

## Chapter 8: Intermediaries

**“Middleman functions between producers and consumers are being eliminated through digital networks. Middle businesses, functions and people need to move up the food chain to create new value, or they face being disintermediated.”**

Don Tapscott, *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*, p. 56, New York, NY: McGraw Hill, 1996.

### Prologue

Don Tapscott goes on to include agents, wholesalers, distributors, retailers, brokers, and even middle managers in his list of people who perform middleman functions. Real estate brokers, travel agents, movie theaters and government bureaucrats are all on his danger list. ‘Disintermediation’ is Theme 6 in Tapscott’s twelve themes of the New Economy.

Larry Downes and Chunka Mui, whom we met in earlier chapters, express similar views, in *Unleashing the Killer App*:

Nearly every distribution activity...includes a range of intermediate players such as wholesalers, financiers, insurers, transporters, and warehousemen. These middlemen reduce transaction costs for functions that are outside the firm...as technology reduces transaction costs in the open market, the role of the middleman is coming under attack...(p. 44)

Later on, however, they note that “in many sectors these intermediaries have proven to be remarkably robust.” They briefly review the points that (1) middlemen add value and (2) they can find new ways of doing so.

What exactly do intermediaries do? This is the fundamental question that we must answer, before we can really understand how e-commerce changes intermediation roles. In fact, intermediaries play a variety of roles, often combined together. They are as much able to take advantage of the changes wrought by e-commerce as are the buyers and sellers that they serve. Brokers, agents, retailers, and middlemen are unlikely to disappear. Just as firms are reinventing themselves, so will intermediaries.

Amazon, eBay, and Yahoo are a testament to the continued value of intermediation. They sell things, provide information and entertainment, help match buyers and sellers, in new ways and in a new arena, but following the same underlying economic principles as their predecessors in providing these services. What are those principles? And what are the services that intermediaries provide?

Read on!

## 8.1 Introduction

If we interpret the term broadly enough, then almost every firm is an intermediary. Firms begin with some inputs, that they typically buy from suppliers, transform somehow, and then sell to someone else. In that case, understanding what intermediaries do is really about understanding what firms do. It is useful to get more specific than that! In Section 8.2, we examine different dimensions of intermediaries: whether they take ownership or not, whether they physically transform something or not, and whether they act as agents in the transaction that they intermediate. In Section 8.3, we step back to look at the fundamental economics of intermediation, which brings us back to some of the ideas we examined in Chapter 5. If intermediaries are specialists, then their existence must be based on economies of specialization, and the associated concept of economies of scale. Economies of scope, on the other hand, place limits on the extent of specialization.

In Section 8.4, we examine intermediation in the context of another concept from Chapter 5, the value chain. This helps to illuminate particular kinds of intermediation, that we associate with outsourcing. Section 8.5 provides a detailed look at the various roles that intermediaries play, focused around facilitating exchange in various ways. We also examine how these roles are combined in practice, driven by economies of scope, considerations of incentive provision, and strategic attempts to capture a greater share of the value created by the intermediated transaction. We examine value capture closely, through a numerical example. Section 8.6 re-examines many of the concepts from the rest of the chapter in the specific case of financial intermediaries of various kinds. Just as financial markets are very sophisticated examples of market organization, financial markets provide a rich set of illustrations of the workings of intermediaries.

Our conclusion, in Section 8.7, is that intermediaries are important and varied enough that they will survive and thrive in the era of e-commerce. Disintermediation will not be a general outcome. Certainly, traditional intermediaries that perform manual tasks, or are part of value chains that move products slowly and relatively inefficiently to final consumers are in danger. However, the roles that intermediation plays are unchanged by e-commerce, and will be carried out in new ways, with automation replacing manual tasks, especially in processing information, and electronic flows of information replacing paper flows.

## 8.2 Types of Intermediaries

The term ‘intermediary’ can cover so many different types of roles that an ideal classification is difficult. If an intermediary is literally a ‘middleman’, coming between a buyer and a seller in a specific transaction, then the term has a relatively narrow scope. An example of such an intermediary is a specialist on the floor of the NYSE (Section 7.7). However, if we view the entire value chain for a product or service, from raw inputs to final consumption, then many types of organizations or individuals can be viewed as intermediaries. Distributors and wholesalers are an obvious example, but retailers, too, are intermediaries, as Don Tapscott and others have pointed out. Even Dell is an intermediary in a broad sense, because it collects hardware and software components from a variety of suppliers, and assembles them into computers that are ready to use.

The example of Dell might suggest that manufacturing should disqualify an entity from intermediary status. However, manufacturing is just one example of creating value. All intermediaries that thrive in a market economy create value. For example, if UPS delivers the ready-to-use Dell computer to the household or firm that has ordered it, then UPS is providing value just as Dell does, though through transportation rather than physical transformation. There is one crucial difference, however, between Dell and UPS, and that provides our first dimension for classifying intermediaries.

**Ownership** When Dell obtains all the components and assembles them into a working computer, it takes ownership. If a firm buys the components and performs the same assembly in-house, there is only one level of market transactions, involving buying and selling. If Dell does the same and then sells the computer, there are two separate levels of market transactions. Dell buys all the components and provides whatever transformations are necessary to have a working computer at your doorstep. This includes the locational transformation as well: the buyer does not make a separate transaction for the delivery. What Dell sells is the computer delivered to the doorstep, including the delivery charge. In that sense, UPS is just another ‘component’ supplier for Dell, albeit one that enters the process late in the overall value chain.

Therefore we can divide intermediaries into those who take ownership, creating two separate market transactions (with various value-creating activities in between), and those who do not, leaving just one market transaction. The specialist on the NYSE floor mostly plays the latter role, matching brokers representing buyers and sellers. Sometimes (about 10% of the time, according to the NYSE), the specialist also buys or sells out of his or her inventory. Thus the specialist has a Dell-type role as well.

The example of the stock exchange specialist illustrates an important point that we will develop further in this chapter. Intermediaries rarely provide just a single service to create value for the parties to a transaction. UPS may be an example of a relatively single-focus intermediary – it just moves documents and parcels around from one location to another. In general, though, intermediaries perform multiple roles in multiple ways.

**Agency** If the intermediary does not take ownership, there is another important possible dimension of difference. To continue with the NYSE example, brokers who bring orders to buy or sell to a specialist are acting on behalf of those who have placed the orders, even though at one remove (the order is placed with the front office, and transmitted to the floor). In other words, the brokers are acting as agents, either for the buyer or the seller. An **agent** in this sense is anyone who is assigned a task on behalf of another. This assignment may be through a specific contract, or it may be through a general rule. Thus you do not have to negotiate a contract with your stockbroker every time you place an order. He or she is supposed to follow general rules laid down by the employer, and by the SEC.

The NYSE specialists, on the other hand, do not typically act as agents of either the buyer or the seller. They play a neutral role in general. Of course there are

exceptions to this statement also: specialists play an agency role for brokers when they execute prior trading instructions for floor brokers. Other examples of agent-brokers are real estate brokers. There are invariably two brokers in a real estate transaction, representing the interests of the buyer and the seller respectively. Again, real estate brokers do not take ownership, but only facilitate market transactions. Automobile brokers, on the other hand, operate singly in the market for cars. In some sense, the car dealer is already the agent of the seller (the manufacturer). Does this make the automobile broker the buyer's agent? This is roughly true, but automobile brokers may act more neutrally than real estate brokers, balancing the interests of buyer and seller.

Ownership and agency are mostly exclusive characteristics of intermediaries, but they may not be totally so. Car dealers, for example, are agents of the car manufacturers, and yet they take ownership of the cars they sell. In reality, there is a great variety of arrangements that are possible, related to the issues we discussed in Chapter 5, in looking at the boundaries of the firm. Franchising (which describes most car dealer arrangements) and taking goods on consignment are two example of such variations.

