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Online delivered content: concept and business potential

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Introduction

Electronically traded online delivered content (ODC) is data, information and knowledge traded on the Internet or through other online means. ODC includes online newspapers, magazines, music, education, searchable databases, consulting and, eventually, expertise and ideas.

When trading ODC, the full commercial cycle – offer, negotiation, order, delivery, payment – can be conducted via a network such as the Internet. In addition to the issues inherent in trading physical goods on the Web, trading ODC on the Internet raises concerns such as version control, authentication of the product, control over intellectual property rights (IPR) and the development of profitable intra- and inter-organizational business models.

This chapter outlines the growing importance and possible business role for ODC. It attempts to position electronic trading in ODC within the wider field of electronic commerce. It identifies the distinctive characteristics of ODC compared with other forms of trading content and compares with electronic trading in physical goods. Important ODC similarities are identified and analysed. Based on two case studies of medium-sized specialized publishers the benefits and problems of getting into the business of electronic trading in ODC are discussed.
Online delivered content – the core of the Intangible Economy

A major characteristic of the Internet Economy (also commonly referred to as the Digital Economy or Information Society) is its shift to the intangible. The creation and manipulation of dematerialized content becomes a major source of economic value (Wang et al., 1998). This move to the intangible affects all sectors and activities. It profoundly transforms economic relationships and interactions, the way firms and markets are organized and in which transactions are carried out. However, the intangible economy is not limited to the Internet. Analogue technologies such as radio and television are also to be considered integral parts – these are used to an increasing degree and further media integration is foreseeable for the near future.

To some extent the intangible economy runs squarely against the conventional logic of economics. Intangible goods are not limited by physical constraints and are not limited to traditional economic characteristics, such as ‘durable’, ‘lumpy’, ‘unique’, and ‘scarce’. Instead, intangible goods can simultaneously be ‘durable and ephemeral, lumpy and infinitely divisible, unique and ubiquitous, scarce and abundant’ (Goldfinger, 1998). The business of purely intangible goods is radically different from conventional electronic commerce areas, which focus on trading or preparing to trade physical goods or hybrids between physical and intangible goods. Trading intangible goods demands new business models and processes.

Classical economic theory does not usually address the issue of information, content, or knowledge as a tradable good. The value of information is traditionally seen as derived exclusively from reducing uncertainty. In the Internet economy however, information/content is simultaneously a production asset and a good.

From a suppliers’ perspective, the growing importance of intangible assets and the resulting complexity can be seen in the huge differences between book value and stock market value. These differences can partly be explained by the crucial role attributed to brands, content, publishing rights and intellectual capital, which may emerge via, be embedded in, or be stimulated by, ODC. The implied problem of pricing the value of information/content has so far received most attention in the context of managerial accounting when discussing the issues of (a) consistent value measuring; and (b) the negligibility of costs for acquiring and creating intangible assets. In the rest of the chapter the concept of intangible assets will not be further pursued. However, suppliers’ perspectives allow helpful insights into accounting and measuring aspects of intangible goods, and thus can well contribute to developing business models for electronically trading intangible goods and especially ODC.
The following focuses on intangible goods in general and ODC as one of its core representatives. Their inherent logic of dematerialization is outlined in the context of ODC peculiarities.

Online delivered content – a special kind of intangible good

ODC is a particular kind of intangible good. In the literature, the term 'intangibility' refers to two rather different concepts. Levitt (1981) suggests that the terms 'goods' and 'services' be replaced by 'tangibles' and 'intangibles', and hence observes that, in their production and delivery mode, intangible products are highly people-intensive. This does not really match with a more recent interpretation of 'intangibility' aiming at non-material goods (but not services), often expressible in bits and bytes (Meinkoehn, 1998). While today most products contain intangible aspects, such as know-how or brand recognition, this chapter considers ODC to be a counterexample of 'all products have elements of tangibility and intangibility' (Levitt, 1981: 101). ODC – by definition – has no tangible components.

Consequently, electronic infrastructure requirements for electronic trading (including delivery) in ODC are significantly higher than for electronic trading of tangible goods not delivered via the infrastructure (usually the Web). However, taking into account that no physical infrastructure is needed, the total infrastructure requirements for trading in ODC are comparatively low (and independent of the distance to be bridged).

