INSEAD

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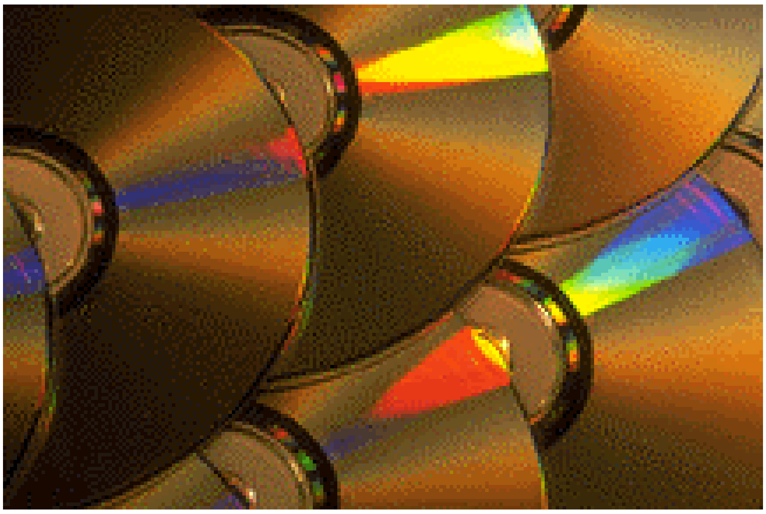
DIGITAL RIGHTS MANAGEMENT: MARKET OPPORTUNITIES FOR A CLEARINGHOUSE



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EXECUTIVE SUMMARY

The Internet has become one of the most powerful digital distribution engines creating both huge opportunities and serious threats for traditional content providers and distributors. If the threats (e.g. inability to earn economic return from creating and providing information digitally) are not eradicated (or at least minimized) the opportunities will eventually disappear. Once problems of secure information delivery and payment collection systems are solved, the content providers and distributors will concentrate on improving services and offering numerous attractive packages to the authors and consumers.

In this paper we propose a way of releasing the pains of content providers, distributors and customers through the introduction of an intermediary service provider – **a clearinghouse for digital rights management**. We provide a short description of the current status of digital rights management (DRM) technology and its application to our solution. We then discuss the two main trends in the industry i.e. increased digitalization of content and content provider shift from product to service.

In the first part of the report, we analyze in detail the different aspects of pain for the content providers, distributors and customers derived from the inefficient functioning of the current digital information exchange systems. The pains could be grouped into two main categories: those related to the deficiencies in technical solutions and those arising from the additional complexity generated by the need to manage rights and payments in an interrelated way. The first category of pains is being addressed by many companies including large corporations such as IBM and Microsoft. The latter category is still relatively new and open for innovative solutions.

We believe the introduction of a clearinghouse could facilitate the exchange of content, rights and money by gathering in a single space the function of distributing and tracking rights and money/payments. A clearinghouse can be beneficial both for managing relationships between content owners/publishers and distributors and for managing the interaction between distributors and end customers. In our model the clearinghouse has no direct relationship with the end customers, working as an invisible enabler in the system.

In the second part, we discuss key factors for selecting a new venture targeting this space and trying to position itself as a clearinghouse, such as the need to gain and maintain a competitive advantage. We also look at the potential risks and possible mitigations that a new venture would have to deal with. Finally, we recognize the need to develop a sustainable revenue model for these ventures, and suggest some examples of how a new clearinghouse would ensure reliable and profitable operations.

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1. SECURITY AND CONFIDENTIALITY: DRM

> *“Digital Information can be perfectly copied and instantaneously transmitted around the world, leading many content producers to view the Internet as one giant, out-of-control copying machine.”*[1]

The Internet is the most powerful digital distribution engine. As witnessed from the phenomenal growth of the Napster network, the Internet poses a serious threat to the profitability and viability of content companies and producers. While consumers may find the power of the network invigorating and liberating, the threat of infinitely available free content has staggering consequences. If content creators cannot earn an economic return on their time, effort, creativity and investment they will eventually stop producing content.

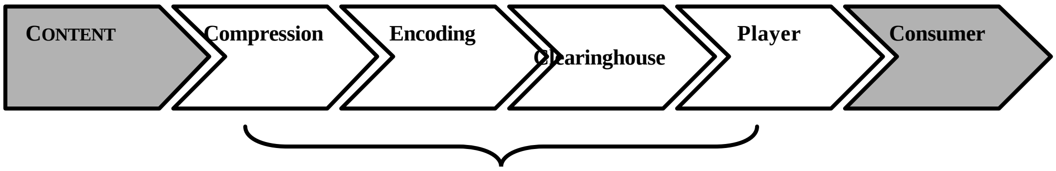
1.1 Digital Rights Management Value Chain

Digital Rights Management protects and manages the rights and interests in digital information of artists, authors, producers, publishers, distributors and consumers. DRM technology is not exclusively devoted to secure the distribution of entertainment content. Other industries can benefit from it to protect confidentiality and integrity of their documents. Industries likely to adopt this technology are publishing (for financial and business information), government, education, and enterprises needing to secure document exchanges and publish on their internal portals. Everyone in the value chain of these industries is concerned about protecting, managing and being compensated for their rights in the digital content.

