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Value Creation in the Content Provider Industry

An Integrative Approach from a Business Model Perspective

Master of Science Thesis in the Master Degree Program Management and Economics of Innovation

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Abstract

This thesis analyses how Content provider firms and Competitive Intelligence Systems (CIS) interact in business to business (B2B) transactions. While much attention has been given to e-business in the literature, the economic effects due to interactions among content providers, CIS and final users have largely been neglected. To address this knowledge gap the report aims to identify how medium size content providers create value. In order to do so, this report identifies how actors interact in terms of content transfer and how the interaction creates value.

To understand the mechanisms of value creation in the content provider industry and to answer the research question, we review the concepts of value, business model and value creation in e-business. Additionally, the report analyses how the Content Providers and Competitive Intelligent systems interact by drawing on six case studies of business-to-business (B2B) content providers, one competitive intelligence system and a user of the system. The case studies are analyzed from a business model perspective. All the above, was made in order to build a new theoretical framework which was used to analyze the value creation mechanisms of those six cases. This framework proposes five value creation mechanisms for this industry (i.e. Perceived Quality, Complementarities, Lock-In, Delivery Mechanism and Efficiency). The framework is applied in the analysis of the six cases and a quantitative measurement is proposed.

This research presents a snapshot of the industry by identifying actors, their interactions and implications from value creation perspective. Finally, the research envisions some possible paths of future development for CIS and Content Providers, for instance bundle their offers and benefits from greater coordination and integration.

Keywords: content provider, value creation, competitive intelligence, business model

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Hermann Fuquen González Samuel Podlipsky Sánchez

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Terminology

ASP - Application service provider

B2C - Business to consumer

B2B - Business to business

BIS - Business intelligence system

CIS - Competitive intelligence system

CP - Content provider

DSS - Decision support system

ERP - Enterprise resource planning

ICT - Information and communication technologies

RSS - Really simple syndication

1. Introduction

In this chapter an overview and the background of the study are portrayed in order to give a higher understanding of the relevance and the purpose of the research. This is followed by the scope and limitations. And lastly, the general outline of the study is presented.

1.1 Overview

Since the emergence of internet, providing content through digital channels has become a more common practice among different industries. Furthermore, the intangible assets have strengthened its position as a strategic matter for corporate managers. This has enabled the creation of new industries, business models, products and services. However, the emergence of these actors has created vague and poorly understood market boundaries.

Among these new industries, there is a particular one that has developed in recent years, taking advantage of the benefits of e-business and information needs. This industry can be identified as content providers. The content provider industry has materialized in the e-business arena as a natural step of e-business evolution, in a world where information is a strategic asset for any kind of business to compete.

The concept of content provider is not clear in the literature and even in the industry, it can change depending on the type of product and who is using it. Usually from the perspective of companies they do not define themselves as content providers. However, from the perception of a user it could be considered a content provider. A basic example is the Wall Street Journal; it is considered a newspaper publisher by itself and by its readers of the printed version, conversely from the perspective of a consumer reading the news online, is considered a content provider of news. Another example is consulting companies providing specialized reports and business news about an industry. They classify themselves as consultants, but they are seen for their users of digital products as content providers. Thus, a content provider generally speaking is a function, any type of actor or supplier that provides content to a user or a paying customer.

In this research, we intend to clarify the concept of an industry of content providers based upon a literature review in value creation, business models and an empirical investigation to create a new framework to understand this industry.

1.2 Background

This investigation originates from a Competitive Intelligence System (CIS) developer proposal to study how business-to-business (B2B) content provider companies distribute their content. Where B2B is defined as transactions between business conducted online, and the networks and supply chains that enable these transactions (Haig, 2001). On the other hand, business-to-consumer (B2C) is described when a consumer purchases products from businesses (Shim et al., 2002).

Even thought a consolidation of information demands in business become a highlighted trend by several authors of the knowledge base economy (Teece, 1986, Mansell and Wehn, 1998, Granstrand, 2000, Marr et al., 2002, Teece, 1988), there is an information gap on the understanding of this companies.

The genuine interest of the authors to obtain a deeper understanding on these companies consolidated the motivation to start with this investigation, focusing on North American and European markets. Those markets are relevant because they have been the place for the emergence of the content provider activity.

In this research, we are trying to identify the source of value creation in the industry of B2B content providers by analyzing the interactions between different actors. This leads to the construction of a theoretical framework which is suitable to understand the particular characteristics of this industry. In addition, we attempt to identify current flaws and to envision possible opportunities in the future.

This research is an exploratory investigation, where we included the examination of six content providers analyzed through case studies, which has given us a snapshot about the industry of content providers.

1.3 Problem Framing

Many strategic decisions are based on information outside the organization (Burstein et al., 2008a). Content providers deliver this information specifically about the competitive environment, however little is known about this industry and its importance.

When trying to classify content providers as an industry, we found that there are several industry classifications [1]which should include content providers as an industry, however, we identified that many companies providing content through digital channels were not included in the listings. The main reason for this was that the core activity in the past of these companies was out of the scope of these classifications. In addition, many content providers serving specific sectors are not considered in those classifications, since they have been classified in other industries (e.g. consultants), even if all the information is provided through digital channels.

This means that the boundaries of the industry are indistinct and not well defined. Thus, even if there is sufficient knowledge and literature in technical aspects, there is not a clear understanding of the industry in business related terms. All of the above mentioned reasons have made that the role of the Content providers not elaborated in the academic literature. Thus, we will explore this issue by understanding the industry and the interactions within them.

In order to have a better understanding of the industry and its relevance, it is important to understand their value offering in their business model. This needs to be done by analyzing their business models and the mechanisms for creating value in the industry.

We have distinguished three main actors in this industry:

- Content Providers: Companies delivering information through B2B transactions

[1] Information Collection & Delivery, North American Industry Classification System (NAIC) codes**:** 519110, 519190 Hoovers, I. (2011). "Information Collection & Delivery." Retrieved 01/02/2011, 2011, from http://www.hoovers.com/industry/information-collection-delivery/1456-1.html.

Internet Content Providers, NAIC codes: 516110, 519130 HOOVERS, I. 2011. *Internet Content Providers* [Online]. Available: http://www.hoovers.com/industry/internet-content-providers/1457-1.html [Accessed 01/02/2011 2011].

- Competitive Intelligence Systems (CIS): Companies offering specialized software to handle internal and external information within organizations.
- Decision Maker: End users; could be a user of CIS or a direct user of content provider.

Considering that customers can only value what they perceive; this implies that they are unable to value most inputs of the production process. Therefore, it is important to know how the content providers cope with the demand of information and understand the industry.

There are some frameworks for understanding value creation in e-business. We identified Amit and Zott´s model as the closest one for this industry (Zott et al., 2011). However, this model does not fit completely for the content provider industry, since some characteristics are not covered by it. Thus, we will cover this issue by proposing a framework to fit the content provider industry.

1.4 Purpose

The objective of this research is to have an analysis of this industry in terms of value. This analysis is performed using the business model as the unit of analysis.

As it is mentioned above, the content provider industry can have different classification depending on the type of information provided, while little is known about how they actually operate. Therefore, it is interesting for the authors to analyze this industry and how the concept of value changes from different perspectives, in order to be successful in the content provider industry. On this line, we try to analyze how different stakeholders pursue value depending on their particular interest and how to unify a single value creation strategy (Lepak et al., 2007). Hence, it is interesting to investigate the following research questions:

“How do medium sized B2B Content Providers create value?”

B2B Content provider industry will be delimited by companies located in North America and Europe. By investigating the research question and taking in consideration that during the initial studies, seven interaction cases were identified as crucial to understand the process of value creation regarding the relationship between the actors of this industry, we will also investigate specific research questions to analyze the value creation in the industry. These questions are:

“In terms of content transfer, how do actors interact?
“How does the interaction create value?”

1.5 Scope and Delimitations of the Study

This study focuses on the following type of content providers identified by Camponovo (2002): Proprietary, aggregators and syndicators. The study includes Enterprise Portals in general terms, because they are mainly consolidators of information within a web interface, however they could be relevant in the way they redistribute information. Also, Enterprise Portals are not external entities and are not content providers in the whole sense stated in this research.

Since large content providers tend to be dispersed this study is delimited to medium size content providers only. Geographical delimitation includes companies mainly positioned in Europe and North America, since those markets are considered relevant due to a historically sustainable

development in the industry of services specially related with information technology (Mansell and Wehn, 1998).

Six content provider companies were selected, each of which serve different segments. In these six companies case studies were elaborated. In addition, case studies of a CIS developer and a user were performed in order to have their perspectives and map their interactions.

Based on the literature review and empirical findings, the study presents a new a framework to analyze value creation in the industry. Even if the low number of cases can threaten the external validity of this research, this study works as an illustration of the industry and the mechanism for creating value. This will help future researchers to have a clear snapshot of the industry.

1.6 General Outline

The outline of the thesis is described as follows: in the first chapter we have presented the overview, background and research questions. In the second chapter, we have provided a literature review that will help us to obtain great understanding of the concepts and theories used in the thesis. The second chapter also included the industry ecosystem of content providers to obtain a higher appreciation of the problem, the involving actors and main concepts. In the last part of the chapter, we elaborated a framework for evaluating value creation in the industry, based on the literature review. In the third chapter, we defined the methodology for the study. The fourth chapter contains a summary of the empirical data obtained from the three main actors in the content provider industry. The fifth chapter presents the analysis of the study, bundling the theoretical framework and the empirical findings. In the last chapter the conclusion is developed and the research questions are answered.

2. Literature Review

The literature review will give us a greater understanding on why the research question is important and explain concepts that will be used during the analysis (Bryman and Bell, 2007).

We divide the literature review in five main sections, which touch upon different concepts that need to be understood before going deep into the analysis, also will help us to propose a model for indentifying sources of value in this industry. The five sections are: Value; Business model; Sources for value creation in e-business; Content provider and development of a new framework.

2.1 Value

The concept of value is addressed to portray the general topic, wherein the research question is based. Value is a fundamental economic concept and is used in this study in order to understand the value creation process in the industry and identify potential opportunities to exploit it.

2.1.1 Concept of Value

In the literature, the term value has been used in different ways and with different meanings. For Marx (1867) value is the labor required to produce a good, including the labor to make raw materials and the costs of the tools and machines for the process. For Marx the value was only depending on the labor and did not considered the needs of the buyers, Menger (2007) offers a concept of value which is based on goods concept. For Menger if a thing is to become a good needs to have the following prerequisites:

1. *A human need.*
2. *Such properties as render the thing capable of being brought into a causal connection with the satisfaction of this need.*
3. *Human knowledge of this causal connection.*
4. *Command of the thing sufficient to direct it to the satisfaction of the need.*

If any of the four prerequisites is not present, the thing is not a good, also if the good looses one of the prerequisites stops being considered a good. In this sense, a good is a thing that satisfies a human need that would not be provided directly, making it valuable. Bowman and Ambrosini(2000) refers to the concept of value based on the Resource Base View (RBV) theory (Peteraf, 1993). Over Bowman and Ambrosini's theory, the resources of a firm are considered valuable when the firms takes advantage of opportunities and neutralize threats in specific market environments.

Lepak et.al (2007) stated that new value refers on two segments: "content", referring to, what is valuable for an entity, who values what and where is located the value and "process" regarding how value is generated and the role of top management on it. Another vision around the basic concept of value is stated by Porter (1985) based on the value chain. The value chain is described from a series of suppliers to distribution channels. Then, competitive advantage is necessary to create value within the value chain, following strategies as differentiation or lower cost. Bogner and Thomas (1999) and Verdin and Williamson (1994) define value as the way to better satisfy customer needs or the ability of a firm to satisfy needs at lower cost.