In any case, we can approximately divide intermediaries into two classes: those who explicitly act on behalf of individual buyers or sellers, and those who play a relatively neutral role in the transaction. Note that the term 'broker' could be reserved for the latter category, but in practice it includes both kinds of intermediaries.

Finally, note that agency can exist without intermediation. If a lawyer draws up a will for you, she is acting as your agent, but not as an intermediary with any third party. If she represents you in court, then she is an agent and an intermediary.

**Transformation** The third dimension of classification that we introduce here is that of transformation of the product or service. As we have seen with the UPS example, transformation may take place without ownership. This applies not just to transportation, but any kind of outsourcing may involve transformation without ownership. To take a non-physical example, an advertising agency can change the image of a product with a successful advertising campaign, but it does not buy the product and resell it.

What kinds of intermediaries do not transform a product or service? What kind of value do they provide? An intermediary that collects and disseminates information does not change the product, but it creates value by improving the quality of the transactions that take place. Matching buyers with sellers, or informing buyers about the quality of products sold, thereby mitigating the lemons problem discussed in Section 7.5, are examples where information adds value to market transactions. Not surprisingly, the Internet has become a fertile field for 'information intermediaries'.

While we have given examples where transformation takes place without ownership, certain kinds of transformations must require it. Where components have to be assembled, or where products have to be manufactured, the nature of the risks and incentives involved favor ownership of the inputs into the transformation. Economies of scale and specialization also favor this solution. The contractor who builds your house

can presumably do a more efficient job of buying the materials for the framing. The subcontractors will buy their own materials. However, you as the homeowner may directly select and buy your light fixtures and appliances, where the contractor's expertise and buying power do not matter, though he or she will still perform the transformation (installing them).

We close this section with a table giving examples of intermediaries differentiated by the dimensions discussed above. Since there are three dimensions with two possibilities for each, we have 2x2x2 or eight different combinations. Note that, since there are variations in what intermediaries do, an intermediary may fall into more than one class, depending on the particular firm and circumstances. Furthermore, some of the categorizations must be approximate. We characterize NASDAQ dealers as not making any transformation, but carrying inventories over time may be considered a transformation in a broad sense. The case of the bank is also interesting, in that a bank does not take ownership of funds deposited with it, but it does have temporary use of them, and packages deposits into loans to businesses and individuals. There are two market transactions, even though there is no transfer of ownership. These examples illustrate the fuzziness of the boundaries in some cases. Also, some of the eight combinations are more 'natural' than others, and one can find many more examples for some of the boxes, and few for others.

**Table 8.1: Types of Intermediaries**

		Ownership			
		Yes		No	
		Transformation			
		Yes	No	Yes	No
Agency	Yes	Car dealer, Distributor	Purchasing agent	Delivery company	Real estate broker
	No	Retailer, Manufacturer	NASDAQ dealer	Bank	Information service, NYSE specialist

### 8.3 Fundamental Economics of Intermediation

Having provided a flavor of the different types of intermediaries, we can step back and try to understand the basic economic principles behind their existence. At this basic level, an intermediary can be understood as a kind of specialist. This implies that economies of specialization are a key explanation for intermediation. This explanation is quite straightforward. As with any other occupation, being a broker, agent or middleman involves fixed costs of getting started, as well as learning by doing. It pays some to specialize in intermediation tasks, just as it pays others to specialize in other kinds of value-creating tasks.

Intermediation activities may also be a byproduct of broader specialization. For example, a lawyer masters a general set of knowledge and skills, which may be used for agency tasks that do not involve third parties explicitly, but which are often used in the context of intermediation (drawing up contracts for corporate transactions, for example).

Specialization is also supported by economies of scale. A real estate broker who knows the neighborhood can use this knowledge to serve multiple prospective house buyers. The same knowledge acquired by a single buyer will provide benefits only to herself or himself. This is related to, but somewhat distinct from fixed costs of getting started, just as static economies of scale are connected to economies of scale over time.

The ‘knowledge of the neighborhood’ example illustrates an important general point. Many kinds of information have the characteristic of being a **shareable good**. This means that many people can simultaneously use the good without reducing others’ benefit from it. This is not true of all information. Knowing a stock price is going to rise soon is less valuable if everyone knows it too (everyone will rush to buy, pushing up the price and destroying the profit opportunity). Knowing about a particular house for sale is also more valuable if other buyers are not informed. In many cases, though, these effects are negligible, and the fixed costs of gathering information can be more efficiently borne by a specialized intermediary who can make the information available to many buyers or sellers.

If economies of specialization and economies of scale provide the fundamental economic reason for intermediation, as a particular class of specialization, economies of scope define the particular character of intermediary roles. The real estate broker uses specialized information to reduce search costs for buyers and sellers, but also to reduce the transaction costs of negotiating a price for the deal and of completing it successfully. Much of this specialized information involves coordinating the activities of other specialized intermediaries: the house inspector, the escrow agency, and perhaps the mortgage lender or mortgage broker. The real estate broker specializes to the extent that she or he knows what tasks need to be performed for a successful transaction, but does not perform all those tasks herself. However, a real estate agent that just found a house for a buyer, but could not draw up a standard sale agreement would be of much less value to the buyer. There are economies of scope in having both these tasks, and the coordination of other transactional steps, performed by a single intermediary.

The traditional operation of economies of specialization, scale and scope is very similar in the case of financial service intermediaries. The value created by intermediaries in all these cases reflects the cost savings versus ‘doing it yourself’. Certainly, some homeowners successfully sell their homes without using an agent or broker. In these cases, the value that would otherwise be captured by the broker is presumably greater than the additional cost borne by the homeowner. One way of looking at the future of intermediation in various contexts is through comparing the changing relative costs of specialization versus ‘do-it-yourself’. The important point to note here is that while the costs of do-it-yourself change thanks to the Internet, so do the costs of specialized intermediation.

Dell provides a useful example here. Dell is well-known for providing direct sales to businesses and households. It has made selling and distribution ‘do-it-yourself’ activities, replacing specialized intermediaries – distributors, value-added resellers and retailers – in the process. At the same time, its efficient customization has tended to replace do-it-yourself at another level. It makes little sense for an individual to buy all the software and hardware components and put together the system at home. Individuals may still do so as a hobby, or for very customized needs, but Dell’s economies have replaced household production by nonspecialists with specialization. Thus Dell has increased specialization in one area, while eliminating it in another.

Economies of specialization, scale and scope are all to some extent ‘technological’ determinants of specialized intermediation. Intermediation may also be more efficient for other reasons, having to do with incentives. An intermediary who participates regularly and frequently in a market, whether as an agent or a neutral broker, has different incentives than a buyer or seller who is an infrequent participant. Thus even if such buyers or sellers have the same knowledge as an intermediary, they do not have the same ability to build and to convey reputation. The incentive to maintain a reputation can make an intermediary an effective market participant, by enabling transactions to take place that would otherwise fail because of asymmetries in information that lead to lack of trust. This is how intermediaries may overcome lemons-type problems. This was the case we considered in the last chapter, in Section 7.6.

Intermediaries may also serve an incentive role in a different way. An intermediary can be provided with an incentive contract that makes him or her behave in a way that might not be possible for the buyer or the seller. For example, commissions for sales people can be structured in a way that makes them very aggressive. The owner of the items being sold typically can not alter its objective function directly to achieve the same effect. Agents may also be useful as negotiating intermediaries simply because their preferences are different. You may hire a tough negotiator when you are ‘soft’ yourself. Even after paying the intermediary, you may be better off.