Online delivered content – a special kind of experience good

Another common approach for clustering products is grouping them into 'search goods' and 'experience goods' (Peterson et al., 1997). The quality of search goods can be determined without actually using them. With experience goods' quality is learned from experiencing the product, i.e., from using the good. Most forms of ODC belong to the group of experience goods – the quality of content is only learned from using/consuming it. However, treating ODC as an experience good (i.e., letting potential clients 'experience' ODC) implies giving the actual content away for free (i.e., not trading it) and, in all likelihood, counting on receiving revenue via some synergy mechanisms. Unfortunately, once a potential customer has experienced ODC, he has no more reason to buy it. Suppliers of ODC try to solve this dilemma by shifting ODC as much as possible into the category of search goods. Possible steps for this are establishing strong brand reputation for Web sites, publishers and so on, or offering abstracts, sample chapters or reviews as triggers to buy the whole product.
Towards a framework of online delivered content

The above definition of ODC is derived from investigating the range of instances covered by Choi et al.'s (1997) description of the 'core of electronic commerce', also termed 'fully digital business'. They differentiate three dimensions: 'products', 'agents' (or players), and 'processes', which all are divided into 'physical' and 'digital'. This is shown in Figure 2.1.

The distinction between physical and digital products appears self-evident. According to Choi et al. 'anything that one can send and receive over the Internet has the potential to be a digital product' (1997: 62). Similarly, Agents (or players) are 'sellers, buyers, intermediaries and other third parties such as governments and consumer advocacy groups' (1997: 17). Physical players show up in person, digital players communicate via an electronic interface. For instance, electronic shoppers are considered to be digital players. The distinction between physical and digital processes depicted on the third axes seems to be as easy as the product dimension: 'visiting a store is a physical process, whereas searching on the Web is a digital process' (1997: 17).

Regarding the product dimension, Choi et al.'s list of examples ranges from information in general, letters, postcards, credit card information, airline or concert tickets, to 'hybrid digital products' such as smart appliances. A good example for the latter is an intelligent alarm system.

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**Figure 2.1**
The core of electronic commerce (Choi et al., 1997)
A more unusual, futuristic example is an intelligent toothbrush – this could take a sample of one's saliva, analyse selected aspects, transfer data to a connected server and start blinking in case of any unwanted bacteria.

In this context, the term 'digital' is clear. However, the term 'product' needs further clarification. As illustrated below, only some of the products falling under Choi et al.'s definition of digital products are also ODC.

To achieve this additional clarification of ODC, the introduction of a new dimension referring to the value of the digital product is suggested. It distinguishes 'bundled' or 'supported' versus 'unbundled' or 'stand-alone' digital products.

Traditionally, intangible goods were always bundled with some physical means. For centuries, content and physical medium were tightly linked, with the stronger value component being on the content side. Hence, the overall products were unique or reproducible only on a comparatively small scale (e.g., a theatre performance required a stage).

Later, storage and replication technologies have loosened the link between content and physical medium. As a result, goods with identical content appear in different forms and packages. For instance, certain songs appear on many different tapes and CD-ROMs; news items can be printed in newspapers and magazines, shown on television, presented on a radio network or be distributed via an online network such as the Internet. Thus, the importance of bundling content to a specific medium has decreased significantly with the emergence of the Internet.

The term 'ODC', as defined and applied here, is limited to 'unbundled', 'stand-alone' products consisting just of content/information.

Hence, the term ODC implies that only the content is the object of a transaction, no physical product is shifted among suppliers, customers or other players.

The distinction between physical and digital players is more problematic. Even if players use a software-based agent, they are still a physical, legal entity (person, company or institution). Online shoppers are also to be viewed as physical shoppers, just not located inside the store.

Following Choi et al.'s concept there cannot be any combination of a physical player executing a digital process; the example of the online shopper shows that running a digital process also makes the player digital. Since this still implies physical players (who may be supported by a software/digital agent), this dimension will be omitted when clarifying the term ODC.

Concerning 'processes', this author concurs with Choi et al.'s differentiation of physical and digital processes. In the following, the focus is only on those 'digital' processes that are part of a complete 'digital' cycle executed – or at least executable – over the electronic infrastructure. Offline processes refer to those cases in which certain 'sub'-processes (e.g., product selection, production, market research, searches, ordering, payment, delivery or consumption) are not executed via the infrastructure.

Thus, the dimensions underpinning the proposed definition of ODC are as follows (see Figure 2.2). The 'product dimension' taken from Choi
et al. is retained. A distinction between 'bundled and unbundled value' of the product traded is added. The 'agent/player dimension' is dropped, as it has no relevance to digital players. Finally the 'process dimension' is kept, stressing that digital processes are those in which all sub-processes are executed online. Strictly speaking, the idea of unbundled value is implied in 'online processes' if the complete trading cycle also comprises product/value delivery. From a practical point of view, however, it is useful to stress the concept of unbundled product value separately. The following three examples further illustrate the ODC concept.