Digital Rights Management is a broad term that refers to the process of:

- compressing content to prepare it for easy and rapid transmission;
- encoding content to protect and define parameters of usage;
- transaction clearinghouse which tracks usage and delivers payments to involved parties based on predetermined payment percentages;
- playing or reading the content being delivered and purchased;

[1] “Information Rules,” Carl Shapiro and Hal R. Varian. Harvard Business School Press, 1999.



Digital Rights Management Value Chain

To understand the process, let's run through an example.

1. The content creator chooses a **compression format** for the delivery of his/her creation. In music, the *de facto* compression format standard is currently MP3.
2. The content creator then chooses an **encryption technology**. This technology protects the content from unauthorized copying and defines the parameters of usage.
3. The **content creator authorizes a distributor to sell** the content according to the parameters defined during the encoding process.
4. A **consumer purchases** the content from the distributor, but in order to experience the content the consumer must posses a player/reader that is compatible both with the compression technology and encoding technology.
5. A **clearinghouse** tracks the transaction, charges the consumer the appropriate sum and forwards allocated fees to all parties that share a percentage of the transaction.

For the purposes of our analysis, this document will focus on opportunities within the clearinghouse portion of the value chain. However, to fully understand the value chain considerations, we intend to further describe issues that impact the potential success of the development of a dominant clearinghouse service.

1.2 DRM technologies must-haves

Critical to the success of a DRM clearinghouse is the development of powerful DRM encryption technologies. Currently, there are many different technologies based on the concept of attaching usage rights to the content to be distributed. Rules defining usage rights should allow content providers to implement many different business models: subscription, pay-per-view, promotion or floating license. Usage rights define as well the extent to which information can be used. They will define whether one can transfer content to someone else, whether it can be printed, saved or copied, and how frequently one can access content i.e. one-off or 5 times.

The market for encryption technology is still fragmented, with technology providers basing their solutions on different encryption algorithms. We believe the Key Success Factors regarding the adoption of encryption technology are:

- **Scalability**
- **Interoperability / Support** for any type of digital content (video, audio, text and images)
- **Compatibility** with different reading devices, i.e. not only PC but also PDAs, mobile phones
- **Integration** with existing corporate infrastructure
- **Ease of access to technology** (distribution) and user friendly interface

There are already several players in this market, with no clear standard having been widely accepted. The business models used by DRM encryption technology providers vary from a simple license fee to the outsourcing of the whole solution.

2. MARKET TRENDS

There are many trends converging and colliding that pertain to the establishment of a DRM clearinghouse. We see two distinct trends which will persist independent of any changes in new technological developments, regulatory changes and enforcement and that particularly justify the need to create a powerful DRM clearinghouse.

2.1 Digitalization of content

This trend is clearly viable as more products and services are being offered in digital format (e.g. music, publications, books, digital TV, movies, games etc.). In the future the only restriction to the exponential growth in digital data and service availability will be the technology (network capacities), and the ability of the providers to protect their rights and ensure reliable payment collection. This said, technology capability currently outpaces consumer adoption and business model definition. However, as technology innovations decrease in cost, consumer adoption will increase and further pressure will be placed on content providers to embrace new business models to distribute their content.

DRM solutions will help solve issues related to piracy and will enable usage tracking. Some analysts claim that DRM technology will be used by the content providers to prevent unauthorized use, to control distribution, to track usage, and to preserve their existing business models. Other opinions are that DRM would, and should, not try to limit access to content but should take a more flexible approach and use it to track usage (at least in the case of music). DRM providers will look for ways to differentiate themselves, to offer services that could be easily adopted by existing infrastructure and could support different business models. A DRM clearinghouse is an example of the type of business that will be necessary to facilitate the development of business models based on the digitization of content.

2.2 From Product to Service (“stock to flow”)

As content is digitized the concept of what the product **is** changes. As business models emerge that provide content to users via wired and wireless networks, the product some business will sell will actually be services. For example, Musicnet, a service recently launched by Real Networks, AOL Time Warner and BMG Music, offers customers access to a defined amount of music per month. However, access to this music ceases when the consumer decides to stop paying the monthly fee. Music in this context is not a product a consumer owns, but a service that the consumer leases. How quickly the consumer adopts this new identity of content remains to be seen, but as the market continues to develop a host of new services will be required to support it. A DRM clearinghouse is one of these services.

3. PAIN

A developing market for digital content services creates new pain points for content owner/publishers, content distribution aggregators and the consumer. For the digital content marketplace to flourish business will have to offers services that are designed to resolve these issues. Several of the key pains in the emerging industry are outlined below, not all directly pertain to a clearinghouse service; it is important to present them because it helps clarify how many complementary businesses a clearinghouse is dependent upon for a market for its services to develop.