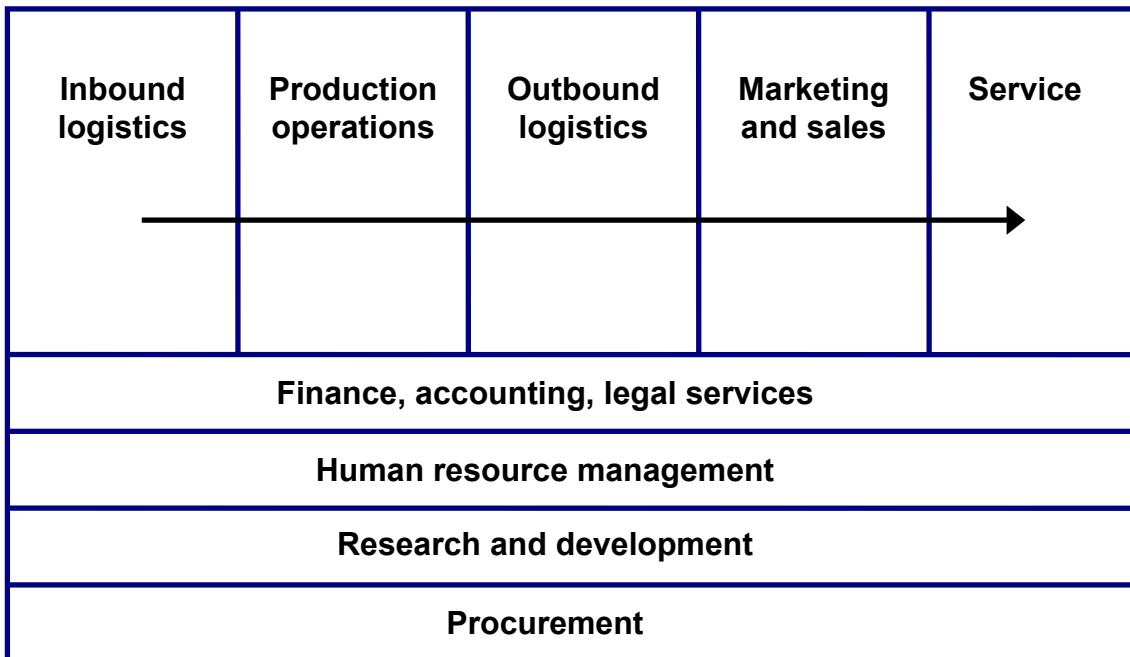
Simple time constraints and **comparative advantage** may lead to the use of intermediaries. For example, a nanny is an intermediary in child raising. Certainly nannies may be specialists who are absolutely more efficient at this task than are the parents. On the other hand, if both parents are high-powered executives with a high opportunity cost of time, hiring a nanny may be efficient even if the nanny is a bit less effective at child rearing than either parent. Of course this assumes that parents are willing to make a tradeoff in terms of quality of child care and income. This may seem somewhat antithetical to traditional beliefs, but does seem to occur. A less controversial example is the boss who is more efficient at secretarial tasks than her secretary. The secretary is still a useful intermediary in typing letters or returning phone calls, because he has a comparative advantage in doing so: the boss’s relative advantage in executive decision-making is higher than in secretarial tasks.

In the last two examples, the nanny is a market intermediary (though an employee in the eyes of the Internal Revenue Service!), while the secretary is typically an employee of the firm. What does intermediation have to do with the boundaries of the firm? In the broadest sense, intermediation as specialization can take place within or outside the boundaries of a firm. Sales people may be employees, or they may be independent agents. As we argued in Chapter 5, where to draw the boundaries of a firm has much to do with the scope of tasks and the provision of incentives. Clearly, where neutrality is valuable, as in the case of providing comparative information on products, an independent intermediary makes more sense than one that is owned by a seller or a group of sellers. In the agency examples, we often think of intermediation as applying only to the case where the agent is outside the boundary of the firm. The question of intermediation is then one of where to draw the firm's boundary, by definition. We take this up further in the next section, which examines value chains in relation to intermediaries.

#### 8.4 Intermediaries and Value Chains

It is instructive to visualize the role of intermediaries in the value chain. Intermediaries such as wholesalers and retailers have their own value chains, which can be visualized as bringing the product closer to the final consumer, while providing related services. We reproduce Figures 5.1 and 5.10 as Figures 8.1 and 8.2.

**Figure 8.1: The Value Chain**



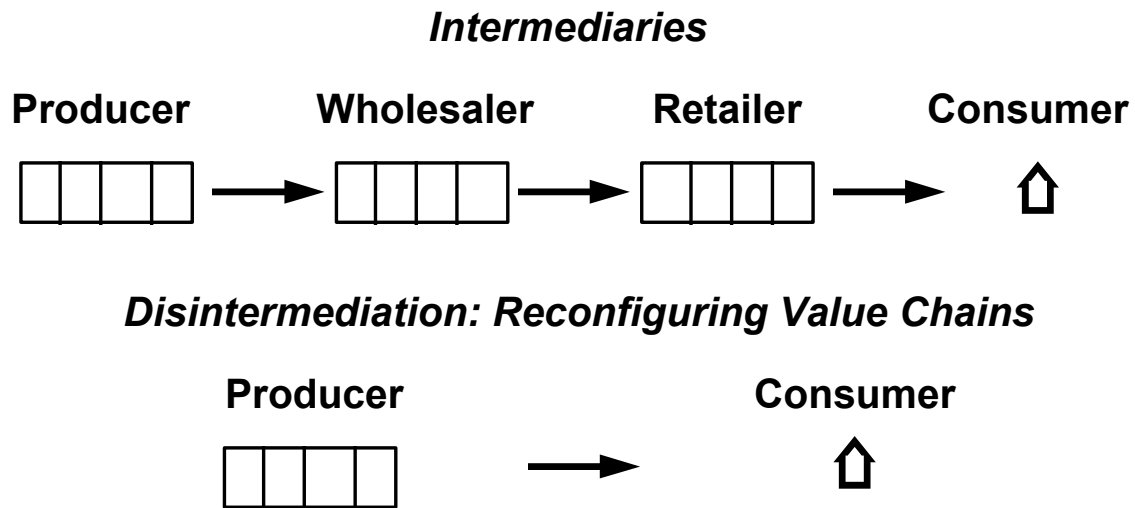
In Figure 8.2, each value chain has stages similar to the detailed value chain in Figure 8.1, but the particulars of operation are different. In the top half of Figure 8.2, the outbound logistics of the producer or manufacturer are geared toward the wholesaler,



who is the next in the value chain. Some service functions are also geared toward the wholesaler. However, others will be aimed at retailers and final customers. The marketing and sales efforts of the producer will similarly be spread across the two intermediaries and the consumer. The outbound logistics of the wholesaler are different from those of the producer, since they are geared toward the retailer. ‘Production’ for the wholesaler is quite different than for the manufacturer: it refers chiefly to the management of inventory, though it may include some packaging operations also.

The shift from the top panel of Figure 8.2 to the bottom panel therefore does not involve simply eliminating the value chains of the wholesaler and retailer, but absorbing their components into the producer’s value chain. Inventory management now becomes more important for the producer, and its nature changes. Shipments out of inventory are not bulk orders, but based on demands of retail customers. Outbound logistics also changes dramatically. Products are sent to households and businesses in individual shipments, rather than to wholesalers in bulk. The bottom panel of Figure 2 is not the only possibility for reconfiguring the value chain. One common outcome has been the absorption of wholesaling by large retailers, so that only a single intermediary layer lies between the producer and the consumer.