A first example is music. ODC refers to music that can be downloaded from the Web. Afterwards, if desired, it can be stored on a CD-ROM. ODC does not include the ordering of a CD-ROM to be delivered to one's home, since ODC - by definition - refers only to the content and excludes the need for any physical medium.

A second example is databases offered by online bookstores and various kinds of content offered on Web pages maintained by television stations. The information/content contained in those Web sites is a form of ODC, even if it is not usually traded separately (Loebbecke et al., 1998). Possibilities for commercializing such content could be 'pay per view', 'pay per page', or 'pay per time' concepts. By trying to sell such content (instead of offering it for free and counting on positive impact on other product lines such as books or TV programmes) suppliers would rely on the actual value that potential customers associate with it (regarding pricing issues and limits of cross-subsidizing - see the next section).

The third example to be mentioned - tickets to planes, trains or concerts - is actually a counterexample. It clearly shows the difference between
Digital products as analysed by Choi et al. (1997) and ODC as introduced above. Choi et al. suggest 'digital products are not limited to information or "infotainment" products. All paper-based products, such as posters, calendars, and all sorts of tickets ... can be converted into or replaced by digital counterparts' (1997: 20). Certainly, one can imagine ordering and receiving tickets for trains, planes or concerts online. In the near future, technology will allow individuals to print tickets (administered wherever) just as travel agencies or event agencies do today. However, for consumers this is not the full delivery cycle. Consumers do not pay for the piece of paper called a ticket, but for 'being moved' from A to B or for attending a concert/stage performance. Those services of 'being moved' or 'concert performance' are the actual values bought, and these will never be delivered via any technical infrastructure (at least not within the limits of current imagination). Therefore, a ticket, even if bought and - with regard to the specific piece of paper - delivered over the Web does not represent unbundled, stand-alone value of content. It does not belong to ODC as understood in this chapter (For reasons of simplicity, this illustration leaves out the possibility of reselling a ticket and thus giving it a monetary function.)

Online delivered content – characteristics and classification

In general, ODC is characterized by three fundamental attributes (Choi et al., 1997; Goldfinger, 1997):

1. **Indestructibility**. The same ODC can be consumed repetitively either by the same consumer or by a different one. Consumption by one person does not reduce anyone else's consumption.
2. **Transmutability.** ODC is easy to modify, thus leading to enormous product differentiation and customization.
3. **Reproducibility.** Fast and cheap reproducibility raises—among other aspects—issues of copyright protection and economies of scale.

As a consequence of these characteristics, exclusivity of ODC may be difficult to durably maintain. Sharing may be simultaneous or sequential and affects the allocation of property rights. While sellers of physical goods lose their property right, a seller of ODC may continue to hold it. Even 'illegally sharing' ODC often causes positive network externalities; which may even exceed the cost of sharing if caught. Once ODC has positive network externalities, control over reproduction and sharing is the primary objective of copyright protection.

Related to the issue of externalities is the issue of value generation. Often there is no direct link between a transaction and the generation of
value. Furthermore, ODC value can hardly be measured solely in monetary terms. For instance, the appreciation of free television broadcasts could be measured in terms of viewing time and numbers, whilst appreciation of academic papers (increasingly provided as ODC) may be measured in terms of the number of citations. Indirect value creation and the related problem of ODC value measurement lead to the problem of adequately pricing ODC (discussed later in this chapter).

A next step is to classify ODC products, i.e., to look at different criteria for further distinguishing homogeneous kinds of products within the still rather broad category of ODC. Five dimensions for classifying general digital products are outlined by Choi et al. (1997): 'transfer mode', 'timeliness', 'intensity in use', 'operational usage' and 'externalities'. These are analysed below for their relevance to ODC.

Transfer mode: delivered versus interactive products

ODC is, by definition, delivered. However, the differentiation between delivered and interactive transfer mode is becoming increasingly difficult. Notwithstanding, as long as content consumption is initiated based on a 'pull-approach', this implies a certain degree of interactivity. Therefore, this chapter prefers to distinguish between ODC based on push- and on pull-approaches. Further, those ODC products delivered via a pull-approach can be further differentiated based on the degree of customization resulting from interactive communication. Clearly, these two dimensions are highly interdependent: push-based delivery excludes strong customization based on interactive communication; pull-based delivery allows for all degrees of customization.

Timeliness: time dependence versus time-independence

ODC may be very time-dependent (e.g., stock market information), rather time-independent (e.g., dictionary information), or somewhere in the middle, e.g., street maps for drivers, hotel information and phone numbers. The criterion of 'timeliness' will be important for identifying homogeneous packages of ODC to be traded based on consistent business models.