3.1 Content Owners/Publisher (COP)

As content is digitized and offered to consumers via new business models, some based on products and others on services, owners and publishers of the content will develop a new set of pain points that will need to be remedied.

- **Protection and Integrity:** Solutions are currently not able to guarantee 100% piracy protection and 100% integrity. Digital content cannot be fully protected from copyright abuse. While technology has developed more sophisticated encryption methods, they remain hackable. COP are hesitant to aggressively develop the digital distribution marketplace of their content until more effective protection solutions are available.
- **Consumer Expectations:** As witnessed by the explosion of the Napster network, market penetration of portable MP3 players and successful digital releases of Stephen King novella, consumers have an appetite for new types of content and new methods of consumption. However, partly due to consumers' many options to obtain content free of charge, COP are finding it difficult to introduce a legal distribution service that matches consumers expectations while maintaining historically high profit margins.
- **Defining User Rights:** Distributing content digitally requires the ability to program the parameters of consumer usage. The method to program such usage requires a robust flexible system to accommodate differing business models and different types of content.

3.1.1 Pains That a Clearinghouse will Remedy:

- **Usage Tracking:** Some business models will require that COP and/or the distributors of their content track consumer usage of the services. Accurate usage tracking is necessary to know how much to charge customers. This becomes increasingly complex as distributors add more content owners upstream and consumers downstream.
- **Account Settling:** Based on consumer usage, COP and/or their distributors will require a system that automatically settles payments with value chain components based on consumer content consumption.

3.2 Content distributor/aggregators (CDA)

CDA also develop new pains from the emergence of a digital content market place.

- **Higher Barriers to Entry:** CDA of digital contents have a hard time gaining the licenses to distribute content over the Internet. In particular they have to demonstrate the efficacy of their DRM solution.
- **Consumer Trust:** Digital content exchanges require trustworthy relations between customer and distributor. In the future, successful distributors will be able to attract customers only if they will be able to provide reliable solutions for file exchanges and safe payment solutions. Ease of use will also be a differentiating factor.
- **Resource Allocation:** Firstly, on-line distributors will differentiate themselves by their ability to create and implement innovative ways to market digital content. This makes the choice over the solution chosen to manage access and usage rights particularly relevant. Secondly, distributors would like to focus on customer related issues, improving the customer interface, without necessarily having to invest heavily on the technical solution for managing usage rights.

3.3 Consumers

Consumers also develop pains as they become accustomed to new consumption methods.

- **Flexible Consumption:** While the digitalization of content has been seen as a major revolution it is not yet true that "Consumers decide what, when and how much (Endemol)”. New models of consumption, (dynamic pricing, try before you buy, subscriptions, customization…) are still in their embryonic phase. In particular the possibility of changing rights of use after the payment by paying an additional amount is one desired outcome for consumers.

- **Limited Options:** Customers interested in digital content have in certain cases no other choice than illegal acquisition of content through peer-to-peer exchanges. Analysts point out that many customers would be happy to legalize their position in presence of a legal business model, but an attractive business model that allow honest people to remain honest has yet to come.

- **Ease Of Use:** Customers want to minimize complications when accessing digital content (no download required for each distributor, simple registration procedures, not too many cookies…).

- **Distribution Choices:** Consumers are still interested in choosing among a variety of different content providers. The increasing complexity related to exchanging digital content should not limit the variety of sources available to customers.

- **Micro payments:** Customers would like to use trusted and easy-to-use solutions for payments. Solution providers will have to solve the trade-off between ease of use (micro payments) and information security.

3.4 Evaluations of pains

The pains identified above, can be grouped into two primary categories:

- Pains related to availability of technical solutions for ensuring protection against piracy/ensuring integrity.
- Pains related to additional complexity generated by the necessity of managing rights and payments in an interrelated way.

4. OPPORTUNITIES FOR A CLEARINGHOUSE

The convergence of digitalization of content and of the transition from stock to flow in the delivery of information opens a new opportunity space to be explored in several ways. However, in this new space various pains appear to be preventing further development.

Of the pains listed in previous section, those related to the availability of technical solutions are being already addressed by companies such us, IBM or Microsoft among others. Therefore, even if no pain reliever has been yet defined, competition among players for the market and for the standard does not make it the most attractive area to set up a new venture.

On the other side, we believe that there are exciting opportunities for companies whose focus is to relieve the industry from its second pain: the need to manage usage rights and money flows. This creates an interesting option for two reasons: the complexity of business models that will coexist and the quantity of transactions.

4.1 Complexity of business models

- Different business models at the *back-end* between content publisher, owner and distributor and at the *front-end* between distributor and customer. DRM technology allows adding usage rights at any level of the value chain. Therefore there will be multiple relations among different players and complex flows of usage data and money.
- Increase in the complexity of business models. From simple models based on subscriptions to more sophisticated ones:
    - **Dynamic pricing**: The free flow of content will drive prices to vary continuously. For example, an album might be more expensive on the first day of release and subscribers to an eBook site will pay less for the latest bestseller than the general public.
    - **Paid downloads and pay-per-listen:** While most eBooks will continue to be sold one at a time through retailers like Amazon.com, increased broadband penetration will let 'music lockers' services like MyMP3.com develop long-term relationships with customers, enabling targeting recommendations and promotions.