**Figure 8.2: Reconfiguring Value Chains**

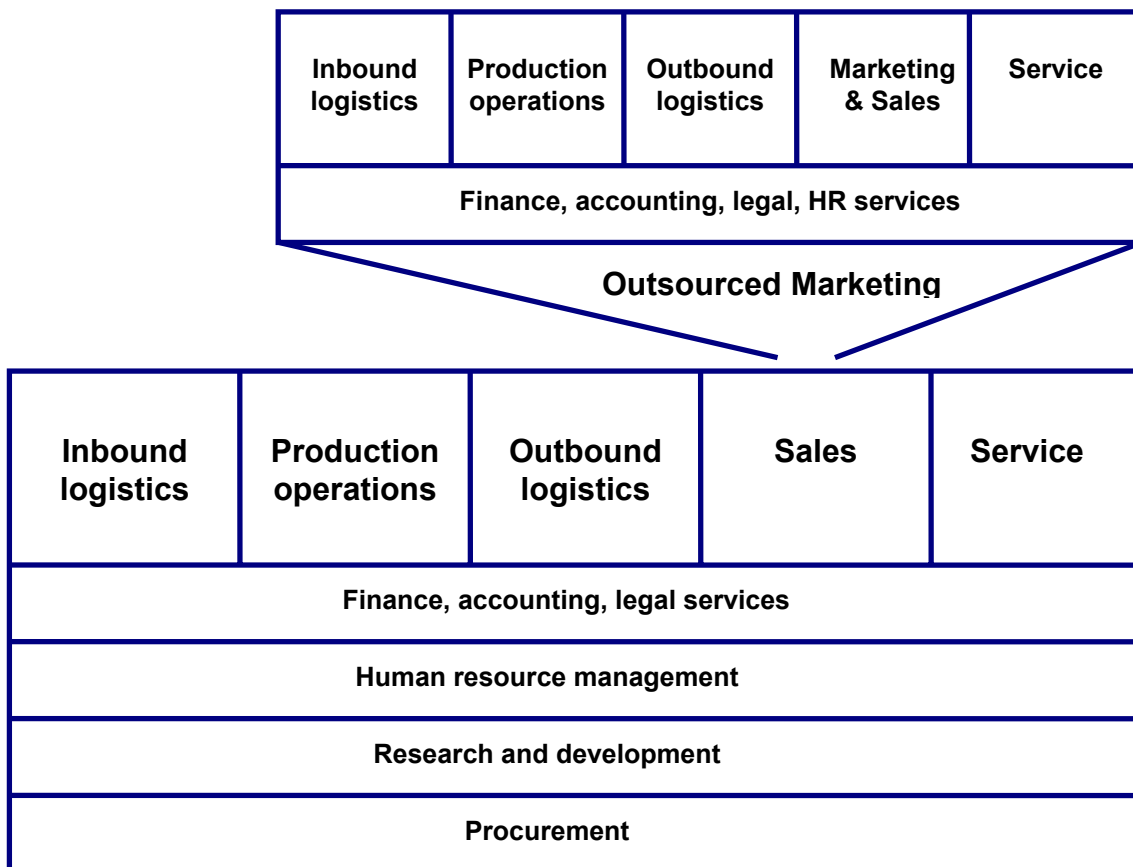


In the example illustrated in Figure 8.2, the value chains involve the storage and movement of physical goods, so that their components are quite similar to the value chain in Figure 8.1, even though the details of activities may be quite different. Other value chain intermediation examples involve pieces of the value chain being ‘spun off’ to other firms. In Figure 8.3, marketing is outsourced to a specialized intermediary. This marketing specialist will now handle its own finance, accounting, and legal needs, and its own human resource management. For this firm, ‘production’ is the creation, and possibly also the implementation, of a marketing campaign for its client. The intermediary has its own versions of inbound and outbound logistics: gathering input from its client, and delivering the final output. It has its own sales force, which drums up

business for it. Many of these tasks exist in the original value chain (Figure 8.1), within the ‘marketing and sales’ box, but they are not called out as they are in Figure 8.3.

One difference in tasks between the in-house and outsourced marketing cases is in the necessity of competing for business. The marketing specialist has to sell its services to anyone it can. The in-house marketing department typically does not do so. Though some corporations may introduce forms of competition within their boundaries, it tends to be limited in effectiveness, because of factors such as the sunk costs of the firm in an existing department.

**Figure 8.3: The Value Chain with a Marketing Specialist**

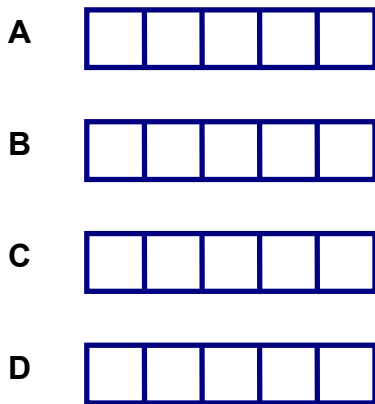


The role of the value chain specialist, whether in marketing or in some other component of the value chain, can be illustrated in terms of its competitive element, as well as in terms of economies of scale and specialization. In Figure 8.4a, we show a situation with four firms (labeled A through D), each of which does everything in-house. As in Figure 8.2, each row of boxes represents the kind of value chain shown in more detail in Figure 8.1.

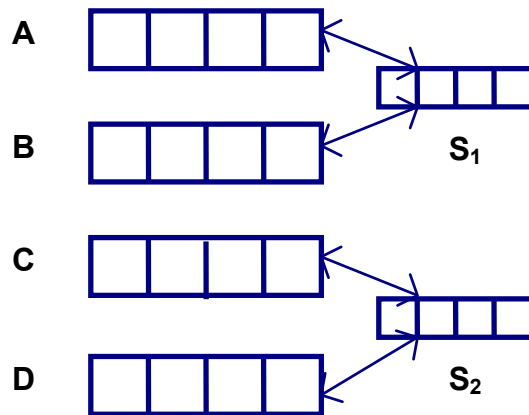
In Figure 8.4b, firms' own value chains are shorter, because there are two marketing (for example) specialists, labeled  $S_1$  and  $S_2$ , each of which serves two of the firms. There is nothing to stop this situation from changing:  $S_1$  may steal Firm C away from  $S_2$ , or may lose Firm B to its rival. The industry structure with the value chain specialist intermediaries allows the intermediaries to gain from economies of specialization and scale, and also gives them stronger incentives to perform than might exist with internal departments. At the same time, the independent intermediaries may lose out on coordination benefits, and in economies of scale and scope in support functions (accounting, legal, HR services) that are available to the internal departments.

Coordination depends partly on incentive structures, which may be hard to mimic across the boundaries of firms, but it also depends on information flows. This is one area where the power of information technology is clearly important. The loss of economies of scale and scope can be mitigated too: the marketing specialists may rely on specialists to provide them with outsourced accounting, legal and HR services. Those outsourcers, in turn, reap the economies of scale and specialization in their areas!

**Figure 8.4a: No Specialists**



**Figure 8.4b: With Specialists**



We close this section with a reminder about the relationship between agency and intermediation. Specialists along the value chain play an agency role. However, as we have noted earlier, all agents need not be intermediaries, in the sense of interacting with third parties on behalf of the firm. Marketing firms, advertising agencies, and outsourced customer service organizations clearly act as intermediaries between firms and their customers. Accounting and financial firms may play purely internal agency roles, such as when they provide basic bookkeeping services, or they may be intermediaries between client firms and financial regulators: independent auditing is a prime example of the latter role. We may, however, stretch the concept of intermediation to include purely internal intermediation. An outsourced human resources (HR) agency clearly intermediates between a firm and prospective employees, but we can also think of it doing the same between the firm and existing employees.

### 8.5 Value Creation and Value Capture

We have examined the relationship of some kinds of intermediaries to the value chain. Now we examine in more detail the roles that intermediaries perform to create value. While, the creation of value in intermediation is chiefly driven by economies of scale and specialization, how these economies manifest themselves will vary according to the functions that the intermediary performs.