Both theories, RBV and Value Chain, are consistent to highlight that resources are valuable in the way they meet customers' needs. Therefore customer perception of value is central to explain the

concept definition of value. Customers' perception of value of a good is sustained in the beliefs about the goods. Those beliefs are needs, experiences, wants, expectations and so on. Customer here is not only the final user but any kind of buyer including B2B firms.

Furthermore, Menger (2007) mentions that for one individual the value of a good can be different for another, meaning that the value of a good cannot be determined without the judgment of individuals. He makes the difference between use value and exchange value, where use value entails to specific qualities of a product that customers perceive in correlation with the satisfaction of their needs. It refers to subjective judgments that customer imply with the use of a product offering (Menger, 2007). Exchange value is explained as the monetary amount generated when the exchange is performed or the amount paid for the perceive use value (Bowman and Ambrosini, 2000, Lepak et al., 2007). On The other hand Merger (2007) has stated a broader definition of exchange value. He defines it as the importance that goods acquire because their possession assures a similar benefit indirectly. In other words exchange value is the power that a good represent to be exchangeable for other goods.

2.1.2 Value Creation

The contribution of Lepak et.al (2007) regarding value creation is arguing to extend the definition of Bowman and Ambrosini (2000) to handle with not only the organizational level of analysis but the individual and societal level, Lepak et.al suggest that depending on the analytical level, value creation is perceived in a different way.

Table 1. Value Creation, level of analysis summarizes the sorts of value creation by level of analysis:

Table 1. Value Creation, level of analysis

Level of Analysis	Source of Value Creation	Characteristics
Individuals	Motivation Intelligence Ability	Individual Attributes and interaction with the environment.
Organization	Innovation Knowledge creation Invention Role of Management	Incentive policy and training.
Societal	Entrepreneurship Macroeconomic conditions Firm level innovation	Laws and regulations Encouraging or limiting innovation.

The value creation process of Felin and Hesterly, stated in Lepak et.al (2007) says that the process should start at the individual level in a knowledge creation process. Consequently, initial knowledge conditions determine value creation process. Hence, individuals create value by acting creatively to deliver novelty to their employer or end user. On the organizational level, dynamic capabilities are stated by Lepak et.al as the activities that generated and modify operating routines to create new advantages, then value. One of the main criticisms towards dynamic capabilities is the low relevance of users and their involvement to create value within this framework (ibid). On the

societal level, governmental intervention can stimulate entrepreneurship leading to value creation process on social levels.

Therefore, value creation depends on the quantity and quality of the value offer that is perceived by a customer. It has to be translated into the exchange of a monetary amount (Lepak et al., 2007). As is described in table 1, value creation correlates directly or indirectly in all levels with innovation. Then, level of value creation will depend on a positive evaluation of novelty and appropriateness for users towards a product. In order to assess novelty of a product, customers have to acquire specialized knowledge about the product and competitive alternatives. Furthermore, evaluation of novelty and appropriateness cannot be done independently of the social or cultural context (Amabile, 1983).

Creation of value within a firm is located in the intervention of people transforming inputs among a series of internal processes. It is compiled to the new creation of use value which is compared for the customer with other offers. If the offering brings a superior surplus to the consumer, this one will buy it, creating an exchange of value.

Bowman and Ambrosini (2000) differentiates three types of labor that contribute or go in detriment of exchange values generation:

Generic Labor: Is the essential labor to create new user value. However it does not create higher profits, but it is essential for the operation of the firm.

Differential Labor: Is the source for increasing profits and development of differentiate offerings. They are unique and distinctive within an organization and can be a source of entrepreneurial endeavors.

Unproductive Labor: This kind of labor destroys value, because they execute task and add attributes to the final product that are not appreciated by final consumers or than not achieve minimum levels of quality.

Mizik and Jacobson (2003) stated that value creation is the foundation for marketing strategies. In marketing the customer is the central actor to create value. Firms have to balance between two courses of action. Firstly, they have to be involved in pure value creation e.g. innovation, to propose superior customer offering; secondly they need to be involved into the appropriation of value from the market, in order to get a profit and cover operative expenses.

A similar perspective is stated by Merger (2007). He studied the balance of use value and exchange value in economic transactions, arguing that the two forms of value varied in magnitude depending on the good, the producer and the perspective of the user. Therefore, the dominant variable between use and exchange value will be the economic form of value (Figure 1).

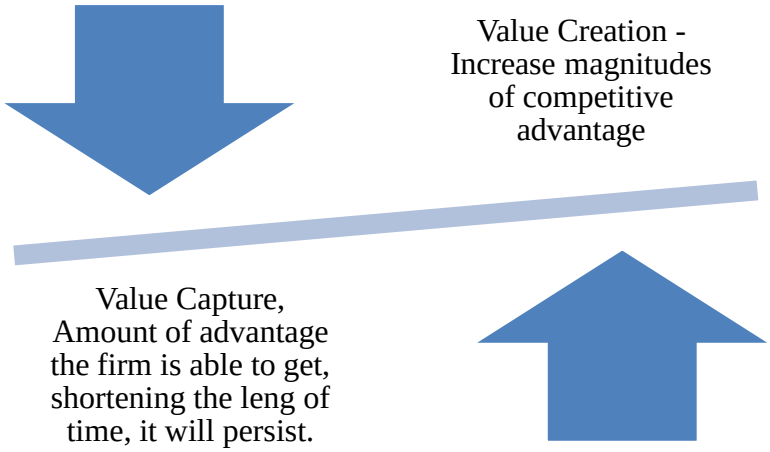

Figure 1. Balance of marketing strategy

According to Mizik and Jacobson (2003) value creation is more relevant than value capture (appropriation) in high technology industries, because they have to invest steadily in R&D in order to sustain its competitive advantage in environments where technology change constantly. In contrast, low-technology industries have to focus on sustaining its current advantages within a regular competitive environment.

2.1.3 Value Perception

Customers' perceptions of the value of a good are based on their beliefs about the goods, their needs, unique experiences, wants, wishes and expectations (Bowman and Ambrosini, 2000).

Bowman and Ambrosini (2000), indicates that customers choose the good that will give them the largest consumer surplus, and the chosen product must therefore be differentiated in ways which are valued by the customer, it must deliver more consumer surplus than alternatives.

Since customers can only value what they perceive, they are unable to realize most inputs inside the production process. However in accounting terms it is assumed that costs linked with those inputs are aggregated and passed to the customer in the final price (Bowman and Ambrosini, 2000). In fact many assets are used in the production process, but they don't add value in ways a customer can perceive.

Difference between the customer's valuation of the product and the price paid is the consumer surplus (ibid). Mizik and Jacobson (2003) define consumer surplus as the difference between the utility consumers perceive and the operative cost of producing the particular good . Both propositions emphasize the concept of surplus to explain value perception. They argue that consumer surplus can be reach by lower prices, producing at lower cost. Perception of value can be translated into monetary terms; it is defined as the price customers are willing to pay if there would be a single source of supply.

2.1.4 Value Capture

Value capture is addressed by other authors with the concept of value appropriation is the case of Mizik and Jacobson (2003) and Lepak et al. (2007). Then, the two concepts are interchangeable in this research.

The concept of value capture refers to the benefit that a firm retrieves from customers and that suppliers acquire from firms. Firms capture value through the selling of its products and services. Selling and acquisition of raw materials are the essential mechanism to capture value creating a profit. In one hand, profit quantity depends on several factors, such as the efficiency level into the production process (explained by RBV theory as internal routines within organizations that amplify profits). On the other hand, Industrial Organization theory highlight external linkages as with suppliers and buyers as the source for value capture (Bowman and Ambrosini, 2000).

Therefore value capture is defined by the power of negotiation between buyers and sellers. The offer of superior consumer surplus produces a bargaining power towards the customer. Accessibility to competitive suppliers for customer reduces bargaining positions and increase consumer surplus (ibid).

One of the value capture tools are addressed by Mizik and Jacobson (2003) as advertising. They argue that the investment in advertising derive positive effects in profits, along with the rise on entry barriers against competitors. From the perspective of the organization, value could be captured by using resources with attributes that makes them difficult to be imitated by competitors (Lepak et al., 2007).

It is important to mention that in some cases, value created by some entity can be captured by another by means of spill over; this concept is called value slippage (ibid). This happens when use value is high and exchange value is low. Slippage provides little incentive for the source of value creation to continue creating value in the long term, to determine which party captures the value, two concepts need to be understood, and those concepts are competition and isolating mechanisms (ibid).

When the competition is high, we have higher supply; this address itself in lower prices, (ibid). This creates high use value and low exchange value. To prevent value slippage, isolating mechanisms can be used, this mechanisms is anything that can prevent replication of the value creating tasks, products or services (ibid). Consequently, in order to increase value capture, firms needs to create higher entry barriers.

2.1.5 Measuring Value

Measuring value is a complicated economical concept. Usually the term value is used interchangeably with monetary price. Hence, the measure of value is done in monetary terms.

From the perspective of the consumer, in our economical system the term value, specifically exchange value tends to be subjective due to the different consumer surplus it gives to different people. And as we mentioned above, the consumer surplus depends on the perceived economic value, which is dependent on the maximum price and reservation price. These two concepts are be used to explain willingness to pay from the perspective of the consumer (Breidert, 2006). However willingness to pay does not explain how to measure value from a firm's perspective.

Mizik and Jacobson (2003) propose an indicator to assess the balance between value appropriation and value capture from the firm's perspective. With this indicator the authors intent to establish a measure to identify if a company is either following a strategy of value creation (investing in innovation and research for a competitive offer giving away profits in the short term) or a strategy of value capture (appropriation) explained above. The indicator is stated as follow:

$$\frac{Adv - R\,\&\,D}{Assets} = Value$$

Where, "Adv" represent expenditure in advertising and R&D represent the investment in research and development. Assets represent the total assets a company has obtained. A high level ratio in this indicator represents a higher concern for value capture, the inverse represent a high bet in value creation.

We can assume that in e-business, specifically in the content provider industry, the assets are low, since in this sector the assets are mainly intangible, namely Intellectual Capital. This will create a problem to assess value creation and more difficult to measure it.

Bontis (1998) says that in financial terms, intellectual capital is not measured. In order to understand why this happens, he presents Tobin's Q ratio, which is the relationship between a company's market value and its replacement value i.e. physical assets (Tobin, 1969). This makes that in knowledge intensive industries have higher Tobin´s Q ratios.

For knowledge intensive industries Marr et al. (2002) proposes the following equation to understand real market value:

$$MV = BV(MC + PC) + IC$$

Where:

MV=Market Value
BV=Book Value
MC=Monetary Capital
PC=Physical Capital
IC=Intellectual Capital.

The difference between the market value and book value in knowledge intensive companies (e.g. e-businesses) lays in the Intellectual Capital, which is greater than their tangible assets.

If we consider Mizik and Jacobson indicator for measuring value for the content providers, it will result in a high ratio for this expression. Consequently, we would assume that in the content provider industry the strategy of value is towards value capture. However, we can take in consideration that mostly all e-business tend to have lower investment in assets compared to manufacturing industries; for that reason this measure of value is difficult to use in e-business firms, especially for analyzing the value creation in the industry of content providers.

We argue that measuring value from a firm's perspective is difficult to put into other type of measurement that is not in monetary terms. Hence we consider more important for a firm to find the

balance between value creation and value capture and not a measure of it. As we have seen, value can be subject to the judgment of the customers, that is value perception, therefore it is also important not only to find the right balance between value capture and value creation, but also to improve the value appreciation of the customer in order to offer higher consumer surplus.