Intensity in use: single-use versus multiple-use products

Similar to the previous criterion, 'intensity in use' is an important aspect for further classifying ODC. There is a significant overlap between 'timeliness' and 'intensity in use' – only rather time-independent ODC will be used more frequently, i.e., more intensively. However, the two criteria have different implications for trading.
Operational usage: executable program versus fixed document

Fixed documents delivered electronically are ODC. Executable programs are only counted as ODC if their focus is on the content execution provides. It may well be that a certain form of delivering content includes executable components. For instance, whenever users can determine the search function, the content includes some operational features in addition to the content in the narrow sense of the word.

Externalities: positive versus negative

Externalities refer to economic consequences that are not fully accounted for by the price or market system. Different kinds of externalities are a valid criterion for further classifying ODC. For example, positive network externalities imply that the value of the product increases the more people use it (e.g., academic papers, awareness-raising content about medical innovations). Negative externalities occur when the use of ODC is a zero-sum game. This means that whenever someone gains (from consuming ODC), someone else loses. Examples include all kinds of competitive content, e.g., for information related to research and development (R&D).

Online delivered content – issues of pricing

Conventional pricing and transaction mechanisms are barely suitable for capturing the economic value of ODC. The price of a product normally consists of three elements: production (and logistics) costs, co-ordination costs and the profit margin (Benjamin and Wigand, 1995). Co-ordination costs include the transaction (or governance) costs of all the information processing necessary to co-ordinate the work of people and machines that perform the primary processes (Malone et al., 1987). It is now becoming clear that — with variable production (and logistics) costs near zero, drastically reduced transactions costs resulting from information and communication technology (ICT) usage and eroding profit margins in current business models — new concepts have to be put in place for determining ODC prices.

Production costs cannot be used as a guideline for pricing since there is no link between input and output. Mass consumption does not require mass production. Economies of scale are determined by consumption, not by production. Economies of scale in ODC production are limited, but economies of scale in ODC distribution can be significant owing to a combination of high fixed costs of creating the necessary infrastructure and low variable costs of using it. Economies of scale in distribution are accentuated by consumption characteristics: consumers tend to use
the supplier with the largest variety even though they typically take advantage of less than 5 per cent of the choice (Goldfinger, 1994).

Traditionally the pricing of content has been based on the delivery medium – mostly measured in convenience – rather than on actual quality (Goldfinger, 1997). For instance, the price of a book depends heavily on its printing quality and the number of pages, while the price for an excellent book is often the same as for a poor one. Electronic trading in ODC implies unbundling: content can be priced separately from the medium, allowing for price differentiation based on the estimated value of the content. The unbundling, however, also raises problems. Administration becomes more complex, and cross-subsidies between profitable and non-profitable (but nonetheless desirable) content on offer diminish.

A consumer’s willingness to pay is often influenced by the consumption or non-consumption of other consumers. Accordingly, it is not an adequate approach to assess the value of ODC, given the ease of replication/sharing and associated externalities. Further, it is often difficult for the customer to determine whether it is worthwhile to obtain a given ‘piece of ODC’ without knowing its content (Schlee, 1996).

Furthermore, the pricing of ODC raises the fundamental issue of inherent volatility of valuation when the value of ODC is highly time-sensitive. For example, stock market information may be worth millions in the morning and have little value in the afternoon.

The range of ODC pricing schemes is becoming broader and more sophisticated. The Internet provides a variety of possibilities for selling, sharing and giving away. Moreover, consumers can also be charged based on the actual ‘use of ODC’ or based on fixed access charges. In addition, pricing models may imply giving actual goods away for free and then charging for complementary services, updates and so on.

Offering ODC over an extended period of time may lead to the establishment of electronic communities. Following Armstrong and Hagel (1996), electronic communities are likely to create value in five different ways: usage fees, content fees, transactions (commissions), advertising and synergies with other parts of the business. Translating these opportunities for income to the narrower defined area of ODC, usage fees could be in the form of ‘fixed subscriptions’, ‘paying per page’ or ‘paying per time period’, independent of the quality of the content. Content fees would most likely be based on ‘fixed amounts per page’, but should tackle the issue of valuing the content (particularly for quality or relevance). Commissions and advertising income are triggered by attractive ODC on display. Strictly speaking, however, the subsequent income would not stem from ODC, but from either attracting customers to a page regardless of its content or from offering some ‘empty space’ for third party advertising in addition to the actual ODC offered (Loebbecke et al., 1998).