We can list the following roles that intermediaries perform in creating value:

- Transforming products (manufacturing, assembling, bundling, packaging)
- Being physically closer to the final buyer than the producer
- Smoothing the market by carrying inventory
- Providing expert actions or information
- Being long-term players with reputations (for quality assurance)
- Economizing on search costs for consumers
- Matching buyers and sellers (in willingness to pay as well as what is bought and sold)
- Economizing on costs of completing and implementing the transaction

These roles will often be combined, or overlap. We can view such combination as a consequence of economies of scope. We will review each of these value creating activities individually, then examine how they are combined in practice. Combination may not only increase the value created, because of economies of scope, but also play a role in the capture of value. In discussing the above list, we also give a brief indication of the impact of e-commerce on these different value-creating roles.

**Transforming Products** All manufacturers are intermediaries in this sense, since they take raw materials or intermediate products and transform them. Physical or chemical transformation can be separated, though, from assembling, packaging and bundling operations. Wholesalers, distributors and retailers may perform some of those operations as well. Transporters and logistics firms achieve transformations of location. We can view image creation through advertising and marketing as transformation as well.

E-commerce has its greatest impact on transformation in the context of digital products. If these can be delivered digitally, over the Internet, then they no longer need to be assembled or packaged in the same way as before. Detailed news can be offered without printing newspapers, for example. Music may not be packaged on CDs. This aspect of the transformation role is not eliminated, but it is changed because of the different form in which the product is delivered. Instead of newspaper pages being composed for physical printing, they must be composed for Web publishing.

Similarly, locational transformation is not achieved by a chain of physical movements, but by sending digital files over the infrastructure of the Internet. Some kinds of intermediaries (conventional wholesalers, distributors, delivery services) are

replaced by new intermediaries (ISPs, Internet portals, Web hosting services, and even Napster) in achieving locational transformation.

Finally, information technology makes customized transformation easier, both through collecting information from potential buyers, and through enabling technologies in the transformation process. For example, Dell can take orders for precisely specified desktop computers over its Web page, from customers anywhere in the world, and these can trigger a range of automatic actions within the firm through its internal information systems. Since digital products are highly customizable, these opportunities are even greater for such products. Makers of digital products can be small and cater to narrower market segments (“market-of-one”).

**Being Closer to the Consumer** Distributors, wholesalers and retailers clearly fit into this role. Large retailers have typically integrated backwards in the value chain to incorporate many distribution and wholesaling functions. As we discussed in Chapter 6, shopkeepers have provided the most common interface for final buyers to make their selections and purchases. For many types of goods, long distance communications and logistics made mail and telephone shopping an attractive alternative. Closeness to the consumer could be getting the mail-order catalog into the household, or providing similar options on the TV (through the Home Shopping Network, or infomercials).

E-commerce simply supplements and accelerates these trends. The idea of commercial Web pages as virtual storefronts, where potential customers can browse and buy, is a straightforward one. The distributor and retailer might be bypassed, as in the case of Dell, or they might be replaced by a different kind of intermediary, as in the case of Amazon.com. Amazon is as much a retail intermediary as is the traditional bookstore without a Web presence. Amazon does not manufacture or customize the books and CDs that it sells. It still needs to have warehouses and inventory for the manufactured products it sells, and its impact on the value chain is therefore less dramatic than that of Dell.

**Smoothing the Market** Intermediaries smooth market fluctuations by carrying inventory. Selling out of inventory allows an intermediary to make up temporary shortfalls in production. Examples of this role include NASDAQ dealers and NYSE specialists (Section 7.7), as well as wholesalers and retailers. In the case of physical products, producers can achieve the same objective by being the ones who carry inventory. The advantage of having an intermediary perform the role instead may be understood in terms of economies of scale and scope in managing inventory, and the intermediary’s closeness to the final customer. In the case of financial assets, there is no producer to provide an alternative, so the role of financial intermediaries is quite important.

E-commerce can reduce the need for inventories and market smoothing if it makes production-to-order easier. There are two components of this process. The first, which is what we would include under e-commerce, is based on communication across different entities. It includes the ability of the buyer to convey wants quickly and

efficiently to the seller, as well as the ability of the seller to convey its derived wants (triggered by the buyer's request) to its own components suppliers. The latter will typically involve some aggregation across customer requests, to avail of economies of scale.

The second component involves communication within the organization, as well as the production process itself, which can be speeded up by the internal use of information technology. This second component is included under the broader category of 'e-business', and includes approaches such as 'just-in-time' manufacturing (which also requires swift and effective communication of customer wants). In the extreme case, for digital products, since reproduction is cheap and quick, inventory can become irrelevant. Thousands of users can download the same digital file: copies for each user do not have to be stored!

**Providing Expertise** Expertise may be provided in the form of specific actions. Here the intermediary is a specialist that acts as an agent, as in the value chain discussion of the previous section. The intermediary is simply an outside source of a particular value chain function.

Expertise may also be in the form of quality or other product characteristic information that is provided to potential buyers. This role can also be viewed as providing a value chain function, since a firm also has to make such information available to potential buyers. The intermediary provides expertise that a single firm can not, by comparing products across different sellers. In this case, the motivation for outsourced provision is not purely expertise. The intermediary's incentives are fundamentally different from those of the firm itself. The intermediary offers neutrality across sellers, and therefore credibility. A firm can not do so itself, since it is inherently non-neutral. Firms may hire 'independent agencies' to provide comparisons, but these are also subject to problems, since the selection process and the publicizing of results are both subject to biased incentives. There is a conflict between agency and neutrality.

Independent mechanics can provide quality expertise for used cars. You would not rely on the seller's mechanic to provide this information. Independent agencies such as Consumer's Union and the Automobile Association are also sources of information based on expertise. These institutions help to mitigate lemons-type problems. In the e-commerce world, gomez.com is an example of a rating agency that provides quality information on different web sites, rather than the individual products themselves. Better Business Bureaus may provide similar information for local businesses. In financial markets, rating agencies exist for household borrowers (e.g., TRW) and corporate and government borrowers (Moody's and Standard & Poor's).

In general, to the extent that e-commerce involves dealing with unknown or new products and sellers, the role of being an information intermediary, in the sense of providing expert information, will increase in importance and scope. Reputation (see below) matters for providers of expertise or expert information, and size matters (economies of scale and scope). The wider reach of electronic markets can spread the

fixed costs of expertise over higher volumes, making expert intermediaries more important (see Illustration Box).

**Illustration Box**  
**AUCNET: An Expert Intermediary**

AUCNET is an online intermediary for second-hand car transactions, that was started in Japan. Used-car dealers who subscribe through a monthly fee may buy and sell cars through AUCNET, which provides images data, and the results of inspections of the cars. These inspections are an important input into the market, since otherwise the quality of used cars is very uncertain (recall the discussion in Section 7.5). While the inspections are just one component of the service that AUCNET provides, they enable the rest of its operation to be successful. AUCNET's wider reach through its online presence lets it spread the costs of inspections over larger numbers of potential buyers.

Source: Lee, Ho Geun: AUCNET: Electronic Intermediary for Used-Car Transactions. In: Klein, Stefan: EM - Electronic Auctions. EM - Electronic Markets, Vol. 7, No. 4, 12/97.  
URL: [http://www.businessmedia.net/netacademy/publications.nsf/all\\_pk/264](http://www.businessmedia.net/netacademy/publications.nsf/all_pk/264) [08/22/2000].