2.2 Business Model Analysis

Due to a steady increase in the number of publications stating the concept of business model in the literature, we deemed pertinent to shed light on the business model concept. In the first section we approached o common definition about business model. Then, we have a revision of the evolution of business model concept. Next, the main components of a business model are revised based on our research topic.

2.2.1 Definition

Business model is described by Osterwalder et.al (2005) and Teece (2010) as a conceptual interpretation of firm's strategic issues, such as market positioning and goals into a conceptual scheme, which explains how a business works. It serves as a business plan to realize the business structure. It portrays as well as a conceptual tool describing a set of objects, concepts and their relationship to provide value towards the customer, taking into account the financial consequences of this relation (Teece, 2010). Furthermore, the popularization in the concept is a product of an increased concern for managers to understand how business really operate and how deliver value to customers (ibid).

On one hand most of the authors focus the concept of business model on the way a company does business. Galper (2001), Gebauer and Ginsburg (2003), Timmers (1998), Magretta (2002). On the other hand other authors emphasize the model aspects; it means the elements that are found in a business model. Gordijn (2003), Osterwalder (2004), Chesbrough and Rosenbloom (2002), Hamel and Trudel (2000) and Amit & Zott (2001).

Osterwalder shows that the advent of the term "business model" is a young phenomenon suggesting a link with the recent increment in popularity of internet in the business world. Not surprisingly the number of times the term "business model" appeared in business journals from 1996 to 2004; follow closely the shape of the NASDAQ market index Osterwalder et.al (2005). Coincidence or not, it is a very significant effect which encompass the link between business model concepts and the advent of internet as a place for doing business.

Business models relation with technological development stems from concepts with transaction cost. In fact, the rise in cheap IT systems made easier for companies to work in value webs, because coordination and transaction cost fell substantially (Osterwalder et al., 2005). The internet has raised concerns on how a business has to deliver their value instead of traditional physical channels. Furthermore, capturing value from internet users whom demand information services has been a constant challenge, especially when users expect to access to more information without charge. It has pushed managers to define new business models specially to capture value towards the new preferences of customers (Teece, 2010).

Nevertheless, business models help to capture, visualize, understand, communicate and share the business logic. Business model is a framework that can combine business strategy, business organization and technology (Osterwalder et al., 2005).

2.2.2 Evolution of Business Model Concept

The last couple of years the concept of business model has evolved from the basic conceptualization and definition of taxonomies. A list of model components, describing elements to apply in business models is illustrated in the Figure 2:

Figure 2. Evolution of business model concept

Today we have got a rich literature regarding business models with a wide definition coming from different perspectives until a more applicable conceptualization of business models. It is important to highlight that a rich literature of applicable cases has been applied in management and information system applications (Osterwalder et al., 2005).

Implementation of Business Models

Another issue in the recent literature of business models deals with the topic of implementing business models into real business operations. Osterwalder (2005) discussed execution and implementation as a part of the theory in strategy and argues that the business model framework focuses on understanding how the business works. Richardson (2008) proposed a framework for business model to be executed once it is conceived. He addresses that detail is essential when the business model is being fulfilled. Those details are linked with product and services, activities and resources, people to execute the business model and so on.

Despite of much effort to implement "good" business models, a definition of what a good business model entails, is still unclear. Furthermore, implementing a good theoretical business model is not enough to assure success in new endeavors. Hence, the consolidation of a business strategy is essential to protect a competitive advantage e.g. technological innovation, with the use of barriers to fence the business model against imitation (Teece, 2010).

There are three mechanisms identified by Teece (2010) to prevent imitation from competition:

- Use of assets or systems that are difficult to replicate, consolidating the capacities that a firm can achieve but competitors cannot do it.
- Make difficult for external players to understand how a business model works. It is the concept of "opacity".
- Create business methods that competitors cannot offered because their current operations restrict them to, because of possible cannibalization or negative affection of business

relations. An example of this is Dell Inc, selling directly to the final customers when Hewlett Packard had previously established relations with intermediaries.

2.2.3 Business Model Components

As is stated by Osterwalder (2005) and Richardson (2008), there is an extensive literature regarding Business Model Theory. They list several authors recognized in the academic business community whom address the concept of business model. Then, they identified the components that constitute the business model on each of its publications.

Osterwalder (2005) identified nine business blocks for business models as is summarize in the next Table 2:

Table 2. Business Models Blocks

Pillar	Business Model Building Block	Description
Product	Value Proposition	Overall view of company product and services
Customer Interface	Target Customer	Segments of customer to offer value
	Distribution Channel	Means of the company to get in touch with customers
	Relationship	Links between the company and different customer segments
Infrastructure Management	Value Configuration	Arrangements of activities and resources
	Core Competency	Competencies necessary to carry out company business model
	Partner Network	Cooperative networks with other companies necessary to offer value.
Financial Aspects	Cost Structure	Monetary structure to sustain the business model
	Revenue Model	Mechanism to create revenue flow.

The table above shows the basic conception of business models that Osterwalder stated in his approach. Similar approaches have been reached by other authors. One interesting case is stated by Richardson (2008), where he addressed very similar components as a result of an empirical investigation based on different proposals of business models in the literature with a similar procedure that was carried out by Osterwalder (2005). The final components for Richardson (2008) in his integrative framework can be seen in Table 3.

Table 3. BM Richardson Blocks(Richardson, 2008).

Main Block	Sub-Block	Included in Osterwalder
Value Proposition	The Offering	Yes
	Target Customer	Yes

	Strategy to win customers	No
Value Creation and delivery system	Resources and capabilities	Yes – Core competences
	Organization	Partially
	Position in the value network	Yes - Distribution Channel and Partner network.
Value Capture	Revenue Sources	Yes – Revenue model
	The economics of the business	Yes – Cost structure

The three main blocks showed in the table above was built around the concept of value creation. As we can observe most of the sub-blocks are contained within Osterwalder (2004) framework, however some new blocks have emerged such as strategy to win customers and organization. As Richardson (2008) stated his framework is close to the logic of strategic thinking about value.

Value Proposition

Value proposition particularly refers to the reasons a customer pay for the product or service offered. It includes as well the intended customer or target market. Here we have to identify the value that is created for every customer segment. On the other hand we have to differentiate the service levels in different customers segments if they differ as such.

Another important component within the value proposition concerns with value added, that differentiated the offer with the competitors. It means we have to clarify what is the strategic positioning of the firm to deliver value (ibid).

Value Creation and Delivery System

In this section, it is necessary to describe the firm's sources of competitive advantage such as resources and capabilities, for example, how the firm creates, produces, sells and delivers its offering to customers. In this context the value chain and value network are represented as structural elements. The value network will be divided in suppliers, the firm itself, partners or complementors and distributors.

Value Capture

A model to visualize and coordinate the generation of revenues to provide a profit margin over its cost is necessary to guarantee the survival of a firm. In the framework a revenue model is stated as a source to monetize the product and services a company offer. The economic model includes cost, margins and several financial details about the firm such as revenue streams, cash flow and margins.

In the traditional revenue model, the consumer buys a product, where the price it pays has bundled together the price of the product itself and the price for the knowhow and intellectual property (Teece, 2010). This means that usually innovators capture value from technology when the buyer pays for the products that had intellectual property embedded on it.

Innovation in Business Models

When a business model has become irrelevant, new business models have the opportunity to prosper. These new models arise when constraints are lifted, however many of the constraints that will turn out to be important are unknown at the time to allocate resources to them (McGrath, 2010). The need to develop capabilities to experiment and build better models than their competitors is huge; however firms need to overcome their own internal rigidity in order to attain such capabilities.

2.3 Source of Value Creation in e-business

Amit and Zott (2001) present a model for evaluating value in e-business, where they propose that a firm´s business model is an important locus of innovation and a source of value creation in e-business.

2.3.1 Introduction

For developing their framework, they explained different theoretical points of view in order to analyze value creation potential absorbed in most of the virtual markets present today. They include several classical theoretical frameworks such as: Value chain analysis, Schumpeterian innovation, resource-based view, and strategic network theory and transaction costs economics. We look upon the same theoretical points briefly and we get deep into their model.

Value Chain Analysis

Porter´s value chain model examines value creation analysis at firm level. In this framework the activities of the firm are identified and their economic implications.

The main four steps are:

1. Define the business strategic unit
2. Identify critical activities
3. Define products
4. Determine the value of an activity

This analysis explores the primary activities which have a direct impact on value creation and support activities, which affect value indirectly. As it is said by Stabell and Fjeldstad (1998) cited by Amit and Zott (2001), value chain analysis is more suitable for production or manufacturing firms rather than services, since it doesn't capture the essence of value creation mechanisms. Therefore, value chain analysis is criticized for indirectly addressing the concept of value capture, leaving behind the consequences regarding value creation in business. Michael Porter states that value is the monetary amount that customers are willing to pay, whereas in other sections; he addresses the concept of value as a measure of total revenue. For Porter, value can be created by differentiation in any steps of the value chain. Hence, value chain analysis has got a limited vision to assess value in e-business as a result this framework does not seem suitable to understand value in this industry.

Schumpeterian Innovation

In Schumpeter's theory, the source of value creation is innovation, which makes emphasis in the importance of technology. Schumpeter coined the term creative destruction, where technological change destroys value already established by a previous product or technology.

The evolution of virtual markets can be described in terms of Schumpeter´s model. However, as it is noted by Amit and Zott (2001), virtual markets broaden the notion of innovation, since they span across firm and industry boundaries. Therefore, they argue that innovation is not the only source of value creation in virtual markets. In addition, content provider industry has broad definition and each type or specialized content provider competes with a different offering.

Resource-based View of the Firm

The resource based view sees the firm as a bundle of resources and capabilities, where value creation is the combination of complementary and specialized resources and capabilities. Firms differentiate themselves by bundling the resources and capabilities.

Resource Base View (RBV) bases its premises on the Schumpeterian proposition of sources of innovation within organizations (Teece et al., 1997), which was complemented with dynamic capabilities theory (e.g. coordination, integration, reconfiguration).

Amit and Zott (2001) mentions that the dynamic capabilities approach by Teece, Pisano, and Shuen (1997), highlight the importance of relational capabilities and complementarities.

With the emergence of virtual markets, firms could open new sources of value creation, especially within the spectrum of dynamic capabilities stated above. However the resource based view presents the problem that information based resources have higher degree of mobility and is likely that value sustainability of newly created value may be reduced.

Strategic Networks

Strategic networks take the form of strategic alliances, joint ventures, long term buyer-supplier partnerships and other ties. One of the questions that strategic networks try to answer is "How value is created in networks?".

As mentioned by Shapiro and Varian (1999) in Amit and Zott (2001), the network perspective is important for understanding wealth creation in e-business because of the relevance of networking for firms, suppliers, customers and partners. However, it may not capture the value creation potential of novel e-businesses models that enable transactions.

Transaction Cost Economics

Transaction costs occur when a good or service is transferred across a technological separable border or interface; for example when one part of the process ends and another one begins (Williamson, 1981). These transactions can be described by three critical dimensions: uncertainty, frequency and specificity of assets.

In this framework, transaction efficiency is identified as a major source of value, since enhancing efficiency can reduce costs. Therefore, e-business in some way can reduce direct and indirect costs, by reducing time of communication among others (Amit and Zott, 2001). Additionally, e-business

can reduce cost of procurement before, during and after transactions, reducing search cost between buyers and sellers and cost of communication of transactions details (Lucking-Reiley and Spulber, 2001).