- **Accumulating balance payments:** Consumers will be able to add selected purchases onto an established, existing billing relationship with a service provider such as a mobile phone provider, ISP, or wireless personal digital assistant.

4.2 Quantity of transactions

- **Broadband will become mainstream:** The time it takes to download digital content, either a song or a game, will decrease significantly and this will increase users interest to download content online.
- **Super-distribution:** Users turn into distributors sending their content to other users, and thus, leveraging the power of the Internet. DRM technology allows content to be passed from one another without violating the usage rules established by content owners and distributors. This way content distribution grows exponentially and the same way money flows among players in the value chain.

As the matrix shows, when the complexity of the business models and the levels of transactions are high a clearinghouse would allow distributors and content owners to focus on their core business while allowing high flexibility to define their revenue model. On the contrary if the amount of content does not grow as we predict the distributor could handle payments on its own and on behalf of the content owners. If content distribution grows but business models among players remain relatively simple, a DRM service provider could handle the transactions.

5. THE NEED FOR A CLEARINGHOUSE

In the financial world the clearinghouse is the buyer for all sellers and the seller to all buyers. In the DRM world we can think of a clearinghouse for rights that performs the same function. The value proposition of this institution would be to reduce complexity in the exchange of rights, reduce the upfront investment needed by publisher and distributors for managing the rights exchange and promote a wider standard for the industry, which in turn can stimulate the exchange of digital content over the Internet.

5.1 Functions of a clearinghouse

The exchange of IP-related content over the Internet requires a simultaneous exchange of three components. At the end of the transaction the buyer must have the desired type of access to the desired content, while the seller wants to receive the payment. In order to have access to the content, the buyer must receive both the digitalized content and the permission to use the content on the basis of the rights he has bought.

The situation is more complex compared to what happens in the off-line world because when somebody buys a book at Amazon, he is buying a product and the rights are automatically intrinsic to the product bought. In the DRM world the types of rights are more differentiated and require a high degree of interaction between the payment function and the delivery function; in other words, while in the Amazon example once the payment has been received, there is simply one flow of information that goes from the payment system to the shippers, and only a book moving from the stock house to the customer, in the digital world the transaction is not finished with the exchange of goods and requires to keep track also for the future of the rights assigned to the buyer.

5.2 Typologies of rights

The rights related to certain content can be articulated in different families. Rights for the use of the content can be set both by the COP and by the CDA. The rights established by the COP usually have priority over those set by the CDA, who is not allowed to modify the COPs parameters, but only to create new set of rights based upon them. As an example we can think of the rights for showing a football match.

The COP could specify that the content cannot be seen in a certain area (i.e. in the area where the match is played) and that the content will only be available with a delay of 300 seconds from the real game. The CDA can create different type of content (with different rights), for example different prices depending on the lag time, but cannot change the initial specification. Different types of content will be bound by different types of rights, the more content a CDA offers the more rights it needs to manage which means the more usage it needs to track and therefore the more parties it needs to pay. This clearly justifies the need for a clearinghouse.

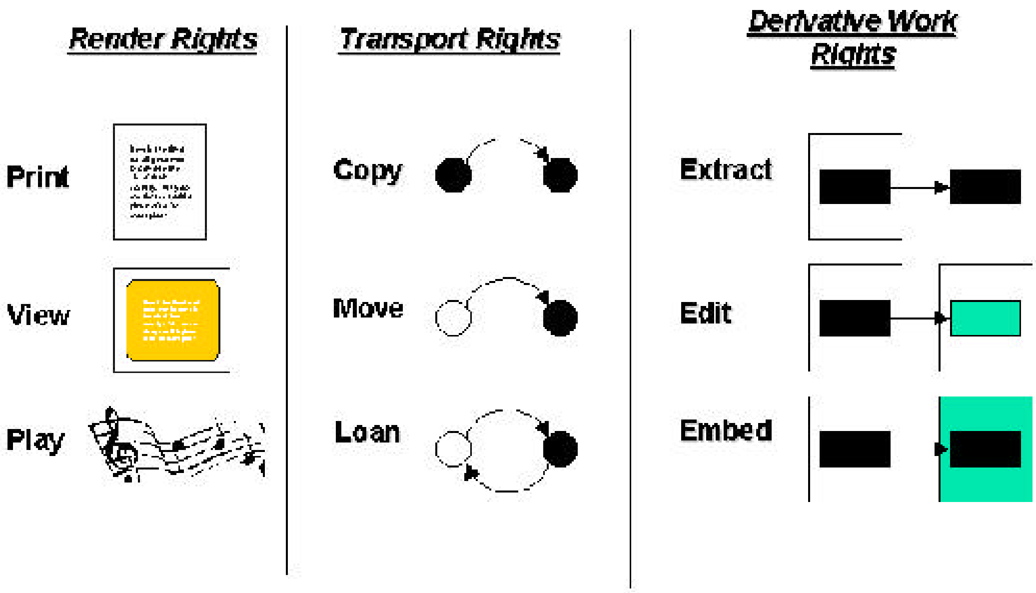


Exhibit: Typologies of rights (by Dr. Mark Stefik of Xerox PARC)