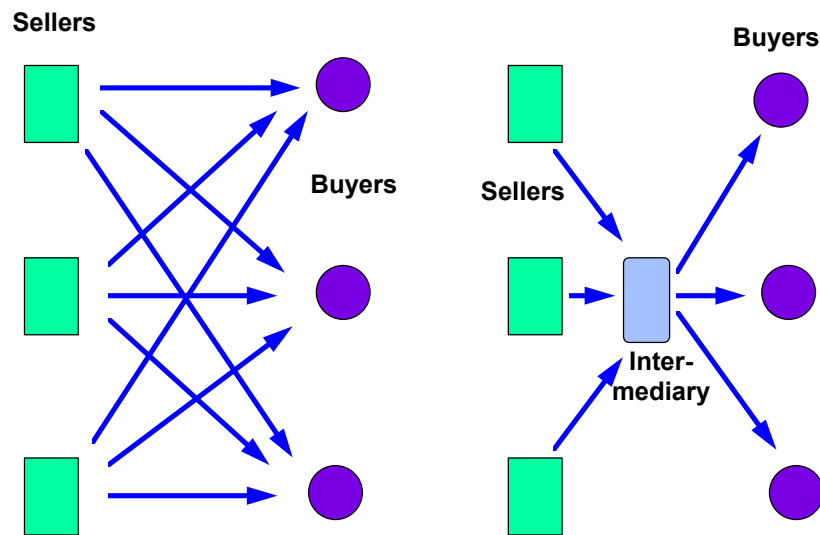
**Providing Reputation** Reputation can substitute for direct information. Brand names carry reputation for consumer goods and services. Firms have an incentive to provide high quality in order to build and to protect their reputations. Manufacturers can build reputation as much as intermediaries further along the value chain. The source of reputation is in the nature of the product or service provided: Sony may have a reputation for innovative, well-built products in the area of consumer electronics, while Circuit City may have a reputation for providing good service and charging low prices in selling consumer electronics. Retailers may piggyback on manufacturer brand names, by carrying those brands in their stores, or they may be able to build their own brands. Reputation and brand management can be quite complex. In fashion clothing, the designer, manufacturer and retailer all have significant roles in maintaining different dimensions of the brand image and value. However, the designer is the owner of the brand and the reputation.

What factors make intermediaries important providers of reputation themselves? Size and scope clearly matter. Amazon's strategy in online retailing can be characterized quite simply as one of building a worldwide consumer brand name and reputation as quickly as possible. It has tried to expand rapidly its scale of operations, and the scope of what it sells. Being a long-term player is also important. Reputation is valuable for future operations, and only a firm that will be in business for a long time has an incentive to maintain its reputation by maintaining quality. We explored this point earlier, in Section 7.6. Reputational considerations can be important in overcoming lemons-type problems. For example, used car dealers that have to keep selling to new customers may be more concerned about reputation loss from selling low-quality cars than are individual sellers who are in the market only once. In B2B transactions, intermediaries with ongoing relationships with multiple suppliers can leverage their ability to terminate the relationship to ensure high quality supplies.

E-commerce involves more rapid information flows, and the swift aggregation of information. Buyers with bad experiences can post messages on electronic bulletin boards or in chat rooms, and reputation can quickly and severely be affected. At the same time, good reputations may also be more easily and widely disseminated. The fixed costs of reputation-building can be spread over global rather than regional or national markets. One can therefore provide a rough generalization that reputation is both more important and more vulnerable as a result of e-commerce. Intermediaries that specialize in building and maintaining reputation may therefore have a more significant role in e-commerce. Much of the strategic motivation of pure online companies is creating new brands: Amazon, AOL, eBay, Yahoo. Of these four examples, Amazon and Yahoo are the purest “brand plays”.

**Economizing on Search** Intermediaries have a role to play in economizing on buyer search, because they have incentives to put information online where sellers might not. So, for example, intermediaries may put price information online where physical sellers would not. Where sellers search, as in B2B transactions, intermediaries may reduce their search costs as well. Intermediaries can also try to facilitate the search process and provide access to information, without actually certifying or evaluating the information. This is what distinguishes this role from the aspects of expertise and reputation provision that also involve information transfer. For example, newspapers may publish classified advertisements that reduce search costs, without taking any responsibility for the validity of the information in the ads. Internet search engines play a basic role in economizing on search. Even if we could write our own computer programs to conduct such searches, it is much more economical for such programs to be written by just a few, and used by many.

Figure 8.5: Network Efficiency





The economy in searching in the newspaper classifieds example comes about by creating a centralized location for information: many different sellers will list in the same place, allowing the buyer to scan columns on a page to gather information. Web sites provide a similar economy. While search engines pull together information from diverse places, online listings can provide a central location that reduces the demands on the physical network that underlies the information network that Internet users experience. Efficient network use through intermediation is illustrated in Figure 8.5. The number of connections is reduced from nine to six.

Clearly, e-commerce represents a greatly expanded potential role for intermediaries in economizing on search, as they can provide price and other comparisons and aggregate information for all kinds of goods and services. The tidal wave of information on the Internet has to be harnessed and piped in a manageable form to consumers.

**Matching Buyers and Sellers** This intermediary role is closely related to economizing on search costs, since the goal of search by buyers and sellers is to achieve a desirable match, one that leads to a valuable transaction. This role is also one where neutrality is traditionally valued. Exchanges and other formal market institutions, such as we discussed in Chapter 7, clearly fulfill this role.

Matching includes more than one dimension. It can involve simply matching buyers who want certain goods with sellers who have those goods to sell. It can also go beyond that, to implementing mechanisms that match particular buyers with particular sellers, depending on their willingness to pay. The NYSE and the NASDAQ, as we saw in Chapter 7, represent different rules for matching at this level.

Information technology (information storage, processing and communication) allows the matching role of intermediaries to expand and be more sophisticated – markets for physical goods (e.g., C2C auctions such as those conducted by eBay, and the numerous B2B exchanges that have mushroomed recently) can be more like markets for financial assets, which have been electronic for many years in their internal workings, though not in the interfaces between individual or ‘retail’ investors and the various financial services specialists in that sector. The Internet has changed this interface as well, as we discuss in the next section and in Chapter 20.

**Economizing on Transaction Costs** We have discussed expertise in the context of carrying out transformations that are components of the value chain, and in providing information that aids buyers and sellers in transacting. Intermediaries also provide expertise in completing transactions. Lawyers draw up contracts. Real estate brokers can do the same for simple standard house transactions. Brokers, lawyers, and other intermediaries may also help in negotiating terms, because they have specialized knowledge. Individual payments and payment clearing are also managed by intermediaries. Economies of scale and specialization often explain why intermediaries may perform these tasks rather than buyers or sellers themselves. A further reason for using intermediaries in the context of completing transactions is the ability to make

strategic commitments by using agents, but this may have a greater impact on value capture rather than value creation.

Automating transactions and replacing paper flows with flows of electronic information illustrates how information technology economizes on transaction costs. The cost of moving pieces of paper from one location to another is higher, and the integration of transaction information into business databases that are now typically in electronic form, is also higher when transactions are in paper form. Financial markets, for example, have moved toward eliminating paper wherever possible, making transactions wholly electronic. The last mile in this case is replacing paper statements and trade confirmations sent to households with electronic equivalents (see Section 3.4 for some of the issues in such cases). The role of intermediaries is not really affected in such cases, only the details of how transactions are conducted.

**Combining Intermediary Roles** The eight roles we have discussed are typically combined: it is rare for only one function to be provided by a particular intermediary. For example, a real estate broker helps economize on search and transaction costs, matches buyers and sellers, and provides reputation by being a long-run player and expertise through economies of specialization. Retailers offer combinations of products, make them conveniently available to consumers, smooth the market with inventories, and build and maintain reputation. They may also provide information that reduces search costs, and some kinds of expertise, but their non-neutral position as the seller makes these roles somewhat more limited. All kinds of intermediaries will find that building reputation is valuable, and this will be combined with other roles. It is particularly the case where the market consists of small one-time sellers who can not build reputation themselves. Intermediaries themselves may combine to enhance reputation: this partly explains the advantage of real estate firms such as Century 21. Such firms provide reputation (as well as some economies of scale in operation) for individual brokers.