2.3.2 Framework Sources of Value Creation in E-business

After reviewing each of the frameworks above, Amit and Zott (2001) proposed a model for evaluating value in e-business. They view value as the sum of all values appropriated by each party involved in the transaction, identifying four main drivers for value: novelty, efficiency, lock-in and complementarities.

The sources of value can be seen in Figure 3, the definition and interaction each of the drivers will be explained in the following part.

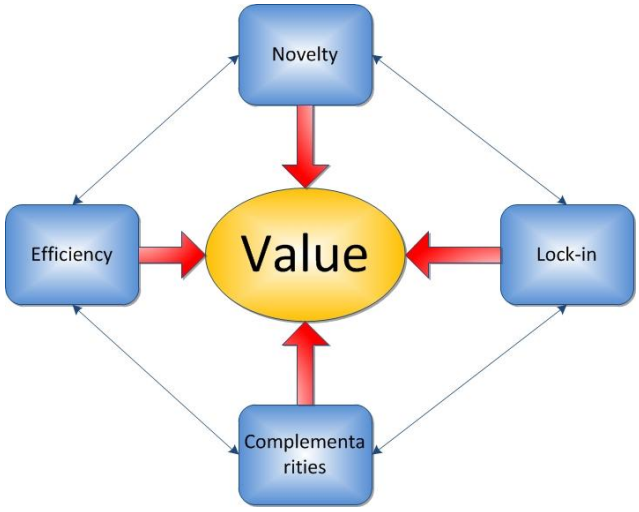

Figure 3. Sources of Value Creation in e-business(Amit and Zott, 2001)

Efficiency

Efficiency is consistent with transaction cost theory. Transaction efficiency can reduce the cost per transaction, hence the lower the costs the more value offering the company will have toward its customer. The speed and facility with which information is transmitted by the Internet reduces customer search and bargaining costs (Amit and Zott, 2001). Internet technology reduces cost in B2B transactions e.g. searching for suppliers or buyers or allowing making quick comparisons of prices and offers (Lucking-Reiley and Spulber, 2001). The types of efficiency mentioned by Amitt and Zott are scalability, bargaining cost and networks.

Scalability is another concept regarding value creation potential of a firm which can be increased when the number of transactions that flows in e-businesses platforms is scaled up.

Bargaining cost is diminished when the buying process is simplified and accelerated creating efficiencies in transactions which tend to increase due to low marginal cost.

Highly networked industries trigger low transaction costs that are linked to specialized assets due to harmonic information flows, and reduce asymmetric flow of information between networks members.

With the recent development of global computer networks, it seems that the reliability of the networks has steadily increased to levels that no longer are a concern. Furthermore, efficiency is no longer linked to the capacity to send information through the internet, but rather with the capacity to answer customer requirements in real time and choosing the suitable platforms and methodologies to operate in virtual markets. Therefore, we are focusing on the efficiency of internal processes to deliver the offer in this research.

Complementarities

Complementarities can increase the value when having a bundle of goods or services that provide more value than the total value of each of the goods or services alone. In their study, Amit and Zott (2001) found that e-businesses focus their potential for value creation by offering complementary products and services. These complementarities can be vertical or horizontal. They argue that it is desirable for companies to offer goods not directly connected to their core products or services.

Amit and Zott (2001) also highlighted the importance of complementarities from different theories. On one hand the RBV (Resource Base View) states the importance of strategic assets for value creation, while on the other hand network theory mentions the advantage of complementarities through the network of participants.

Their analysis also highlights the interdependency between each of the drivers for value creation; in this case, complementarities can be a way of attaining higher efficiency from customer point of view because of access to more services and derivatives functionalities linked to the basic product. When transaction cost and opportunistic behavior is low, it leads to an easier and efficient proposition of complementarities creating value for the basic product delivered.

As a result, products complementing the offer of e-businesses are essential for the value creation processes. However, the interactions between different actors should be analyzed for different economic perspectives to acquire a better understanding of the industries.

Lock-in

Lock-in can be explained with the following example: A consumer chooses and buys a non-durable product from a firm over its competitor´s offering (which is a perfect substitute). In order for the consumer to change or switch to the substitute, it will need to pay a switching cost, this cost is usually so high that the competitor is unable to offer a low enough price to induce the consumer to switch.

The switching costs tend to be common in high technology industries and can become so large that the consumers are locked in with one supplier (Shapiro and Varian, 1999). The lock-in prevents customers to migrate to a competitor creating value by having an incentive to repeat transactions and strategic partners to maintain their associations (Amit and Zott, 2001).

One strategy to lock-in customers consists of giving them a complete customizable offering adapted to their individual needs. Then, customers have high incentives to interact with the product to get a more adequate offering that suits their interest (ibid).

Considering the vast reach of virtual markets, e-business firms can connect with several parties, and they can be considered network generators. Being connected to the network which makes an effect on the production or function of the members of the network (Amit and Zott, 2001).

The network of users can be explained in a demand curve (Figure 4). When the numbers of consumers grows the willingness of consumers to pay grows as well. However, at some point in time, the curve of demand starts declining due to selling to consumers with lower willingness to pay, meaning that if no one buys the product there is no value, and having enough buyers the value increases, this is known as network effects (Shapiro and Varian, 1999).

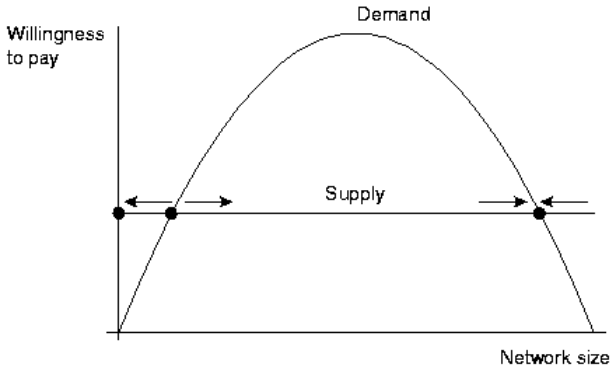

Figure 4. Demand and Supply for a Network Good (Varian, 2001).

Usually network effects appear in network industries. In these industries the value of a product depends and is based on the number of users or consumers it has. As the amount of users grows, users find it more valuable to adopt the product, until the product achieves a "critical mass" and takes over the market (Shapiro and Varian, 1999).

Efficiency and complementarities can foster lock-in; the efficiency features and complementarities may attract and retain customers and partners. In addition, creating lock-in could have a positive effect on efficiency and on the degree to which it provides for complementarities (Amit and Zott, 2001).

Lock-in is a powerful way to create value, however the balance between creation and capture of value have to be considered deeply into the context of e-business.

Novelty

The value creation of innovation has been mentioned by Schumpeter, in e-business companies innovate in the ways to do business, especially in the way they are structuring transactions. These companies create value by connecting unconnected parties, adopting innovative process methods and creating new markets. Due to the characteristics of virtual markets, innovation opportunities seem endless (ibid).

The connection between novelty and innovation with the other value drivers is important to mention, since novelty could start the creation of value.

Novelty and lock-in effects are connected by attracting new customers with something novel, and enforce it by a strong brand. A first mover in this area has the possibility to initiate positive

feedback by building network externalities. Novelty is considered to be connected through complementarities, since the novelty can reside in the way of a company to offer complementary products or services to customers. The connection between efficiency and novelty is that novelty can creates efficiency through new processes (Amit and Zott, 2001).

Even though the possibilities to innovate are endless, it is difficult to define technological boundaries. The spectrum to materialize new innovations has become restricted in e-business, due to an explosion in the number of new ventures in the IT sector and a huge development on IT infrastructure. In conclusion, innovation seems embedded in all of the other components of Amit and Zott´s model. We will discuss that additional criteria is necessary to evaluate novelty on current e-business context and that most of the criteria of novelty stated by Amit and Zott can be contained in the other units of analysis.

2.3.3 Conclusion of the Model

We argue that even if the proposed model fits for analyzing the content provider industry, some adjustment need to be done. To avoid value spillage, companies need to raise entry barriers to reduce competition in the industry. Amit and Zott argued that the four sources of value creation i.e. novelty, lock-in, complementarities and efficiency have the same weight and should be treated equally. However, we consider that some sources of value creation can be re-structured to amplify the vision of value in e-business industries.

In addition, their model does not consider the interaction among different actors and the perspective of the user and some adjustments needs to be done in order to fit the content provider industry. In order to do so we need to understand how the industry works.

2.4 Content provider

The concept of content provider is actively used during this thesis. We will revise the concept of content provider further in order to have a better understanding of the industry.

2.4.1 Revision of the Concept and Classification

As it was mentioned in the introduction, the term content provider has a diffuse meaning. The broadest definition can be found in the Oxford dictionary as “an organization that supplies information for use on a website” (Press, 2010). A specialized definition of content providers is given by the European Telecommunications Standards Institute (ETSI) as “An entity (e.g. a web server or a carrier portal) that provides content to consumers. The content provider itself may be a rights holder, or may provide content on behalf of or with permission from a rights holder, and may at the same time assume the role of a rights issuer”(ETSI, 2002). An alternative definition is portrayed as companies which collect, process, organize, index, update, and provide the data in a format usable by customers (Dewan et al., 2000).

We define content providers as external entities from the perspective of a company, which provide any type of content to users by digital channels.

Within B2B content provider transactions, there are four types of providers depending on the ownership of information (Camponovo, 2002):

- Proprietary content providers

- Content provider aggregators
- Syndicators
- Enterprise portals

Proprietary content provider is the entity which offers content from primary sources. They have a monopoly over generated information in relation with specific topics and type of content (Dewan et al., 2000). We can state the case of Reuters as an example of proprietary content providers. This firm gets the information from its own sources based on a network of journalist and cooperative arrangements around the world.

Content provider aggregator's main function is to bundle information from different sources (typically external sources) in form of collections of information. This creates alternative market structures to distribute and generate revenues through the use of innovative business models (Bakos and Brynjolfsson, 1999).

Syndicators refer to entities that contrary to aggregators have the ability to disaggregate the content that providers deliver this in order to distribute accurate filtered information to end users. Syndication is based on descriptions that content originators put on the information for label itself (Gallaugher et al., 2001, Halaschek-Wiener and Kolovski, 2008). When content is syndicated, the reader is getting the content from some entity other than the producer.

Syndicators disaggregate web feeds or RSS, which is an acronym that stands for Rich Site Summary, also known as Really Simply Syndication (Giurgiu et al., 2009). And making a collection of web feeds is performed by an aggregator. We consider syndicators as specialized type of aggregator, since aggregators can collect syndicated web content.

Enterprises Portals is software that provides integrated, customizable information to the end user through the use of a web site. It can be integrated with existing intranets within a company or be create without the support of an intranet (White, 2000). We think that enterprise portals are not interesting to look upon in this research since there is a wide range of literature about them. Additionally, we don't consider them as content providers per se, since the enterprise portals are not an external entity.

2.4.2 Industry Ecosystem

To obtain a better understanding of the industry, using a systematic approach is helpful. Therefore, we would use a business ecosystem approach to understand the industry. Within this framework, companies work cooperatively and competitively to support new products, satisfy customers and engage in future round of innovation (Moore, 1993).

Moore (1993) describes how every business ecosystems emerges in four stages: birth, expansion, leadership and self-renewal or death. Leader or leaders can emerge from the birth which construct the ecosystem or from the small actors with a rapid growth in the industry. The leader usually emerges with a technology or business model that motivates small enterprise to create complements, benefits and take advantage from the core technology offered by the leader. Examples of leaders are Apple and Twitter which generate a whole number of actors around them to improve the value offer, sharing information and creating conjoint profits.