Economists are developing theoretical solutions to the problem areas mentioned. However, some of the mechanisms developed (e.g., MacKie-Mason and Varian, 1995) demand an enormous amount of data, thus questioning the trade-off between allocative efficiency and operational cost effectiveness (Mitchell and Vogelsang, 1991).
Online delivered content – impacts of abundance

While conventional logic of economics is concerned with scarcity, the dematerialization logic inherent in ODC is concerned with abundance (Goldfinger, 1997). ODC is extremely cheap to replicate and is not eliminated through consumption (i.e., it has non-subtractivity). The resulting abundance of production is followed by the abundance of accumulation leading to a dramatically expanding imbalance between supply and demand. Efficient management of ODC overload requires yet more information/content. Information about information is a growing business.

Abundance and resulting ODC overload – the huge variety of ODC available to almost everybody – confront consumers with a dilemma. Customers want to take advantage of the increased choice of ODC and, at the same time, they seek to minimize the costs of searching. In order to respond to the first objective, new modes of consumption have emerged: ‘zapping’, ‘browsing’ or ‘surfing’. These are characterized by a short attention span, latency, high frequency of switching and capriciousness. The distinction between consumption and non-consumption becomes difficult, rendering pricing problems even more intractable. The expanded choice of content makes consumer choice more difficult, thus continuously raising the cost of acquiring information about the content. To minimize these costs, choice is increasingly determined by criteria other than product characteristics, e.g., brand familiarity or fashion (Goldfinger, 1997).

The traditional rationale for the existence of companies, as articulated by Coase and others, is the minimization of transaction costs (Coase, 1974; Williamson and Winter, 1993). This analysis is no longer generally valid. Not only has ICT dramatically reduced transaction costs, but also the growing volume and importance of ICT-based intangible assets and artefacts has changed the nature of markets (Peterson et al., 1997).

While traditional inter-firm linkages may be modelled by input-output analyses to measure the economic impact of each player in an inter-organizational value chain or network, the intangible economy introduces another linkage among companies – the ‘monitoring’ linkage (Goldfinger, 1997). Low transaction costs lead to an excessive volume of transactions that generate ‘noise’ rather than useful content. An abundance of products and services stimulates the development of activities whose purpose is to monitor, evaluate and explain their characteristics and performance.

Case studies: the publishing industry

The following two case studies analyse the situation of and the business implications for specialized, traditional, medium-sized publishers on the
verge of entering the ODC business. As such, they help to put some of the theory discussed above into practice.

Krak – a Danish directory publisher

This case study of Krak, a Danish directory publisher, focuses on a special segment of ODC publishing (see Loebbecke, 1999a). Directory publishers such as Krak are somewhat different from other publishers that are considering going online – their traditional business model relies heavily on advertising-based income.

Krak’s core business (since 1770) has been business information, starting with basic trade information that is now enriched with more detail such as names of board members and directors, key figures and customers. Another important product line is city and country maps for all over Denmark and a complete street-name index.

Krak’s publishing is built on a database that serves their various product lines. Examples are: their original business directory, Krak’s Vejviser (which contains entries for about 60 000 companies); a CD-ROM version (Krak Direct); Krak’s Export Directory of Denmark; sector-oriented catalogues (for instance for the metal industry, construction, graphics and marketing, data/IT, textiles and transportation); their Foundation Directory; a Farm and Forest Directory; and Krak’s Blue Book (a ‘Who’s Who’ type document). Krak also produces city maps and tourist guides. However, Krak sells only its maps, Krak Direct, the Foundation Directory, the Farms and Forests Directory and Krak’s Blue Book. The other products are given away free and the business model relies on advertising in the reference guides to cover costs and profits.

Today, the database consists of ‘self-gathered’ as well as purchased data. Of the 60 000 data records documented in the printed version of the business directory, only about 10 per cent are purchased. Of the 400 000 records represented in the online version, almost 80 per cent are acquired externally and then improved internally by Krak. This differentiation is crucial when it comes to developing a sustainable business model for trading in ODC. Repurposed information must also be rethought for the Web. Indeed, Krak has substantially supplemented its database to meet the demands of Web users. While the content base is Krak’s most important business asset, the company credits four other factors for its position in the Danish market: (1) the company’s 200-year tradition; (2) its brand name and reputation; (3) its sales force; and (4) the quality of its information.