6. VALUE PROPOSITION OF THE CLEARINGHOUSE

The role of a clearinghouse in this world is to facilitate the exchange of content, rights and money by centralizing in a single place the function of distributing rights, to track rights assignments and money exchange. A clearinghouse can be beneficial both for managing relationships between content owners/publishers and distributors and for managing the interaction between distributors and end customers. In our model the clearinghouse has no direct relationship with the end customers, working as an invisible enabler in the system.

6.1 Reduction of complexity

The exchange of digital content is more complex than the exchange of goods for two reasons. First, rights have to be tracked together with content and money exchange and the number of transactions can increase exponentially given the reduced complexity from a user's point of view. Therefore a clearinghouse can be beneficial by aggregating the multiple transactions between content COP and end customers. Instead of the COP managing the relationship with the CDA and having to follow each single transaction, the clearinghouse will take care of these transactions. COP will have to specify the parameter for the rights and make the content available to the distributor. CDA will subsequently receive content and information on rights, while the clearinghouse will settle only from time to time all the different transactions.

We see that the reduction in complexity warranted by a clearinghouse will be more relevant as the following trends become more of a reality:

- **Fragmentation in the industry and increasing number of players willing to distribute content over the Internet.** Digitalization of content opens up the market for new niche targeted distributors that will compete on their ability to attract customers with specific value propositions. The more these players will be able to win against market giants, the more a clearinghouse will be needed
- **Proliferation of innovative business models**. The transition from stock to flow will induce a continuous creation of complex business models. While a simple "buy and read model" will not necessarily create the need for a clearinghouse, once subscription models (e.g. pay for 100 songs) are established the increased complexity will make a clearinghouse more necessary.

- **Interest for managing digital rights dynamically**. Customers could in the future ask to modify their rights after they have acquired them. They may be willing to transfer to a different device a certain content or they may want the authorization for passing to other customers the content they have bought. This need for tracking the content and the rights after the initial buying date will increase the need for the clearinghouse

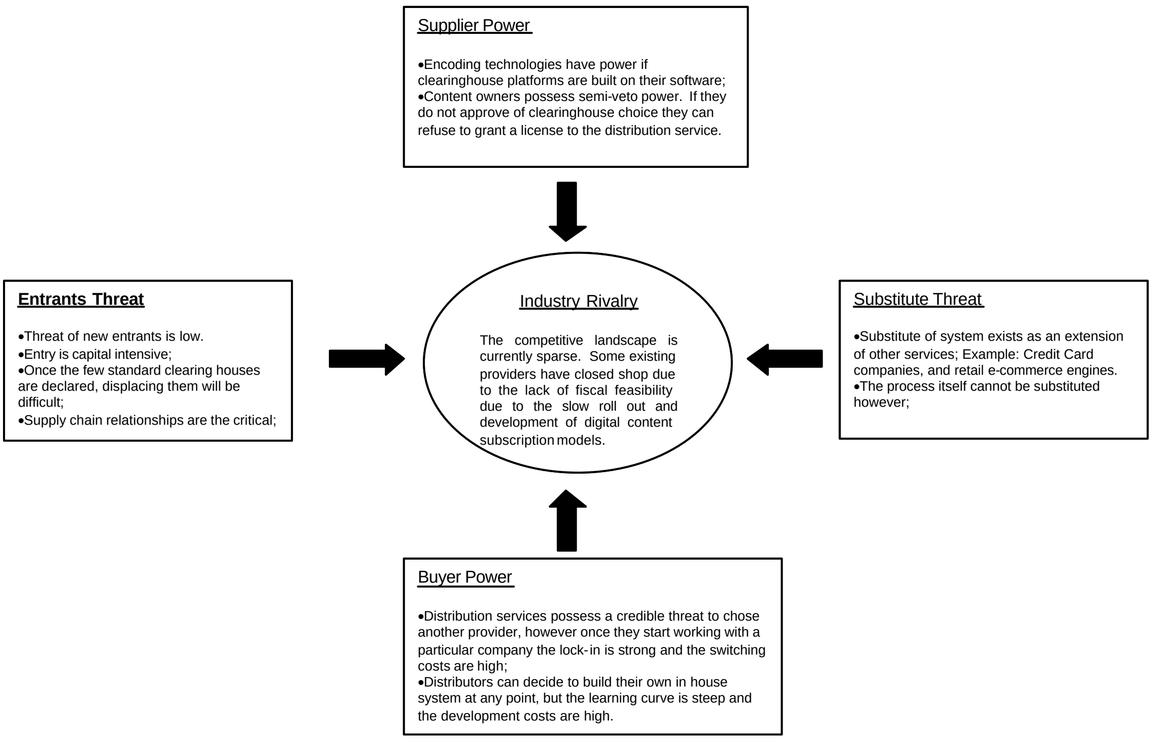
6.2 Sharing economies of scale between COP and CDA