Understanding business ecosystem is helpful when examining the evolution of industries. However, it is too general and can be applied to any industry. Even though, this is very general framework, the concept of business ecosystems is helpful to understand business environments, especially technological ones. Fransman's (2007) theoretical framework uses this concept to understand the content provider industry as is explained below.

Fransman (2007) explains that digital content providers, as a part of a business ecosystem, are embedded in the information and communication technologies (ICT) sector.

The ICT Ecosystem conceptualization is helpful to observe and analyze the content provider business ecosystem.

In the Fransman's (2007) ICT Ecosystem, there are four groups of players (as seen of Figure 5):

1. Network element providers
2. Network operators
3. Content and application providers
4. Final customers

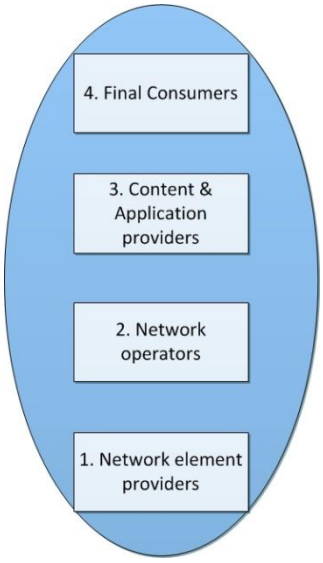

Figure 5. ICT Ecosystem (Fransman, 2007)

In the first layer, network element providers, produce hardware (such as routers, base stations and PC´s with Operating systems). In layer 2 companies attach the elements to create networks (companies like AT&T, América Móvil and TeliaSonera). The companies on the third layer use the first 2 layers as a platform to offer content and applications. In layer 4 we have the final consumer, which can be divided into households, companies and government. The boundaries between the first three layers are not impenetrable, in some cases, companies can be in more than one layer through vertical integration (Fransman, 2007).

The four layers interact with each other, creating six symbiotic relationships, this relationships are:

1. Network element providers and network operators.
2. Network operators and content and applications providers.
3. Content and applications providers and final consumers.
4. Network element providers and final consumers.
5. Network element providers and content and applications providers.
6. Network operators and final consumers.

The members of the third layer interact with each other, along with the network operators in the second layer, and with the final consumer in the fourth layer. Content providers depend indirectly on network elements and interact with the actors of the ICT ecosystem to operate and create value.

Knowing how the ICT ecosystem is conformed, we need to take a deeper look into the third layer. In the ICT ecosystem framework, nothing is mentioned about the interaction between the content providers and the applications providers. As a result, we need to make a differentiation between Content provider and application provider.

2.4.3 Application Service Providers and Content Providers

Application provider, in the ICT framework is known as Application Service Provider (ASP). It is an organization that rents application software to its clients (Smith and Rupp, 2002). The ETSI defines a ASP as "third-party entity that manages and distributes software-based services and solutions to customers across a wide area network from a central data center"(ETSI, 2002).The main difference between content providers and ASP is that the Content providers feed data to the ASP to be transformed and become information.

2.4.4 DSS, BIS and CIS

Currently, the management of intangible assets has become a strategic issue for corporate managers (Teece, 1988). The information and its processing is the asset which allows accessibility and analysis of markets in real time. It has become the language for companies to satisfy customer needs, creating a factual competitive advantage.

The decisions that affect the company's ability to compete in the market place are known as strategic decisions (Eisenhardt and Zbaracki, 1992). These decisions are often based on large volumes of data about the firm and its environment. Companies have to improve their ability to process this data to generate adequate strategic decisions. Therefore, to support decision makers, decisions support systems (DSS) are used. The DSS is an interactive, computer-based information system that utilizes decision rules and models, coupled with a comprehensive database (Turban and Watkins, 1986).

A data driven DSS that deals with data from internal and external sources is business intelligence systems (BIS) (Power, 2003), it can be used to provide the firm with information and knowledge in a timely manner, in the right form and location.

The BIS data acquisition involves sources, come from inside the organization and external content providers (Burstein et al., 2008a). Obtaining information about the competitors and the industry is known in the academic literature as competitive intelligence, which is a subset of business intelligence (Ibid).

The competitive intelligence cycle, consists of four steps: Planning and direction, Collection of Data, Analysis and dissemination (Montgomery and Weinberg, 1979). The Intelligence cycle is summarized in the Figure 6.

The steps of the competitive intelligence cycle are:

1. The planning and direction stage. This establishes the parameters for what the information is required and its measure indicators as well as the priorities based on the importance of becoming aware of an event, the likelihood of the event to occur and costs of anticipation and reaction.
2. The collection of data, which consist of scanning the environment of the company in search of data that will provide relevant decision inputs to the firm.
3. The analysis of the collected data, where recommendations are based on the interpreted data.
4. The last step is the dissemination of the findings to the end user.

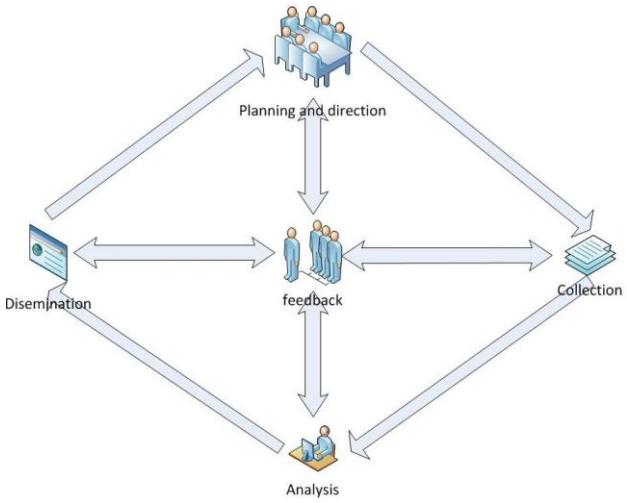

Figure 6. Competitive Intelligence Cycle adapted from Montgomery and Weinberg (1979) and Herring (1999).

In all the steps of the competitive intelligence cycle there should be feedback and the ability to restructure (Montgomery and Weinberg, 1979). The outcome of the cycle is business decisions that affect the achievement of the future strategy of the company.

Nowadays, the competitive intelligence cycle is assisted by computer software, known as a competitive intelligence system (CIS). The CIS term is defined by the Society for Competitive intelligence professionals as "a systematic and ethical program for gathering, analyzing and managing external information" (Professionals, 2010).

The intention of Competitive intelligence systems (CIS) is to provide managers with a picture of the environment to support strategic decision making (Burstein et al., 2008b).

Within the business intelligence literature some studies have investigating different parts of the cycle. However, little is known about the origin of the collected information regarding external entities. In the CIS case, the sources of information are mainly business-to-business (B2B) content providers. Consequently, the content origin and quality of information is a valuable source to achieve coherent decisions. Hereby the analysis of content providers has relevance in the industry of CIS companies.

Based on the competitive intelligence cycle, we can identify three main actors: Content providers (CP), Competitive Intelligent System (CIS) and Decision maker (user), as seen on Figure 7.

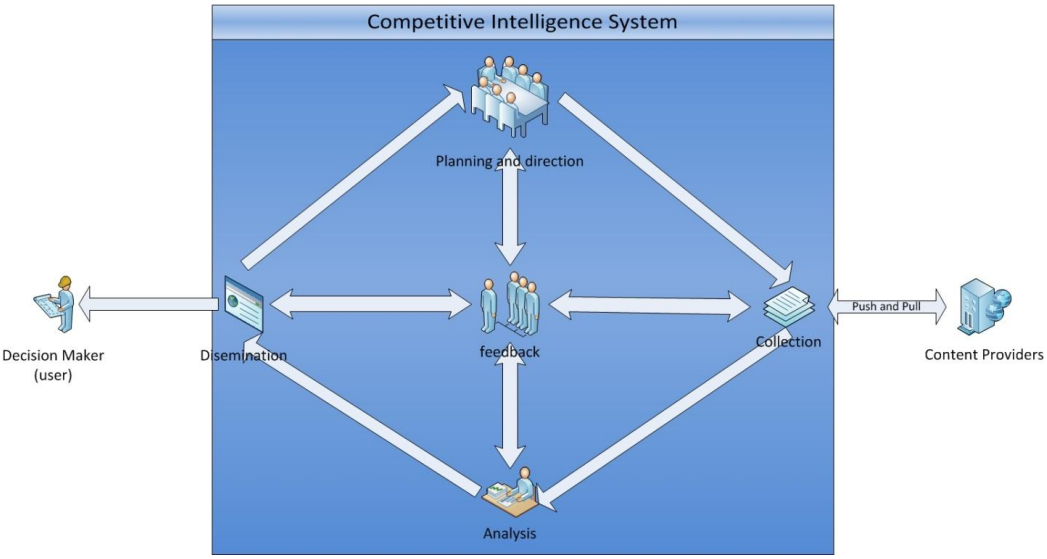

Figure 7. Adapted CI Cycle for CIS

After revising the concepts of content providers and application service providers (ASP), we can classify both BIS and CIS as application service providers, since both provide software application services.

As we mentioned before, CIS receive data from content providers in the data collection process. Considering that this process is mainly to obtain external data, we consider this one the main type of interaction between content providers and ASPs to be analyze in this research.

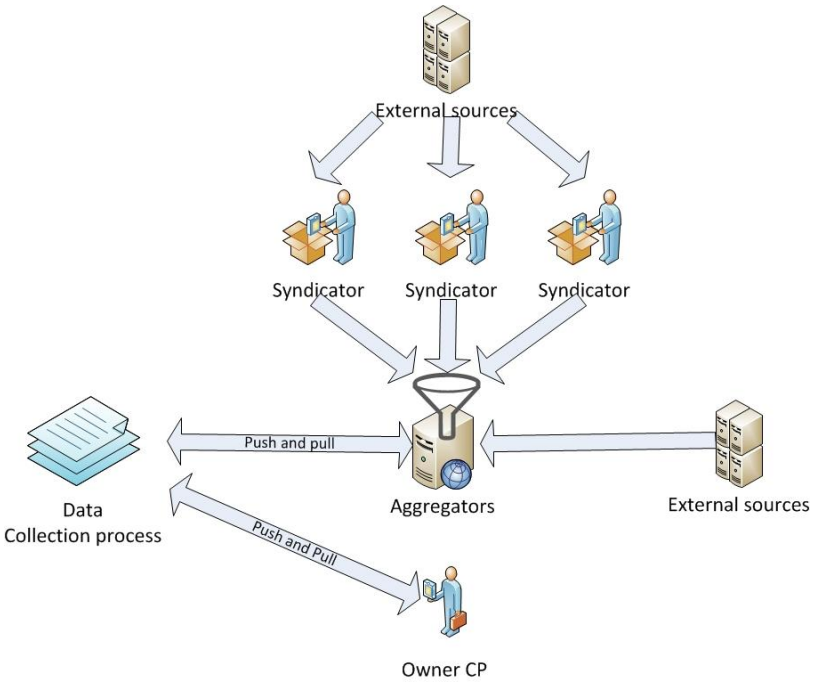

Figure 8. Data Collection of ASP in the Third Layer of ICT

The Figure 8 illustrates the different content provider types feeding information into the data collection process of the ASP. Usually, aggregators are used to obtain syndicated content along with non syndicated content. As we mentioned above the data collection process is the key activity to investigate because it is the supply step of data within the competitive intelligence cycle (Figure 2) which is the same as application service provider (ASP).

We believe that Camponovo's (2002) classification is rigid and many companies will offer more than one type of content service.

2.4.5 Specific Interactions

We identified the actors of the third layer in the ICT ecosystem and their basic interaction with each other. Furthermore, we found seven interaction cases of content transfer for the three main players; these cases present some characteristics that make them different from each other. The seven cases are explained in the following part.