Towards electronic trading in ODC

Krak perceives a key problem in selling its database as ODC – most of the content in its traditional printed package has already been given away free (against advertising income). Thus, the company decided to start by developing a business model that exploits various trajectories of business on the Internet in order to build market share and gain experience for the subsequent approach of electronically trading in ODC.
As of early 1999, 25 per cent of Krak's total income is generated from new media (CD-ROM and Internet). About 35 per cent of this comes from selling information goods - either packaged on CD-ROM or paper-based - and processing those transactions directly over the Web. Of the remaining 65 per cent of Krak's new-media-related income, 30 per cent stems from selling advertisements on the Web and 70 per cent from designing and maintaining home pages for business customers. Important business areas of Krak's Internet section include: Internet-related activities such as in-house development of Web sites, providing Internet services under the domain 'www.krak.dk', customer database solutions and e-commerce sites for customers.

The change in business focus from selling content and advertisements to selling Web site design and maintenance seems to have evolved naturally. The business concept of traditional directory publishing has always been to sell advertising space in the publications. Online-advertising sales, however, presented Krak with a business opportunity. When the directories were put on the Internet, some of the advertisements had to be made Web-site-compatible. Krak's advertisers soon realized that adverts on the Web should also be linked to professional company home pages, and they began to ask Krak for design suggestions, followed shortly by requests for programming and maintenance.

In addition to its Web services, Krak still sells adverts in its electronic directories. The income that is generated from these sales has three components (in 1999 prices).

1. Selling banner advertisements and thus offering marketing for business customers. The price for having a banner is either a fixed price per year based on the location of the banner, or DKK0.15 per click (page impression).

2. Selling links. In particular, having three companies pay DKK1000.00 per year to link from their sites to Krak maps.

3. Showing business locations on the Krak maps, costing DKK40 000 per company per year.

Krak's Internet section also offers several Krak products - maps, the business directory, the export directory and the coupon catalogue directly on the Web. In 1999, the company made about 1 per cent of its total turnover from selling its traditional printed products in its online shop. Thus far, the Internet business has not led to decreasing sales in traditional outlets. On the contrary, actual sales via traditional channels have increased slightly since the products have also been sold via the online storefront.

The additional distribution channel for Krak information services has several other implications for the company. Initially, Krak updated the Internet site only once a month. At that time, it outsourced Web design and database design, and Krak's sales force sold Internet adverts to be placed in special sub-domains under Krak's home page. Later, as the company began selling products on the Web, the yearly information update that had sufficed for paper, and the monthly update that worked
when Krak began its Internet service, had to be changed into an almost real-time operation. New figures are incorporated and visible on the Web maps once a month. Directories are updated once a week. Needless to say, that requires a significantly higher level of staffing. Almost constant updating also puts additional pressure on the approximately twenty employees who are involved in maintaining the core database, but who are not members of the Internet section.

Krak's next ODC product will be different from its traditional line of goods. The company has developed a search engine that is integrated into its Web site. This search engine can make the Krak site a portal to the business sites linked to it through its Internet services business and through its advertising sales. Krak plans a major marketing campaign to herald the benefits of the search engine - bringing users to the site and from the search engine to the businesses connected to it. The original business concept was to finance the marketing campaign and the follow-up maintenance of the search service by charging for featured search words and banner advertisements. However, over time, Krak has recognized that this approach will not work because of an insufficient number of listings.

Lessons learned

One crucial difference between directory publishers and other publishers has to be kept in mind: in most instances, directory publishers give their printed products away for free, based on a business model that generates income from selling advertising space. Hence the shift to ODC could be considered comparatively minor - most content on the Web is provided free. Where cost recovery is anticipated, it is expected to come from advertising income (Chri et al., 1997).

Offering content online for free has become extremely popular in the Internet era. However, only a few companies are prepared to take advantage of their vast content archives to participate in electronic trading, i.e., they are aiming at 'making money' from it. In the near future, new market structures will emerge as a consequence of the Internet (or whatever may succeed it) and of the feasibility of providing electronic content commercially. The field of directory and reference publishing provides enormous opportunities for originality and creativity. New products may still be invented even though competition is constantly growing and the field is populated with more publishers and more innovative products than ever before.

The endless possibilities of electronic formats have opened the directory business anew. In acknowledging these new possibilities it is very important not to lose sight of market needs and of the editorial function, both of which have brought success in the past. Technology will continue to change and, in future years, today's electronic formats will look archaic. The challenge is to create content for the future inspired by the current technology. Krak has done that, and its lessons are worth heeding.
Rentrop – a German publisher of consultative journalism

This case of ODC focuses on a quite different area of publishing (see Luebbecke and Powell, 1999). Founded in 1975, Rentrop Publishing (RP) is headquartered in Bonn, Germany. With a stable of about 300 authors and 160 other employees, RP is one of the most important German business focused publishers. It only disseminates content that is exclusively written for RP. RP’s core business is consultative journalism for entrepreneurs and individuals with entrepreneurial responsibilities. Traditionally, the company has considered printed media as the only possible means of conveying valuable know-how and consulting at fair prices. RP’s product range includes magazines, loose-leaf services, newsletters and books. Typically, books cover topics such as public speaking, money management, taxation and social security, human resources and personnel law.

