer.

For the consumer, the Internet begins to look like an ideal market. An agent such as BargainFinder (<http://www.bf.cstar.ac.com/bf/>) can find where a specified product is available most cheaply. It is not quite so simple, though, because some Internet retailers have taken to banning agents from their sites. Agents provide consumers with a way to make consumer demand apparent. When the item consumers want is available, it can be purchased: when it is not, an alert producer can use the demand expressed for it as an opportunity. In this way, by using agents, consumers have the opportunity to change the usual situation of buying what producers choose to make to one of driving producers to make what they want.

The situation can be represented as follows:



Consumers have another way to shape the market place in that, as contributors, for example, by posting reviews and opinions of goods, they can influence other consumers.

To summarise, consumers can use agents to find the products they want, and find them at the best price. They can also use agents to indicate what they want, regardless of whether it is currently available. Producers looking for new ideas for products can collect this information and respond to it. At this stage, the market place has become consumer-driven.

To Do

Do Review Questions 9 and 10.

Carry out Activity 4.

Physical Goods and Digital Goods

It is worth drawing the distinction between physical, tangible products such as books, CDs and computers, and digital products such as texts, multimedia and software.

Clearly, physical goods can be ordered over the Internet, but they must still be delivered in the conventional way. Each of three items, whether books or CDs, ordered at the same time from an on-line shop may arrive in a different parcel from a different supplier. Digital goods such as digitised texts and digitised music, can be delivered over the network, so that transactions involving them may be carried out entirely within the network.

To Do

Carry out Activity 5.

Types of activity in the networked market place

Various types of activity have been distinguished in the electronic market place. The network style of production described in the section on Producing is typical of what is called, for obvious reasons, business-to-business (B to B) activity. This type of activity is dominant in current electronic commerce.

Business-to-consumer (B to C) activity is typified by the intermediary Web sites described in the section on Selling. We have mentioned that the B to C sites have to keep changing to prevent themselves from being 'disintermediated': this trend can only accelerate as competition becomes more fierce and the possibility of on-line delivery of text and music becomes more acceptable.

To Do

Carry out Activity 6.

Conclusion

The new roles for producers, sellers and consumers in the electronic market place lead us to expect that this market will be different, and perhaps in unexpected ways, from a conventional market. Some of the differences centre on the following aspects of electronic markets:

- the importance of economic network effects,
- the emerging importance of portals,
- organisation into 'channels' to permit, for example, audience flow,
- new economic models,
- the provision of free information as a hook to sell follow-on information, services and products, and
- an 'attention economy' in which a huge number of sites compete for the attention of consumers.

To Do

Carry out Activity 7.

Activities

Activity 1 - EDI

In the case of hierarchical production, producers and their suppliers often make use of EDI. In the networked situation, especially when using the Web, EDI is often found to be inappropriate and inflexible. Investigate what is meant by saying that EDI is inappropriate and inflexible in these circumstances. Find out what is used in its place.

You can find a discussion of this activity at the end of the chapter.

Activity 2 - Online Shops

Explain why the position of on-line shops which are purely intermediaries is precarious. Investigate ways in which they attempt to counter this.

You can find a discussion of this activity at the end of the chapter.

Activity 3 - Online Selling

Find out what kind of goods are ideal for on-line selling and why.

You can find a discussion of this activity at the end of the chapter.

Activity 4 - Changes

Producers can make use of global reach to maximise the competition between suppliers at each stage of the value-chain. Sellers, as intermediaries, must continually find ways to add value to transactions in order to survive. Consumers, with the use of agents, are in a position to reverse the way in which the market place is driven.

You can find a discussion of this activity at the end of the chapter.

Activity 5 - CDs

Explore reasons why the on-line selling of books and CDs remains popular when the texts of books and the contents of CDs could be delivered entirely within the network.

You can find a discussion of this activity at the end of the chapter.

Activity 6 - Electronic Market Place

Find out what kind of sites can support consumer-to-consumer (C to C) activity in the electronic market place.

There are also sites that support consumer-to-business (B to C) activity. Find out what kind of activity this covers, and what kind of sites support it.

You can find a discussion of this activity at the end of the chapter.

Activity 7 - Online Commerce

Use and assess some of the Internet sites intended for on-line commerce. As well as assessing the sites, describe and classify the commercial activities for which they are intended, and consider the provisions they make for payment and for security.

You can find a discussion of this activity at the end of the chapter.