Interaction case 1. This is the basic interaction, where the content provider sends the data (1) to the CIS, which organize the information and send it (2) to the user, as seen in Figure 9.

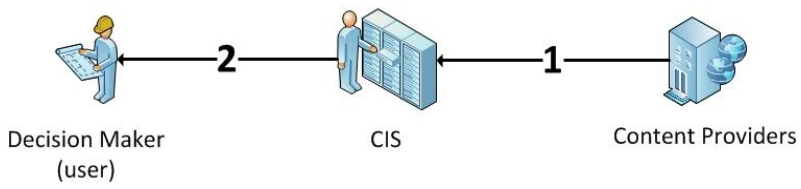

Figure 9. Interaction Case 1

Interaction case 2. In this case, the user sends a query or an specific data request(1) to the Content provider. Once the information is ready, the content provider sends the data (2)to the CIS, which organizes and makes it available (3)to the user, as seen in Figure 10.

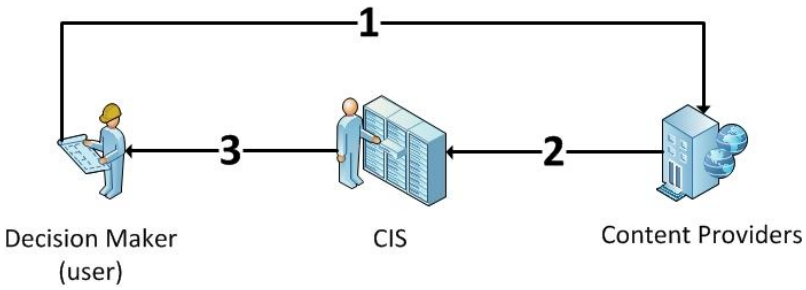

Figure 10. Interaction Case 2

Interaction case 3. Here we have the case where the decision maker makes a request (1) on information to the content provider, the information does not fit the capabilities of the CIS, there the content provider send the information (2) directly to the decision maker and the process stops there, as seen in Figure 11.

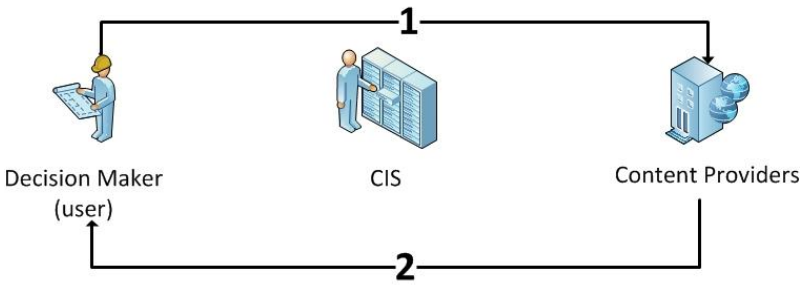

Figure 11. Interaction Case 3

Interaction case 4. This is a subset of the case 3; here the user does not request information, where content provider always sends the information (1) directly to the user (Figure 12).

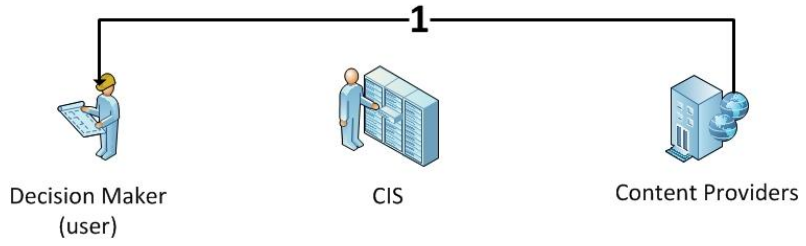

Figure 12. Interaction Case 4

Interaction case 5. Here we observed that the user requests data (1) to the CIS, where the latter requests (2) as well on the content provider, which send the data (3) to the CIS to be organized and sent to (4) the user, as seen in Figure 13.

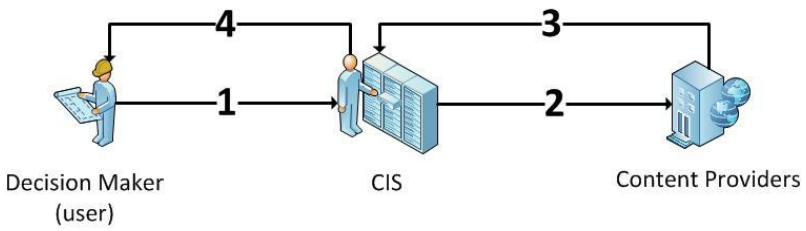

Figure 13. Interaction Case 5

Interaction case 6. In this case, the user makes a request of data (1) directly to the Content Provider (CP), however the CP does not put the information directly in the CIS, therefore the CP send the information (2) to the user, the latter puts the information on the CIS (3) to be analyzed and then send it back (4) to the user, depicted in Figure 14.

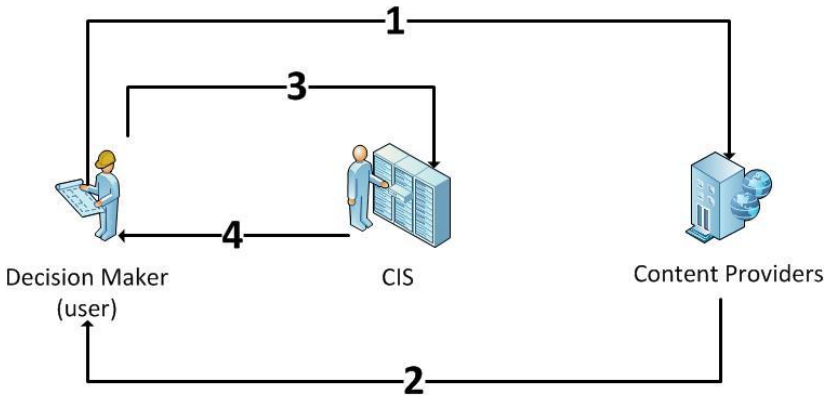

Figure 14. Interaction Case 6

Interaction case 7. We observed in this case that the content provider send the data directly (1) to the user, without the specific request of the user, then the user puts the information on the CIS (2)to be organized and have it back (3), seen in Figure 15.

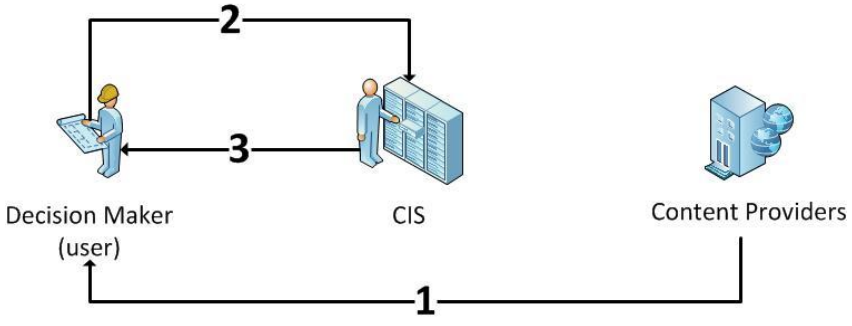

Figure 15. Interaction Case 7

These cases will help us to understand the problems during the interaction and the value creation process within the industry. They will be used in the analysis and discussion to attain greater understanding.

2.5 Developing the Framework

The Amitt and Zott model considers four factors for value creation in e-business, those are: lock-in, novelty, complementarities and efficiency. We realized that all of these factors, even if relevant, are not completely present in the content provider industry and does not consider the actors interacting. In addition, the Amitt and Zott model works for all kind of e-businesses; it includes B2C and B2B companies. It also includes companies selling physical products online; this makes the model very broad and unfocused for evaluating value creation in the content provider industry. Therefore, we decided to build our own framework using the business model as unit of analysis and basing it on Amitt and Zott´s model.

We also have to mention that Amitt and Zott model makes emphasis in the novelty criteria based on Schumpeterian innovation, we consider that this is a very broad concept, since almost anything new, can be consider novelty. Furthermore, all the other three categories (i.e. complementarities, lock-in, efficiency), can be considered a form of novelty itself. An example could be a new delivery mechanism which makes the process more efficient. Also, the industry is novel itself, and innovation is embedded within every process of the industry, we considered that if there is no innovation or novelty within the company, it will be condemned to disappear. Consequently, we decided not to consider novelty in the proposed framework, but we keep it indirectly inside each criterion that is defined.

We classify the seven interaction cases on a value creation basis explained in section 2.4.5.

The Interaction Case 1 and 2 (Figure 9, Figure 10). We call this interactions as the ideal cases, the final user receive information from the CIS directly, which is expected to create greater value due to classification and presentation in a friendly and unique interface.

Both cases 1 and 2 present another advantages for the user (decision maker), since it receives the information directly without having to manipulate it or feed it into the CIS. This only happens, when the data of the content provider is compatible and is sent directly to the CIS. This main difference in case 1 and 2 lays on the former is a push scheme and the latter a pull scheme.

Case 3 and 4 (Figure 11, Figure 12) are the worst in terms of value for the user and also are the less efficient cases, this is based on the absence in the use of CIS to classify and deliver the information in a consolidate platform. Since the user has to organize and classify his information manually, the value of the product is less than the case 1 and 2.

The **Cases 6 and 7** (Figure 14, Figure 15) presents the middle point, since the user needs to feed the information received from the content provider into the CIS, which could lead to lost productive for the user. Even though, there is no direct connection between CIS and content provider, the format of the information can be fed manually into the CIS system.

In the interaction **case 5** (Figure 13), we have a special situation, where the data is requested upon the CIS, which subsequently requests the information or search in the content providers, this is

done, when the CIS has a direct relationship with the content providers. This interaction can lead to value creation since CIS classify and manage the requested information and delivers it to the user.

The interaction **case 1, 4 and 7** is when the content provider sends the information in a push scheme (without specific request or filter, flooding the user with varied information), it can be the function of an aggregation service, this can be also done as well by RSS feed or newsletters and even subscription to a monthly publication. On the contrary, **cases 2, 3, 5 and 6** is done upon request every single time.

2.5.1 Efficiency and Delivery Mechanism

The efficiency is the same concept included in Amitt and Zott´s framework (see section 2.3.2), focusing on the efficiency of internal process to deliver the offer. Efficiency, in the content providers will be focused in the time of response of delivery.

Taking the seven cases identified and analyzed above (see section 2.4.5), we also add the delivery mechanism as a criteria. We experienced that delivery mechanism this cannot be part of the efficiency, since efficiency is considered as the amount of time the information takes to reach the receiver. This implies that efficiency and delivery mechanism are two separate criterias for creating value, even, if there is a direct relationship between both, since the delivery mechanism can affect the efficiency of the product, but efficiency cannot affect the delivery mechanism of the product. We experienced that the delivery mechanism is particularly important for interaction cases 3 and 4 (Figure 11 and Figure 12), where the CIS is not able to connect or use information from the content provider. Therefore, delivery mechanism becomes a vital part of interactions on information industries such as the current content provider industry analyzed in this research.

Delivery mechanism is stated in Business Model Theory as a fundamental part of value creation. Richardson (2008) demonstrated a special interest in their integrative framework for business models. Osterwalder (2005) also highlight distribution channels as a block in the definition of business models. For instance, we argue that delivery mechanism is an important factor to be considered directly on the new model of value creation for the industry of content providers, since information delivery process defines specific characteristics of the value offer.

2.5.2 Lock-in

Lock-in effects, stated by Amitt and Zott, increases when the network externality is greater. It means that when many customers are using certain content providers, more customers will be locked-in when they would be attracted of using a certain content provider. Lock-in effects are relevant from the transaction cost perspective of Williamson (1981). In highly digitalized market such as content providers, mechanisms to increase switching cost to avoid customer emigration become important to retain value. In this industry with very low transaction cost due to technological advancement, actors have to be creative to retain the customer to their offer.