The RP consulting pyramid (see Figure 2.3) is at the core of RP’s publishing philosophy. Classical one-to-one consulting services offered by consulting companies at a cost of around DM2000 per day are judged to be prohibitive for young entrepreneurs. Even consulting seminars with about ten participants and costs of about DM800 per head per day are considered too expensive. RP therefore concludes that the only affordable possibility in which a start-up company can obtain appropriate consulting services is by buying a specialized publication (published consulting) – where the total cost for the expert advice is shared by a large number of interested parties (see Gumpert, 1984).

Over the past twenty years, RP has achieved rapid growth through expansion on the basis of a holding-structure organization. This has allowed the company to develop from its core business of being a specialized publisher into an internationally operating publishing and media group.

In its effort to expand internationally, RP focuses on the concept of licensing certain products. In Europe, various RP consulting products have been available for a number of years, partly as licensed products. Entry into the US market was achieved through joint ventures with

![Figure 2.3](image-url)
renowned partners and with products that had already been successful in Europe. In 1997, with around 600 employees and roughly 1000 authors, RP achieved a turnover of about EURO80 million in seven countries. The Internet offers the possibility to develop and market new products – ODC – to new customers.

Towards electronic trading in ODC

The entry into electronic trading in ODC could enable RP to further extend its successfully applied business concept of the consulting pyramid. By offering products and services electronically, most likely via the Internet, this would be equivalent to the expansion of their current pyramid – currently consisting of three layers – by an additional base layer (see Figure 2.4). ODC (consulting provision) via the Internet could vastly increase the number of potential customers per service to approximately 100,000. In spite of these numbers, RP is currently still unsure about the expected role of the Internet on its business model in the near future.

In its traditional business model, RP's core competence is the creation and provision of first-class, focused, almost unique content. In order successfully to distribute its product lines and, of course, also to provide appropriate customer support, RP needs to continue operating as a publishing house.

Potential roles in electronic trading in ODC

In order to determine the best opportunities, it is useful to analyse various activities potentially to be performed by RP in the context of electronic trading in ODC. The following value chain outlined for the electronic publishing (EP) trade differentiates between two layers (see Figure 2.5; for the original value chain concept see Porter, 1985: Porter and Millar, 1985). The content-related layer addresses 'content creation', 'content packaging' and 'market making'. The infrastructure-related layer comprises 'transportation', 'delivery support' and 'end user interfaces'.

![Figure 2.4](image)

Rentrop consulting pyramid (adapted from Rentrop, 1997)
Within this framework, a report from the European Commission (1996) suggests the following strategic roles to be played (see Figure 2.6):

- **Online network.** Managing a full electronic marketplace.
- **Community organizer.** Focusing on an interest-centred target group.
- **Interactive studio.** Creating content with new levels of functionality.
- **Content rights agency.** Managing rights and matching content to market needs.
- **Platform provider.** Creating an end-to-end easy to use technical platform for authors, publishers and/or end users.

For a mid-sized, content-focused, traditional publisher like RP, however, none of these specific roles look attractive. RP, in conjunction with its editors, sees its strengths in the fields of 'Content Creation', 'Content Packaging' and 'Market Making'. RP aims at transferring its current core competencies into the ODC arena. However, physical distribution, technical delivery support, and interface design are — on a small scale — considered barely feasible and not profitable. The outsourcing strategy already in place in the conventional business should certainly be continued for necessary competencies in the EP era, such as cryptography, platform management, billing, inter-publisher clearing house functions and vendor transactions management (Cronin, 1995). If RP becomes active on the Internet with its products, it will clearly focus on ODC creation and packaging.

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**Figure 2.5**
Electronic publishing value chain (European Commission, 1996)

**Figure 2.6**
Strategic roles in electronic publishing (European Commission, 1996)
Digitalization of traditional products versus new products

Another angle that should be analysed is the choice of products for ODC. Importantly, RP is faced with the decision of whether to adjust and digitize existing products or to create new content to be delivered online.

The first option is to take existing products, especially information letters, magazines and loose leaflets, and to prepare them (without significantly changing the content) for presentation, trading and distribution on the Web. While this approach is comparatively inexpensive and technically not demanding (Filsworth and Filsworth, 1996), RP awaits the answers to three major questions:

1. Is there a sufficient interest from its customers in ODC? (How soon will current customers become active on the Web?)
2. Will the issue of copyright protection have a significantly stronger negative impact on ODC than it has on print media?
3. Will the issue of product-line cannibalization reduce print media sales or can separate customer groups be maintained for the same product offered through different media?