There are two sources of efficiency from combining roles in one intermediary. The first is economies of scope. This is straightforward, since by the definition of such economies, the costs of providing two or more services together is less than the cost of providing them separately. Providing various kinds of informational services (price, availability, product characteristics, evaluation, buyer needs) is clearly subject to potential economies of scope, though this can vary. Evaluation of products requires a different kind of information gathering than does information on current prices and availabilities. In this case, the economies may be on the buyer's side. Providing both together is not inherently less costly, but it reduces the buyer's search costs, since all the information can be obtained through one-stop shopping with the information intermediary. More generally, dealing with a single intermediary as much as possible may economize on transaction costs of all kinds for the buyer or seller. Another example of economies of scope arises where reputation is transferred across related activities: being good at providing product information and purchase opportunities in B2C markets might allow an intermediary to credibly provide the service of matching buyers and sellers in C2C auctions (Yahoo or Amazon?).

The second reason for combining intermediary roles is incentive provision. An intermediary who carries out a range of functions can be provided incentives more effectively than if the different roles are split among several people or organizations. If several tasks are complementary, in the sense that they are all required for a successful transaction, then it may be efficient to reward one person to carry all of them out, even if there are no economies of scope in the conventional sense.

Of course economies of scale and specialization will tend to work against this combination of tasks. In such cases, organizations can arise to provide combination at the level of the organization, while permitting specialization at the level of the individuals that make up the organization. This is a general principle that applies to intermediaries as much as to other organizations.

**Value Capture** Combining tasks may also be important for value capture, rather than the creation of value. Combining different roles gives the intermediary more sources of value, but this does not, itself justify combination. If, however, the intermediary's strategic position is thereby improved, it may be beneficial to expand the firm's scope. We examined some aspects of firm strategy, such as spending on cost-reducing innovation, in Section 5.7. Providing a range of services may make it more difficult for a competitor to enter the market, and allow greater value capture.

The essence of value capture is really in the ability to limit competition. As we saw in Section 4.5, entry will drive economic profits down to zero, unless a firm has some special assets on which it can continue to earn economic rents. Intermediaries can particularly well-positioned to take advantage of limited competition if they are monopolists in between competitive buyers and sellers. This is akin to being a toll-taker on the only road that goes over a mountain range. In Figure 8.4b, we illustrated a situation where two marketing firms competed for clients. If there were a single such marketing firm, and many small clients that could not handle such tasks at all, the marketing firm would be in a position to price its services high enough to extract the lion's share of the value that it creates.

In other cases, intermediaries may provide services that are easy to imitate, in which case the intermediaries may make zero economic profits, and the value they create is captured by buyers or sellers, whoever, is in a stronger competitive position. In a broad sense, the issues here are no different than those in the case of a buyer and seller negotiating without an intermediary, as we discussed in different contexts in Sections 5.4 and 6.2. As an illustration of value creation and value capture, with an intermediary, we consider the case of a single buyer, seller and intermediary.<sup>1</sup>

Suppose that the buyer's maximum willingness to pay for a special industrial machine is  $\$V$ , while the seller's opportunity cost is  $\$C$ .  $\$V$  may be the extra profit that the buyer can generate using the machine, while  $\$C$  may be the profit that the machine could generate if used by the seller. Suppose that the transaction costs of the buyer and

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<sup>1</sup> This example is adapted from *The Market Makers*, by Daniel Spulber, p. 150, New York: McGraw Hill, 1998.

seller directly finding each other and negotiating and completing a deal are  $\$S$  for the buyer and  $\$T$  for the seller. The surplus created by the transaction in this case is  $\$(V - C - S - T)$ . We assume that this amount is positive. We might think of this surplus as being shared equally, in which case the seller gets a gross amount of  $\$(C + T) + \frac{1}{2}\$(V - C - S - T)$ . This simplifies to  $\frac{1}{2}\$(V + C - S + T)$ , and this is the price,  $\$P$ , received by the seller from the buyer (they pay their own transaction costs). For example, if  $V = 100$ ,  $C = 50$ ,  $S = 10$  and  $T = 20$ , then  $P = 80$ , and buyer and seller each have a net gain of 10.

Now suppose that an intermediary can complete the transaction at a lower cost. For simplicity, let us assume that it is costless for the intermediary to arrange and close the deal. In this case, the surplus rises to  $\$(V - C)$ , or  $\$50$  in the example, versus a surplus of  $\$20$  earlier. Thus the intermediary creates an additional  $\$30$  of value. If the buyer, seller and intermediary split this value added equally, then the buyer and seller each receives a net surplus of  $\$20$  ( $\$10$  if they trade directly, plus one-third of the  $\$30$  value added by the intermediary). The seller receives a price of  $\$70$ , and the buyer pays  $\$80$ . The spread between the two is the intermediary's profit.

If the intermediary provided a unique service, whereas many buyers and sellers competed for its services, the intermediary might capture as much as the entire value created by its operations, or  $\$(S + T)$  in the example. This would then be the spread that it charged, buying from the seller at  $\$50$  and reselling it at  $\$80$ . On the other hand, if many intermediaries competed to provide this service, their spread might be driven down to zero (their cost of providing the service).

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**Concept Check:**

Consider the numerical example above, where the buyer, seller and intermediary split the value added equally. What would happen if the intermediary's own cost of operation were  $\$6$  instead of zero? What would be the price paid by the intermediary, and the price it receives? Still maintaining the assumption of equal division, assume that the intermediary's cost is  $\$K$ . What are the general expressions for the prices paid and the intermediary's spread?

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The bargaining might proceed differently. Suppose that the intermediary first paid  $\$70$  to the seller, and then negotiated with the buyer. In this case, the alternative of dealing directly with the seller would no longer be available to the buyer. Its option is to not complete the deal, or to buy from the intermediary, which now generates a surplus of  $\$30$ . If this is split equally, then the intermediary charges  $\$85$ , rather than  $\$80$  as in the previous case. The capture of value can depend not only on the competitive situation, but also on the details of how the institutions that govern transactions are organized. We will explore these ideas some more in looking at financial intermediaries, in the following section.

## 8.6 Financial Intermediaries

Business-to-business electronic transactions have been common for decades in finance. This includes transactions involving financial assets, as well as financial flows associated with the purchase and sale of non-financial goods and services. Credit card

terminals and ATM machines have linked consumers into this web of financial flows, which uses specialized, dedicated networks. The development of the Internet continues the process of expanding the reach of electronic transactions to business-to-consumer interactions.

Most of all, the Internet provides access to information. Financial information is now plentiful and cheap (or even free) as never before. To the extent that financial intermediaries have created and captured value by collecting and providing basic information, they will have to modify their focus and find new ways of providing value to customers. The Internet may also reduce barriers to entry in other aspects of financial intermediation. We will discuss this briefly in here, and in more detail in Chapter 20.

Financial intermediaries perform all the roles of intermediaries in general, but often with differences dictated by the particular nature of the products and service provided. For example, transformation of financial assets is a complex business, since they can be defined and combined in an incredible variety of ways. We examine intermediary roles in the order we discussed them in the last section, beginning with transformation roles.

Transformation of financial assets involves modifying their risk-return characteristics. These characteristics need not be static, but can depend on time and on the characteristics of other assets as well, making the possibilities very rich and complex. We shall stick to simple illustrations. One important form of transformation is pooling various assets and dividing up the pool into shares. These shares average the returns of the component assets, but may have substantially less volatile returns, reducing the overall risk. This is attractive to anyone who is averse to risk. Mutual funds perform this function with stocks and bonds. Real estate investment trusts and mortgage-backed bonds achieve the same effects for individual real estate loans.

Why can't individuals do it themselves (as in Ernesto's example of Section 4.3)? Essentially, the mutual fund is able to take advantage of economies of scale that are not available to individual investors (unless you are in the Bill Gates category). Broadly diversifying a portfolio is more economically done at a scale much larger than that at which the average individual investor operates. If the individual saves for retirement through a pension fund, it does not buy mutual fund shares, since it has the scale to perform the same role itself.