We confirm this tendency in the case studies, since many content providers offer subscription schemes and similar incentives in price to retain customers. We detected that lock-in effects are increased and directly linked through good delivery mechanism, since they could have compatibility with user systems thus creating lock-in effect on the customer. This means that the lock-in effect is fostered in cases 1 and 2, since the user switching costs are considerably higher

when the CIS is used in a proper manner, compared to the other interaction cases. Based on the literature and the empirical data lock-in seems as a good factor to evaluate, in order to create value within the content provider industry. The level of Lock-in can be measured in our model in terms of switching costs for the user.

2.5.3 Perceived Quality

Also we added a new criteria, called "Perceived Quality" as part of our model. This is strictly connected to the quality and relevance of the information, and how useful it is to the customers. This is very true, considering Arrows information paradox (1974), where the purchaser of the information does not know the value of information he is buying, and after receiving, it has no value anymore. For this reason, it is important to increase the client´s willingness to pay for the information. One way of raising the value perception is through quality, which affects perceived utility.

Delivered information is considered good quality when the context related with the information is valid and represents a sufficient amount of variety and meaning. Furthermore, data content have to be a true representation of reality (Lillrank, 2003). Salaün and Flores (2001) argue that good quality information is the information that satisfies the requirement set by the user. Lillrank (2003) states that the quality of information depends on the meaning assigned to it. Therefore, its value depends on the actions triggers the user to make. For instance, we can assume that quality of information is subjective to the eyes of the user. However, perceived quality can be considered a part of the offering.

In conclusion good quality of information makes the seller of information recognized thus acquiring reputation, which according to Bloemer and Kasper (1995) has a relationship between satisfaction and brand loyalty. As a result, perceived quality is a representation to create value in the content provider industry since it creates brand loyalty.

2.5.4 Complementarities

Complementary goods are those who are used in conjunction with each other (Carbaugh, 2006). We have included the following criteria, stated by Amit and Zott's model into the new framework. With the collection of empirical data, we have realized the importance to bundle complementary products to succeed in the industry. Companies offering suitable complementary products tend to be the leaders in their segments (Appendix H. Case Study of Alacra, Inc.). As stated in Amit and Zott´s model, complementarities can be vertical (e.g. after-sales services) or horizontal.

The complementarities are usually related to a core transaction (Gottschalk, 2006, Amit and Zott, 2001). For content providers, this core transaction is their niche of information specialization.

Vertical complementarities are usually offered by the same company that offers the main product, while horizontal complementarities could be offered by a different actor.

In the content provider industry, vertical complementarities are present in terms of support, which is given directly with the analysts and having the opportunity to clarify concepts or request additional and related analysis. Horizontal complementarities are present in this industry in terms of the information complementing each other (e.g. Forecasts of oil production complementing databases of current oil production by well).

When CIS is interacting with content providers, they can be considered as complementarities. The information from content providers are complementing with a system which classify them and analyze them further. This interaction also enables a further complementation of reports and information (provided by content providers) since the CIS has classification capabilities. It enables the categorization of the information further by more easily finding other reports that complement each other.

Complementarities are fundamental within the process of value creation and worth special consideration for the analysis of the content provider industry. Furthermore, complementary products and services increase the network externalities; hence, increasing the switching costs and thus lock-in in the customers. Customers will be reluctant to switch vendors if it would mean losing access to the complementary services and products. This is the case of CIS, it is a product that can be considered as a complement of the information provided by content providers and also provides added value to the user. For instance, the cases 3 and 4, the CIS is not a complement of the content providers and then, the value for the user is less compared to other interaction cases such as 1 and 2.

2.5.5 Isolating Mechanisms

Isolating mechanism are ex post impediments in terms of entry or imitation, they provide stable streams of rent and give stable and defensible competitive positions (Rumelt, 1997). This mechanisms that prevent the dissipation of rents can be generated by different factors, among them Rumelt (2005) mentions which, he considers the most important: information impactedness (sic), response lags, economies of scale, producer learning, buyer switching costs, reputation, communication good effects buyer evaluation costs, advertising and intellectual property rights.

We consider that the criteria we have included in our model can create isolating mechanisms. For instance, the lock-in effect in terms of buyer switching costs is present in the content providers, especially when providing platforms to deliver the information, which could be attached to the delivery mechanism. Furthermore, a good delivery mechanism will be difficult to attain by possible entrants and competitors, especially when it is protected by intellectual property rights. In addition, due to network externalities, customers will be locked-in with a certain content provider and the switching costs will be higher. The complementarities are another way of raising switching costs and lock-in, since the consumer surplus will be diminished when switching to a different provider.

We also consider perceived quality as causation for isolating mechanism, since it builds reputations which is difficult to imitate. When combined, the mentioned criteria create a stronger strategic position for the content providers.

2.5.6 An Integrative Approach for Evaluating Value Creation in the Content Provider Industry

Based on these arguments we decided to include the following criteria for creation of value in the content provider industry:

- Complementarities
- Efficiency
- Perceived quality
- Lock-in

- Deliver mechanism

A depiction of the proposed model and their basic interactions can be seen in Figure 16

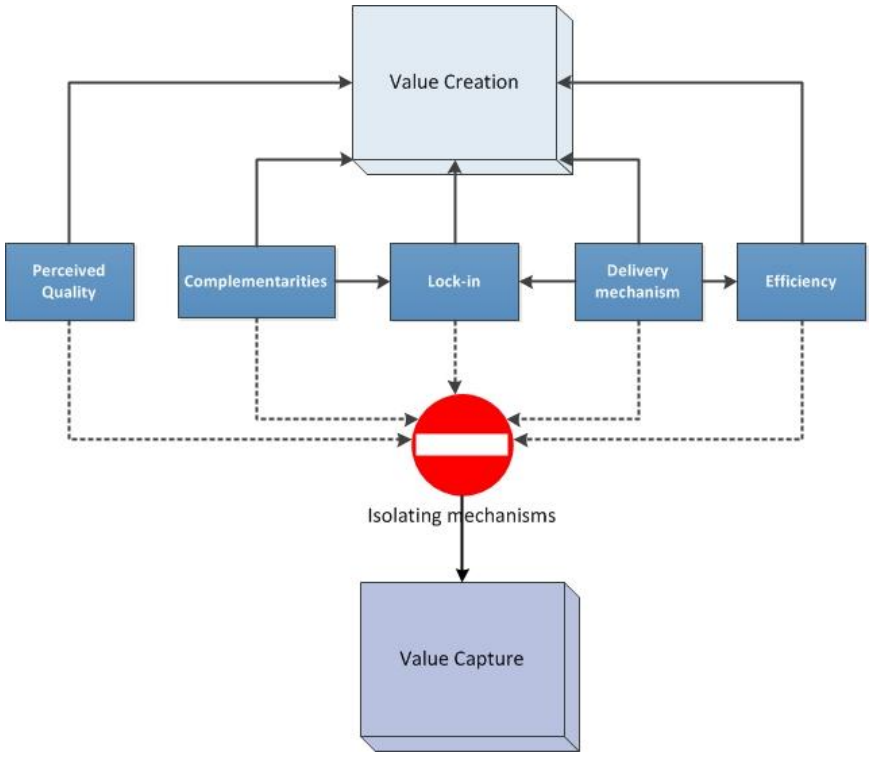

Figure 16. Integrative Approach for Evaluating Value Creation in the Content Provider Industry

We have seen that the criteria for value creation in the content provider industry; can be enhanced by adding the interaction cases of the CIS and user, merging both points of view in order to create higher value for the customers.

The model is used for understanding how value is created in the content provider industry. Additionally, we think it could be expanded to understand value capture, since many of the component utilized in the model can be also used to explain opportunities in value capture. The isolating mechanisms developed by the five criteria for value creation, provides opportunities of defending the strategic position of the companies in this industry and increasing the opportunities for capturing value.

For example, if a user has bought or subscribed annually to content provider service, which offers him a fair amount of efficiency in terms of timely deliveries; a delivery mechanism that is integrated into his own systems or interfaces; which in addition complements other information from the same content provider by processing the information with a CIS and has a good perceived quality, those factors will create a higher switching cost for the user, hence, a higher degree of lock in. At the same time, this user will be obtaining greater consumer surplus, when combined with the isolating mechanisms created, will give the content provider higher opportunities for capturing value.

3. Methodology

This chapter explains the methodology used on the study in order to create a framework to evaluate value creation in the industry from a business model perspective. The approach for this thesis was adductive. Further explanation of the process will be explained in this chapter.

3.1 Research Design

Quantitative strategy is usually used to validate an hypothesis (Bryman and Bell, 2007), considering that in the very beginning of the thesis and the characteristics of the research question, quantitative research was not suitable, we concluded that qualitative research is the appropriate strategy to follow, which according to Bryman and Bell (2007) is where theories can be based on the research.

The main steps in a qualitative research are:

1. General question
2. Selecting relevant site and subjects
3. Collection of relevant data
4. Interpretation of data
5. Conceptual and theoretical work
    a. Tighter specification of research question
    b. Collection of further data
6. Writing up findings

We defined three main segments to be analyzed inside the industry of content providers:

- Content Providers
- Providers of Competitive Intelligence Systems (CIS) software
- Decision Makers or end users of CIS

After choosing the research strategy, we evaluated five research designs for the collection and analysis of data about content providers companies, namely cross sectional design, longitudinal design, case study and comparative design. Cross sectional design was used to list the content providers.

Knowing that the content providers have several classifications, the first step was identifying and listed them through a cross sectional design. The categories were:

- Name of the Company
- Main Location
- Main Service Provided
- Annual Sales
- Delivery Method of Content
- Type of Content Provider (Camponovo (2002) classification)

We assemble a sample of 106 companies in this activity, from Europe, and North America (i.e. Canada, USA and Mexico). To see the details of the data collection, see Appendix A. Content Providers List.

We included Camponovo (2002) classification in the listing; we based our selection on size of the company and the geographic region in order to have a better perspective of the industry. However, we didn't based the selection on Camponovo categorization since many content providers tend to not have pure type of interaction, this means that content providers could be syndicators, aggregators and owners at the same time.

The list introduces 106 companies identified as content providers based on the next different sources:

- Hoovers.com classification of companies over Information Collection & Delivery and Internet Content Provider industries.
- Tekrati list of companies, it is an online guide to the IT and telecommunications industry analysts. http://analystfirms.tekrati.com/
- Additional companies suggested by Comintelli AB.

Firstly, we selected those companies, which according to our classification were content providers (i.e. that provide any type of content by digital channels in B2B transactions).

1. Identification of companies listed by Hoovers classification and verification of content provider criteria.
2. Identification of companies listed by Tekrati and verification of content provider criteria in their web pages.
3. Identification of additional companies and verification.
4. Verification of existence triangulated names and addresses in Hoovers database of world companies.

Once the list was completed, we organized them by size (based on annual sales). Later, we classified them depending on the quantity and quality of information found in their websites and the relevance of the cases. If a company does not include sufficient information in its web-page or it was not able to be verified in Hoovers, it was excluded from the present list.

From the content provider list, we selected 6 content providers to be studied deeper. The selection was made solely based on the accessibility on the information and the possibility to get interviews with a representative from the companies.

For the Competitive Intelligence systems (CIS) we used a case study based on the information provided by a Swedish CIS developer.

To know the client (decision makers) perspective, we interviewed a user for evaluating the value perception.