Currently, except perhaps for university graduates considering starting their own business, the majority of RP’s customers are not Internet users. However, RP expects this to change within the next two years. More importantly, RP sees the problems of copyright protection and the issue of forbidden recalling of digital products. While technologies to support both issues are under development (Kalakota and Whinston, 1996), they are not yet available. The question – what degree technical solutions will offer sufficient protection? – is still under debate. These issues are particularly relevant if RP digitizes existing products, since this could increase the general risk of product-line cannibalization. Furthermore, even though copyright protection may become less of a technical problem in the near future, there is no regulation that limits reading (Choi et al., 1997) and the marginal cost to further disperse ODC is negligible.

The alternative option is to develop a separate ODC business line. RP could focus on leveraging its core competencies from print. Its new business line would consist only of new ODC developed by additional editors and their teams in order to serve rather diverse customer needs. Since ODC delivery costs are negligible, RP could aim at developing legislation- and culture-independent products attractive to potential customers around the world. Further, the significantly higher ODC interaction potential – in comparison with conventional publishing – would allow more precise customization to customer needs (Gerdy, 1996). Therefore, customer expectations could be included to a large extent – development-led by demand.

Lessons learned

Electronic trading in ODC can be used to supply innovative material, especially information that is differently packaged and more finely
targeted. It combines communication with content, thus leading to higher quality and added value for customers. Furthermore, ODC customers are much more in control of how much and what kind of content they want to obtain. When substituting print products by ODC, customers will request additional value such as availability (e.g., newest information, access to data from any location), format (e.g., multimedia such as video clips and sound), transparency and interactivity (e.g., user-friendly downloading and search functions), as well as innovative content. These ideas are shown in Figure 2.7.

Whereas in many business areas the significance of time and speed will further increase, this is not likely to be the case for many of RP’s current products. Almost the same applies to video and sound elements. The company sees much more ODC market potential in offering increased interactivity – providing its customers with access to various consulting services (e.g., extended hotline features) as well as to detailed archives equipped with intelligent search agents. As RP aims at leveraging its core competencies into electronic trading in ODC, the company sees a definite need to create innovative content. Otherwise, it assesses the risk of cannibalization as higher than the additional profit potential.

Last, but not least, RP would need to adapt the role of revenues from advertising in its cost-benefit calculations to the common market principles of electronic trading in ODC. One of the most important sources of revenue in electronic commerce is the selling of advertising space (Choi et al., 1997). RP has advertising in only three of its publications. However, selling advertising space is difficult since RP sells more than 90 per cent of its publications directly to a comparatively small customer group. As long as RP keeps its business model of selling published content targeted to a comparatively small customer group, trading ODC will not fundamentally change the lack of attractiveness for

\[ \text{Format} = \text{ODC added value} \]

![Figure 2.7](image-url) Dimensions of ODC added value
Conclusions

This chapter makes the point that within the wide field of e-commerce there are many fundamentally different products – both physical and digital – traded via various business models. One type of product defined here – online delivered content (ODC) – is particularly interesting. ODC is a good that is manufactured, delivered, supported and consumed via the Internet or similar networks. Typical examples of ODC are music, information and expert knowledge.

Traditional economic models based on scarcity and uniqueness leading to a market based on demand and supply do not apply to these types of products. Once created, ODC is extremely easy/cheap to replicate. Furthermore, distribution costs are almost zero, and most other transaction costs – except perhaps marketing and sales – barely exist.

ODC characteristics and classification criteria have been discussed in some detail in this chapter. The purpose is to warrant a careful investigation of the nature of ODC. Such an investigation is important either for preparing a business plan for a new offering or researching the nature of a particular ODC.

While the free offering of ODC has become extremely popular in the Internet arena, only a few companies have started trading. The solutions offered by two companies have been briefly discussed in the chapter. Both of these companies have taken advantage of their existing content archives and have taken the first steps towards offering customers (new as well as established) the possibilities of buying ODC. This raises a number of questions about pricing mechanisms, security, protection of intellectual property rights and so on, for which solutions still have to be found in order to make ODC a viable business proposition. Answers to these questions promise significant theoretical advancement and attractive business opportunities. With the steadily increasing volume of material on the Web – information, content and knowledge – it seems an economic waste to not profitably exploit these untapped resources.

Note

The author gratefully acknowledges valuable comments and suggestions from Niels Bjørn-Andersen. For an earlier and shorter version of this text see Loebbecke (1999b).

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