The other big advantage of a central clearinghouse is driven by financial motivations. Since the investment required in a full DRM solution is very high, particularly if compared to the actual market size, COP and CDA may be willing to share both the upfront investment required for a full scale solution and the risk of choosing a not updated solution. The availability of a clearinghouse will allow them to have the best available solution at a scalable cost without having to commit before the market develops.

7. MARKET DYNAMICS

In order to assess the potential market for a clearinghouse we start with the current and forecast market size of the off-line businesses in different industries. From here we assess (Jupiter) the percentage of content that will be transferred over the Internet and from there, and based on the previous value chain analysis, we assign a percentage revenue share that the clearinghouse could reasonably expect. This method is rather basic but it allows us to follow a logic rather than just taking inflated projections distributed by researchers in the last two years (*Appendix 1*).

Due to the clearinghouse's position within the DRM value chain it is subject to strong market pressure. The most severe pressure comes from the suppliers and buyers of its services.



8. KEY CRITERIA FOR ASSESSING A NEW VENTURE IN THIS SPACE

8.1 Quick checklist criteria for evaluating the venture

- Is the product / services portfolio presented a painkiller? Is it a “got to have”, or a “nice to have” as presented in the first part of our paper? The venture has to address specifically one of the pains described above:
    - Aggregation of customer information for micro-purchases,
    - Easy (compatible, reliable) distribution of digital rights management,
    - Security (confidentiality of information)

- How large is the market opportunity?
    - Does it create a billion dollar market?
    - How reliable are the projections?
    - Does the business scale with its revenue model?

- Is the venture creating sufficient barriers-to-entry, particularly concerning the platform’s partners?
    - Established media players: VivendiUniversal, AOL TimeWarner, Bertelsmann, Sony, etc.
    - Established financial player: AmericanExpress, Visa, etc.
    - Established technology provider: Intertrust, RSA Inc, etc.
    - Established industry association: BMI, SACEM, etc.

- Does the management have the required contacts, experience and vision to develop a dominant clearinghouse?
    - Does management have experience managing and developing an exchange?
    - Do they have high-level personal relationship with decision makers companies owning content of various types (i.e. Music, Movies, Games, Books etc.)
    - Does the management have entrepreneurial experience? Have they built a business from the ground up?
    - Does the management not only see the current opportunity but also envision the future growth path?
    - Is the management confident enough not to take “no” for an answer yet humble enough to admit when they are wrong?

8.2 How can the Clearinghouse develop a sustainable competitive advantage?

The following table summarizes our views on the key sustainable competitive advantages a new venture in the clearinghouse market should develop both in order to succeed and in order to create barriers to entry.

Lock-in alliances with key industry players	Industry players (partners) are defined here as: content providers and content distributors Indeed, we believe it is a matter of scale and building critical mass. If the

number of alliances is not big enough, the clearinghouse will not have the **traffic** guaranteed from these players. Additionally, the clearinghouse would not be able to operate if it has shut off all major content providers. Alliances also help with **market credibility and trust** for the platform as an industry standard.
A way to achieve this goal would be to share the upside with them in the form of equity.

Commit to a neutral and independent identity

Industry players and consumer associations might easily discredit the platform if they feel it is biased towards any given partner. The clearinghouse should structure its corporate governance accordingly (Board of Directors representing all parties).

Build a strong financial credibility

Dealing with intellectual property rights online might involve large flows of money.
The platform might also want to associate itself with a financial institution to enhance its reputation.

Lock-in major clients early, thus creating switching costs

Although not sustainable in the long run because clients have a right to choose their suppliers and partners, this creates a **barrier to entry** for smaller start-ups and prevents them from taking the clearinghouse’s business away.
This approach also shifts the company’s focus from product-centric to become service-centric.

Provide compatibility with all technologies on both ends (clients, suppliers)

Because it shouldn’t want to tie itself with a single technology provider, and because content partners might have several preferences, the clearinghouse must be able to **support any of the available technologies**, until the standards consolidate.
This develops a sustainable competitive advantage because it eliminates the threat of **disruptive technologies** for its core business.

Develop additional services beyond the clearinghouse, in addition to the core clearinghouse services

The clearinghouse has to protect itself from being perceived as a commodity service in the industry. Thus it should not only **differentiate** its offering, but continuously **add value** to the industry partners.
It must also provide an aggregation of services that technology partners cannot easily replicate by themselves.
This also provides an opportunity for the company to **scale**: the platform could start with music, but then expand into other content formats, such as video, games, software, etc.