Review Questions

Review Question 1

In this topic, what has migrated to the network, how has it changed to accommodate to its new medium, and what knock-on effects have resulted from these changes?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 2

As an auction market, or anything else, migrates to the network, what is the essential difference between the 'first-level' changes made to accommodate the new medium and the 'second-level' change that result from knock-on effects?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 3

How would you characterise the relationship between a producer and a supplier with hierarchical means of production and with networked production?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 4

How could the situation at each stage of the chain be described with networked production?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 5

What are the chief enablers of the change to networked production, and what are its chief benefits?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 6

With reference to the diagram showing the model of an on-line shop, why are deliveries made 'outside' the network?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 7

In what sense is an on-line shop an intermediary?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 8

As an intermediary, can an on-line shop be by-passed?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 9

How would you launch an agent?

You can find an answer/comment for this review question at the end of the chapter.

Review Question 10

How could the use of agents produce an on-line market place that is consumer-driven?

You can find an answer/comment for this review question at the end of the chapter.

Discussion Topics

1. It looks as if everyone benefits from migrating the market place to the network. Can this be true?

2. It has been claimed that transactions in a networked market place will be 'disintermediated'? What does this mean? Is it likely?
3. Why are 'portals' considered to be so important in the networked economy?
4. What sort of economic models are companies likely to have to adopt to survive in the networked economy?
5. How do on-line companies survive?

Answers and Comments

Activity 1

Producers often insist that their suppliers make use of EDI in all transactions. When a supplier is assured of a close and lasting relationship, the necessary investment and training can be seen as a necessary investment. With networked production, the wider choice of suppliers and the more transient relationships make it harder both to insist on the use of EDI and to justify the necessary investment. Further, EDI was not designed for use on the Web, and does not sit comfortably with it. XML was intended for use with the Web, and is, to some extent, taking over the role of EDI. Its ability to define tags mean that tags can be created and agreed on for such things as the beginning and end of an order, an invoice and so on.

Activity 2

Intermediaries can be by-passed. In addition, once a good idea for an intermediary is implemented, it can be copied and improved on.

Intermediaries have learnt to make their position less precarious by adding value to the transactions in which they are involved. In addition to selling items, they can sell them cheaper, they can give buyers access to their catalogue to locate exactly what they may need, they can offer reviews of items, they can make suggestions such as 'people who buy the item you are buying often buy this one as well', etc.

Activity 3

The conventional wisdom is that the ideal articles are:

- small in volume and weight,
- high in value,
- easy to describe in a compact, thumbnail sketch.

Clearly, items which do sell well on the Web, such as books and CDs, have these properties.

Activity 4

Producers can make use of global reach to maximise the competition between suppliers at each stage of the value-chain. Sellers, as intermediaries, must continually find ways to add value to transactions in order to survive. Consumers, with the use of agents, are in a position to reverse the way in which the market place is driven.

Activity 5

Reasons advanced for this include the following:

- we are still attached to books and CDs and are not yet ready to let go,

- the Internet's origins in the counter culture have left us with a basic unwillingness to pay for content.

There are moves towards network delivery of both text and music, of course. Electronic books that can download text are already with us, and the use of MP3 is having considerable effects on the music industry.

Activity 6

Auction sites such as eBay.com support consumer-to-consumer commerce. An example of consumer-to-business commerce is the bidding by consumers for a perishable good sold by a company. Priceline.com, for instance, supports bidding for airline seats.

Activity 7

These sites illustrate something of the current range and capabilities of e-commerce activity. They illustrate various aspects of design, usability, effectiveness, fulfilment, payment methods and so on.

Review Question 1

A car auction market has migrated to the network; it has changed to accommodate to its new medium by cataloguing electronically the results of inspecting the cars, and this has led to a change in the types of cars that are sold.

Review Question 2

The 'first-level' changes are, by and large, expected, whereas the 'second-level' effects, in general, are not.

Review Question 3

With hierarchical means of production the relationship tends to be close and lasting, whereas with networked production it tends to be more distant and transient.

Review Question 4

In effect, an auction is run between the competing connected suppliers.

Review Question 5

The enablers of change are the improved connectivity between producers and consumers, and the low costs of administration in dealing with these suppliers. The benefits are a wider range of suppliers and improved ability to get the necessary supplies. The latter may mean getting them most cheaply, obtaining them with guarantees of a specified reliability, obtaining them with assurances that they meet a required standard, etc.

Review Question 6

Because tangible items such as books cannot be delivered by the network and must be delivered by conventional means.

Review Question 7

In that it is intermediate between the consumer and the supplier, acting to pass an order from a customer to a supplier.

Review Question 8

Yes. The consumer is connected to the supplier, and in principle, there is no reason why the consumer cannot pass an order directly to a supplier. It may be more convenient to use an intermediary, but it is not essential.

Review Question 9

Go to a Web site that supports agents and allows its users to describe what they should do.

Review Question 10

By allowing consumers to express their needs, regardless of whether the item they want is already available.