Retail banks perform a different kind of transformation, turning individual deposits into loans. Again, an individual making a loan directly would have to provide a large amount for a long time. The bank transforms small, liquid deposits into larger, less liquid loans. Numerous other kinds of transformations are possible. An important category that is most complex is the creation of options, which are conditional contracts to buy or sell stocks or other financial assets. They are therefore financial assets as well, and their returns depend on what happens to the underlying stock. Such complexities give this branch of financial intermediation the colloquial name 'rocket science'! The Internet and World Wide Web may have a mild effect here, since they make analytical

tools more freely available, and they reduce the transactions costs of building diversified portfolios. However, intermediaries are likely to continue to flourish in this role.

Retail banks and brokerages have been the prime example of financial intermediaries that move the product or service physically closer to the final customer. The telephone and fax had already changed many of these functions, since many transactions can be conducted or instructions given over the telephone. Since financial assets are ultimately records of claims to future returns, they are digital rather than physical goods (except in the case of notes and coins, and, partially, paper checks). Thus physical closeness is much less compelling as an intermediary role in finance than in the case of groceries or furniture.

Smoothing the market by carrying inventory is important in the trading of financial assets, and NASDAQ dealers and NYSE specialists both play this role to varying degrees. Other financial markets, such as options and futures markets, have similar specialized intermediaries to perform this task. Being able to meet sell orders when prices are already falling, in particular, may be important to avoid precipitous price drops. This aspect of the inventory role of financial intermediaries helps maintain 'liquidity', the ability of investors to make trades when they wish to. This is somewhat different from the role of inventory in retail markets for physical goods.

Expertise is perhaps the ultimate source of value creation by financial intermediaries. Financial markets are complex, fast-moving, and critical for the real economy of physical goods and services. Knowing what you are doing is worth a tremendous amount. In principle, brokers, traders, bankers and other specialists in financial intermediation have provided the required expertise. In practice, the bundling of this role with other sources of value creation, and with gatekeeper roles that captured value more than creating it, diminished the relative importance of expertise. When basic information on financial assets and access to trading them are both freely available, the stock broker or other financial intermediary has to offer expertise that is unbundled from those other offerings. This is what is happening in day-to-day retail finance. In transactions such as corporate mergers and acquisitions, IPOs, and other cases where the scale is large and where the costs of a misstep are high, expertise remains bundled with other roles.

Financial intermediaries of all kinds will continue to provide the role of being long-term players with reputations to maintain. Retail stock brokers have tried to combine expertise and reputation to shift from being commissioned executors of trades to being asset managers. Even this intermediary role is threatened by the availability of financial analysis and decision-making tools on the Internet. Again, corporate financial transactions are less susceptible to 'do-it-yourself disintermediation'. In the US, the top five investment bankers still handle three-quarters of IPOs, collecting fees as much as 7% of the amount raised. Their reputations clearly help them continue to capture so much value.

Financial intermediaries that economize on search costs for investors include providers of data, analysis, and forecasts. These include financial information specialists such as Reuters, Bloomberg, and Bridge, research providers such as DRI-McGraw Hill, Forrester, and the Gartner Group, and general financial news providers, including newspapers, newsletters, and TV programs and networks. All of these different information providers have established an online presence, often using basic information as a free sample for more specialized offerings. News organizations tend to rely on advertising for revenue, since their information is not susceptible to being charged for.

Matching buyers and sellers has been the major role of financial exchanges, as we discussed in Section 7.7. The linking of electronic exchanges, and broader access to them, further increase the existing efficiencies of matching in financial markets. As we saw with the numerical example in the previous section, how matching is carried out may affect how the value created in the match is divided up. In that example, the intermediary that first bought the asset (which can now be thought of as a financial asset), and bargained sequentially, was able to get a higher surplus than the pure broker. This illustrates one possible difference between value capture by NASDAQ dealers versus NYSE specialists. It is possible that competition among exchanges and electronic networks will reduce the capture of value by financial intermediaries based on matching alone.

Finally, economizing on costs of completing and implementing transactions becomes a less important part of financial intermediation for routine transactions, as these are digitized and made fully electronic. The intermediary who designs and maintains the required software and hardware may take on importance, but filling in the right pieces of paper becomes irrelevant when financial transactions are electronic. It is not surprising that dollar commissions for retail trading of stocks have fallen to single digits (from ten times that level or more) with fully electronic Internet trading. Payment service intermediaries, such as deposit banks, payment clearing houses, and credit card services, which have long been electronic, will continue to enjoy the rewards that come with economies of scale and network economies (the value of the service is higher the more people use it). These factors can tend to limit competition, and preserve the capture of value, even for routine, automated tasks.

The nature of financial assets makes different roles relatively more important for financial intermediaries than for those operating in markets for physical goods and services. Financial markets operate at a pace, intensity and scale that makes efficient functioning absolutely vital. The Internet makes access to basic information and basic transactional services low cost or even free. The role of financial intermediaries is therefore concentrating on other ways of providing value. Even in roles such as matching buyers and sellers, value capture by financial intermediaries is eroding in favor of buyers and sellers. More complex, large scale activities that require expertise and reputation will be somewhat more resistant to these pressures.

## **8.7 Conclusion**

Ultimately, Don Tapscott and the ‘*Killer App*’ authors are right. Some intermediary roles are being threatened by technological change more broadly, and the Internet in particular. However, understanding what precisely will be the changes wrought requires a more detailed look at what intermediaries do. We have done so in this chapter. It is particularly important to realize that, in traditional commerce, intermediaries play multiple roles. Even if some roles no longer provide much scope for value creation or capture, others may become more important, and form the basis for an intermediary to survive and thrive. Some roles are enhanced by being digital and being connected, others are diminished. This does not necessarily mean moving ‘up the food chain’, but it does require rethinking one’s presence in the value chain.

While there is no simple general prediction of disintermediation or destruction of value chains as a result of electronic commerce, reconfiguring value chains will take place. Dell does not need distributors and retailers, but it does need UPS to complete its value chain. Its value chain is reconfigured, not destroyed.

Of course this is not the end of the story. The Internet and e-commerce create entirely new kinds of intermediaries: ISPs, email service providers, web hosting services, software application service providers, and all kinds of consultants and system integrators provide intermediary services for the new economy. Even where middleware replaces middlemen by automating their tasks, specialist intermediaries will keep finding ways to provide value. Ultimately, the question of value capture will depend on the barriers to entry that may or may not develop in these new situations.

## Summary

- Intermediaries play a great variety of roles in different markets across the economy.
- Intermediaries can be classified according to whether or not they provide some physical transformation of a good, whether or not they take ownership, and whether they act as agents on one or other side of the market, or as neutral brokers.
- Intermediation is fundamentally a kind of specialization, and is driven by economies of specialization and scale. Economies of scope limit the degree of specialization.
- Intermediaries can often be viewed as specialists along the value chain. This view of intermediation is as a special case of outsourcing.
- Intermediaries transform products, bring them closer to buyers, smooth market fluctuations, provide expertise, and provide reputation as long-run players. They also economize on search costs, match buyers and sellers, and economize on the costs of completing and implementing transactions.
- Particular combinations of intermediary roles are determined by economies of scope, efficiencies in incentive provision, and value capture motives.
- Value capture will depend on the overall degree of competition in intermediation, and the structure of the transactions in which the intermediary has a role.



- Financial intermediation is extremely widespread and important, due to the characteristics of financial markets. Technological change is making expertise, reputation, and sophisticated transformations the most important aspects of financial intermediation.

### **Questions**

1. Give three different examples of ‘old economy’ intermediary firms, and explain what roles they perform. Do any of these roles change as a result of e-commerce? How?
2. Give three historical or recent examples of how intermediaries have either been eliminated or replaced by technological change. (What happened to the Pony Express?)
3. What factors might enable ‘new’ intermediaries to capture more value than the ‘old’ ones they replace? When might innovation also lead to an erosion of the value captured by intermediaries? Try to answer by using examples.