Focus on the ability to innovate

This business is a typical example of the **first-mover advantage**. Indeed, by leveraging the early relationships with partners, the clearinghouse can understand better what they want in the future.
This is similar to the “Eyes and Ears” approach developed by Intel Capital.

Offer the best product at the best price, that can be produced in mass quantities

The **intermediary model** here builds nicely on **network externalities**: the more partners use the platform, the better value the clearinghouse can offer, and the better value is transferred to the customers.

Develop tailored value propositions to different segments

In the content industries, many target segments co-exist, requiring very different value propositions.
The platform should be able to adopt a “**bowling-alley**” expanding the services for an existing customer base, while also targeting new customer segments.
Additionally, this strategy would avoid leaving segments untapped to others (e.g. Microsoft has tried to address every market segment for its products).

Provide a roadmap for scaling

In addition to the services / client segment “bowling alley” expansion

the business	strategy presented above, we foresee several other ways to scale the business: - geographical expansion (including both language and territory customization) - an expansion of the business model into the P2P model, allowing end-consumers the ability to share and charge for their own contents.

8.3 Risk Assessment

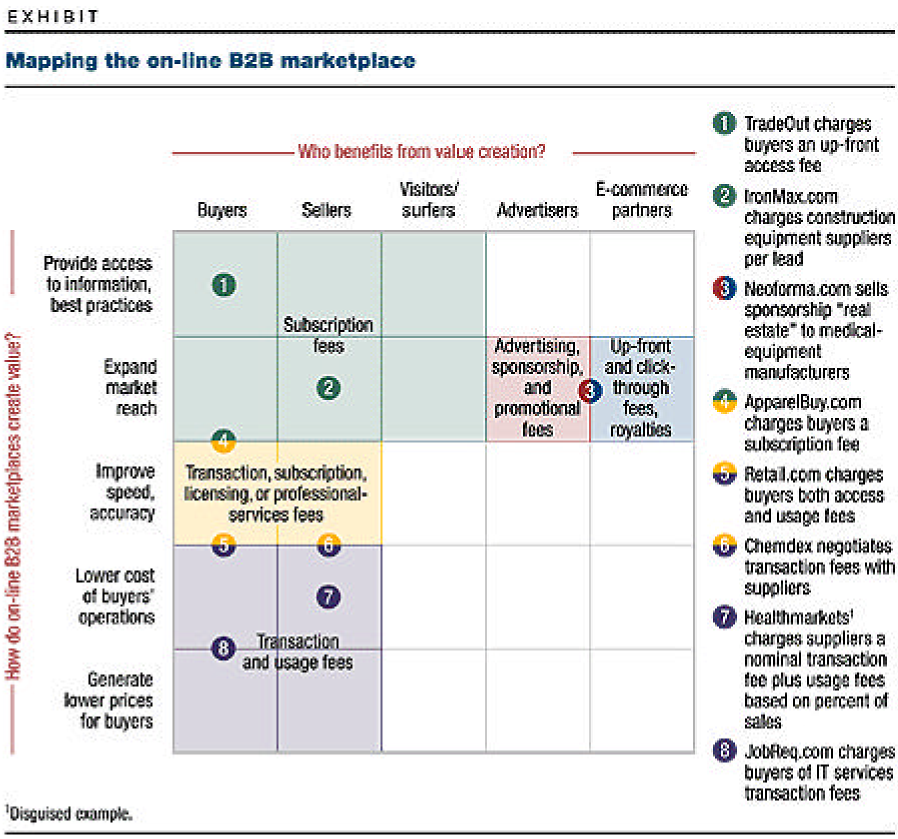
In addition to a clear understanding of the targeted market size, and the development of barriers to entry, we would expect any new venture to properly analyze the business risks for launching a new venture. The following table presents our assessment of the major risks. It should be completed also with a clear understanding on how to detect those risks and how minimize them.

What is the risk?	How to detect the risk?	How to minimize the risk?
Adoption risk, market size not under-developing according to projections, marginal adoption of the platform (this problem led to the bankruptcy of RECIPROCAL)	Market research, traffic monitoring, cash-flow analysis	Promoting trust in the industry and to customers; Effectively marketing the benefits of a DRM clearinghouse to industry players;
Piracy risk; no system is 100% secure, it is just a matter of making it hard enough to crack to make it useful	Newspaper / media reports Follow online underground discussions	Support new DRM techniques; Lobby for regulations; Set up a legal litigation department to dissuade potential offenders;
Integration risk in the coordination of the value chain components	Delays in implementation; Operations anomalies	
Competition risk: new entrants might represent a huge threat: credit card companies; financial institutions, mobile phone companies with micro-payments, etc.	Monitor press releases, DRM trade shows, industry associations	
Partnership risk: the whole model relies on the assumption that large industry players will join	Early refusals or disinterest from large industry players	Talk with the partners Do not build the platform until you have secured the partners
Business risk: the platform might not be able to offer this solution at a price that people might want to pay for – the business model might be flawed	Market research	
Industry risk: if the market concentrates, then there is less need for the clearinghouse	Monitor industry news	
Anti-trust risk: aggregating most industry players might create a monopoly	Secure proper legal protection from specialized lawyers	

8.4 Business models for the clearinghouse

The following framework presents nicely the potential revenue models that the platform could apply to its different customers and partners base. We believe that no simple model will be sufficient to create a sustainable business and that the platform should develop several revenue streams according to the different interconnecting players.

Consequently, when analyzing a new venture, we expect to see a clearly though-out business revenue model. We propose below some potential sustainable components to this revenue strategy.



Source: “B2Basics”, The McKinsey Quarterly, 2001, No 1

Example 1: Revenue model targeting the content producers

i. annual subscription / contract to use the service
ii. per document fee to process
iii. revenue-sharing for additional issues of the same content

iv. selling insurance policy (as a financial option house)

The venture could focus on aggregating the content from producers and manage for them the secured distribution of the content: full integrity of delivery, copy-protection, e-billing, and payment management.

Example 2: Revenue model targeting the content publishers

i. license for the right to use the solution infrastructure
ii. hosting fee if solution operated as ASP for others
iii. revenue-sharing, based on transaction fees

The venture could focus on selling to other publishers a license of the current solution that manages the secured distribution, billing, and payment of the content.
The clearinghouse could become the back-end of publishers and distributors such as Amazon and Bertelsmann.

Example 3: Revenue model targeting the content consumers

i. pay per view/ per use/ per download
ii. periodical subscription with the right to use
iii. sale of consumer data to the content producers

The venture could provide a private label website, customizable with the distributors' identity, where consumers could find the largest selection of digital content, as well as personalized downloadable content (i.e. An Amazon type of e-commerce site generator for digital content, with all a 1:1 content management twist).

9. CONCLUSION

The need for clearinghouse services is critical for the rapid development of digital content distribution businesses. While some of the first CDA are using proprietary clearinghouse systems (i.e. Pressplay), as the market develops the complexity of the environment will require the provision of at least one independent reliable exchange. Several large content companies have their own clearinghouse services, however it will be difficult for them to receive buy-in from competitive content companies to manage the payments of their sales.

An independent entity is clearly needed to bridge the content providers. However, fearful of any one exchange developing too dominant a position in the industry, COP will support multiple exchanges that compete with one other on price and services. To become a leading clearinghouse, one must lock-in the support of the content providers by providing them an incentive to provide continual support. The path to securing the lock-in and methods of providing incentive will vary but both are crucial components for a dominant clearinghouse strategy.

APPENDIX 1

Digital Content market size projections

				2,0%	0,5%	3,0%
2002	**Market size**	**% distributed electronically**	**Value distributed electronically**	**Fee to Clearing house**	**Pesimistic scenario**	**Optimistic scenario**
Music	50.312.141	9,0%	4.528.093	90.562	22.640	135.843
Video	30.202.473	6,0%	1.812.148	36.243	9.061	54.364
Games	2.288.000	13,0%	297.440	5.949	1.487	8.923
Business/Proffessional	23.155.300	20,0%	4.631.060	92.621	23.155	138.932
Packaged PC software	37.642.000	10,0%	3.764.200	75.284	18.821	112.926
Government&Healthcare	15.614.274	0,0%	0	0	0	0
Other (publishing, Images, enterprise)	44.022.867	10,0%	4.402.287	88.046	22.011	132.069
Total	**203.237.055**		**19.435.228**	**388.705**	**97.176**	**583.057**
2003						
Music	54.594.413	14,0%	7.643.218	152.864	38.216	229.297
Video	33.141.327	8,0%	2.651.306	53.026	13.257	79.539
Games	2.662.000	15,0%	399.300	7.986	1.997	11.979
Business/Proffessional	25.784.500	20,0%	5.156.900	103.138	25.785	154.707
Packaged PC software	41.261.000	12,0%	4.951.320	99.026	24.757	148.540
Government&Healthcare	17.262.987	1,0%	172.630	3.453	863	5.179
Other (publishing, Images, enterprise)	48.817.955	12,0%	5.858.155	117.163	29.291	175.745
Total	**223.524.182**		**26.832.828**	**536.657**	**134.164**	**804.985**
2004						
Music	59.241.166	21,0%	12.440.645	248.813	62.203	373.219
Video	36.527.117	9,0%	3.287.441	65.749	16.437	98.623
Games	3.096.000	17,0%	526.320	10.526	2.632	15.790
Business/Proffessional	28.596.700	20,0%	5.719.340	114.387	28.597	171.580
Packaged PC software	45.219.300	15,0%	6.782.895	135.658	33.914	203.487
Government&Healthcare	19.073.760	2,0%	381.475	7.630	1.907	11.444
Other (publishing, Images, enterprise)	55.337.585	15,0%	8.300.638	166.013	41.503	249.019
Total	**247.091.628**		**37.438.753**	**748.775**	**187.194**	**1.123.163**

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