The data was gathered through different instances:

- Access to CIS software provided by a Swedish CIS company for the initial study, in order to understand the capabilities, limitations and acquires greater understanding of the CIS software
- Telephone interviews with CIS developer

- Telephone interviews with content providers
- Interviews with BIS user
- Information gathered through Internet
- Industry reports obtained from the Society for competitive intelligence and by Outsell Inc. a market researcher for the information industry

3.2 Work Process

The initial research question for the thesis was based on the author's belief that the distribution mechanism is the most important factor in this industry; however, after experimenting with the competitive intelligence system and doing the literature review, we realized that even if the distribution mechanism is important, there are other factors affecting the value creation. Based on this, we changed our research question in order to have a better understanding about the value creation on the industry and not only in the distribution mechanisms, the research question was:

"How distribution mechanisms affect value in the content provider industry?"

In order to assess the research question, we held a discussion with a CIS developer to understand what kind of information they get from content providers and obtained general data about content providers. Also, we had access to experiment on CIS software to have a greater understanding of the capabilities of the software. Additionally, we identified seven interaction cases among the actors.

Based on this, we realize that there are several factors affecting value in this industry; therefore we change the research question to:

"How do medium sized B2B Content Providers create value?"

By investigating the research question "how is value created?" and taking in consideration that during the initial studies, seven interaction cases were identified, we will also investigate specific research questions to analyze the value creation in the industry, this questions are:

"In terms of content transfer, how do actors interact?
"How does the interaction create value?"

In order to combine the three actor's perspective and understand the industry as a whole, a conjoint analysis of the industry of competitive intelligence systems, content providers and end user, was planned using the framework of value creation for e-businesses stated by Amit and Zott (2001). However after doing the literature review and collecting some empirical data, we realized that Amitt and Zott´s model for evaluating value creation in e-business lacked of some aspects that we encountered during the data collection. Therefore we decided to develop a framework to analyze value creation in the content provider industry.

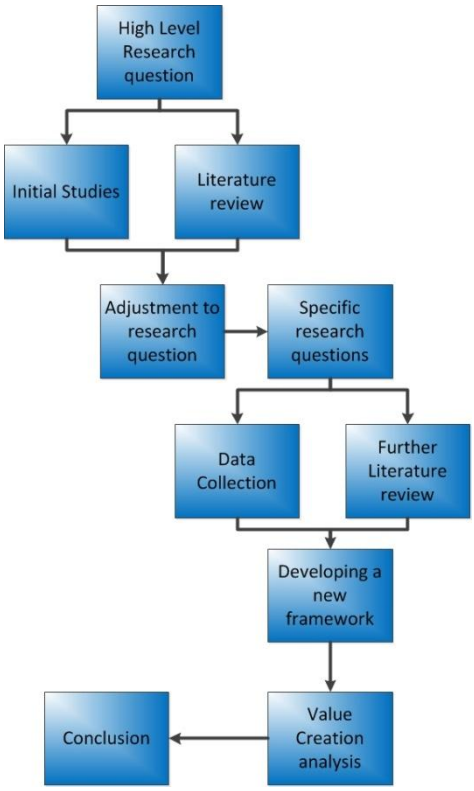

Figure 17. Specific Methodology

After developing the new framework and doing the empirical research, we analyzed the case studies based on the new framework. We proposed a qualitative measure for analyzing each of the criteria in the framework. Once this was done, we evaluated how the framework helps to answer our specific research questions and adapted it, this in order to do the final analysis and conclusion. The main steps in the methodology can be seen on Figure 17. Specific Methodology.

3.3 Data Collection

In order to evaluate the framework to understand how value is created in the content provider industry, we used the Business model as unit of analysis, which included the Value Proposition, Value Capture and Value Creation and Delivery Mechanism.

Taking into consideration that every content provider is unique, and provides information to different segments of customers; we decided to build case studies which according to Eisenhardt (1992) can help to build a theory. In addition, we selected case studies, since it helps to answer questions of "how" which is according to our research question. Also it is an appropriate way to explore areas where there is not many studies (Cepeda and Martin, 2005).

We collected information through web pages; this information was triangulated by phone interviews with representatives of the companies.

For evaluating the value proposition, we contacted the sales people by phone interviews in order to understand the products and services; this was triangulated by information on their websites.

Taking in consideration that most of the value capture information is sensitive, companies were reluctant to give specific information, however, we could establish basic information about it.

Considering that the research is qualitative, there is no effective way of measuring value creation in quantitative terms in each criterion. Thus, we tried to develop a preliminary exercise in section 5.1. which need to be tested. We believe that our research question try to answer how value is created and not in what measure. Therefore, the analysis will try to mark the connections and what mechanisms exist for creating value in the industry.

Considering Menger (2007) point of view in order to understand customer needs, we interviewed a Business Intelligence User to know their perspective and understand what is the value perception.

To complement the analysis, we interview a Swedish CIS developer in order to understand their needs and offering and also build a business model, since we consider that there is the possibility for merging both value proposition between CIS developers and Content Provider.

3.4 Validity and Reliability

In order to evaluate the value creation, specifically for the content providers, we gathered information trough their web pages, also, in order to obtain **construct validity**, we triangulate the information by having telephone interviews, where we enquired about information regarding their business model.

One of the disadvantages of the case studies is the low **external validity**, since single case studies cannot generate a general theory (Bryman and Bell, 2007). However, this research gives us a snapshot of the industry and the mechanisms to create value within them, which is the first step in order to understand how the industry works.

Ecological validity was obtained by experimenting ourselves with the CIS system and observing and mapping the interaction cases. In this way, we make sure that all the possibilities in the interaction are mapped and describe the reality of the phenomenon. Furthermore, we related the concepts which were defined during the creation of the framework; hence, this will increase the **internal validity.**

For this research to be **replicable**, reliability records of the interviews needs to be part of the document (Bryman and Bell, 2007). Based on this, we have documented the interviews in the case studies and put the template of the semi-structured interviews in the appendix B.

4. Empirical Investigation

In this section we present the case studies of content providers, CIS developer and end user to complement the study and build and evaluate the framework.

4.1 Content Providers Case Studies

In this section we have summarized tables of the case studies of content providers; further detail can be found on the Appendixes.

4.1.1 IDTechEx

This company was identified as a recognized content provider focus on RFID technology and related printed electronics. They are mentioned in different publications and customers (Electronic industry, Supply Chain's researchers and environmentalists). We performed an interview with a sales representative of this company. Details can be found in Appendix C. Case study IDTechEx

Table 4. IDTechEx Business Model Summarized

Value Proposition	Value Creation
Provide Information in the areas of: Printed Electronics, RFID, Smart Packaging, electric Vehicles, and batteries.	Expert assessing technology from primary sources, participation in conferences.
Value Capture	**Main Product**
Sales of Individual reports, Magazine, sales of minor products such as cases, presentations and journals.	Newsletters, Printed Electronics World Summary Energy Harvesting Journal Summary Electric Vehicle Research Summary

4.1.2 IGI Group

Information Gatekeepers Inc, is a company focus on the network sector. They show a good recent growth and recognition within their sector that makes a relevant actor among content providers. Main customers are telecom and supplier of the telecom companies around the world. Details can be found in Appendix D. Case Study IGI

Table 5. IGI Group Business Model Summarized

Value Proposition	Value Creation
Consultant and information service provider in the fields of fiber optics, optical networks, WDM, ADSL, ATM, Internet, Local Area Networks (LANs), wireless, and emerging telecom markets	Highly specialized staff of researchers in 10 offices around the world. Three products: free services, publications and consulting.
Value Capture	**Main Product**
Publications and newsletters are sold individually	Publication and newsletters related with the sector of networks technologies and telecom markets.

4.1.3 DFC Intelligence

DFC Intelligence is a company with sustainable reputation in the video game industry. They provide market information to game developers and companies in the video game industry in order to arrange their market strategies. Even though, there are another content providers in this sector DFC Intelligence seems recognized for the main firms and include strategic information for big a medium companies in the video game sector. Details can be found in Appendix E. Case Study DFC Intelligence.

Table 6. DFC Intelligence Business Model Summarized

Value Proposition	Value Creation
Market researcher and consulting firm, specialized on interactive entertainment and the video game industry.	Participate as speakers in major trade shows, contacts with important industry executives. Access to databases.
Value Capture	**Main Product**
Reports can be acquired individually or by package	Individual reports, research and service packages.

4.1.4 Real Story Group

It is a company that consolidates complete reports on content technologies trends and economic factors in specific evaluation reports. The target customers for this company are investors in IT technology and telecom sector analyst. Details can be found in Appendix F. Case Study of Real Story Group.

Table 7. Real Story Group Business Model Summarized

Value Proposition	Value Creation
Content technology analyst firm; they are working to provide information to corporate buyers interested to invest in content technology.	Offer a strong analysis regarding the industry of content, suited to specific scenarios.
Value Capture	**Main Product**
Price Subscription alternatives in each of the topics.	Complete reports focus on six topic pillars regarding telecom industry.

4.1.5 ODS-Petrodata

In the petroleum sector a good consolidator of information is recognize to be achieve by ODS-Petrodata. This company is a merger between other related companies that position ODS as a strong actor to provide this kind of information. Details can be found in Appendix G. Case Study of ODS – PETRODATA

Table 8. ODS Petrodata Business Model Summarized

Value Proposition	Value Creation
Content Provider of the petroleum and energy sector world-wide. It includes market intelligence, data, publications and analysis tools for the energy sector.	Access to specialist in the sector of energy and access to top managers working for petroleum companies and databases of those petroleum companies.
Value Capture	**Main Product**
Annual subscriptions to each of the specific databases, sales of reports.	Specialized newsletters and access to specific database.

4.1.6 Alacra Inc

It is one of the big content providers included as a benchmark for its strategies in bundling. They are recognized as one of the main content providers of financial information for any kind of business and corporations. Within their customers is included: Financial institutions, banks, corporations with needs to track macroeconomic factors and other companies in sector related. Appendix H. Case Study of Alacra, Inc.

Table 9. Alacra Inc Business Model Summarized

Value Proposition	Value Creation
Aggregator of information databases related with different topics focus on financial information.	Partner networks for content aggregation. It has more than 200 different sources or publishers to feeds it systems.
Value Capture	**Main Product**
Subscription fees to different sources of content, web portal to sell reports. Bundling several products and CIS.	Aggregate industry statistics and trends, Web portal services with aggregate information.

4.2 CIS Case Study

Comintelli AB is a Swedish company with headquarters located in Stockholm, founded in January 1999 as a spin off from Ericsson, they offer a Competitive Intelligence System called "Knowledge XChanger". It is a system that automate and aggregate content from several sources. It means the system classify and create taxonomies of internal enterprise data and collect and organize external information in order to show to the decision maker the information that is relevant to him in real time.

Value Proposition

Comintelli's main offer is portrayed in a system with a search-based application that aggregates content from several sources, creates taxonomies to classify unstructured content, search full text with the Apache Solr application (Open Source enterprise search platform from the Apache Lucene Project). This system is placed to deliver specialized analysis trends and patterns and show personalized content through web-portals and interfaces. "Knowledge Xchanger" is their main product marketed for the company, where the value proposition lies for all linked products. The system is flexible enough to adapt to specific needs of customers. Therefore, Comintelli offers the possibility to configure the system depending on the requirements of each customer, hence, providing customized products (e.g. from a research information system to an Intranets). The system has the possibility to run "in the cloud", which means storing information in a remote location and accessing through the internet.

The company divides four areas of services as:

- Competitive Intelligence: Analysis tools of data.
- Content Delivery: Web-Portal Interface, Configuration of alerts.
- Enterprise Search: Web search and desktop search (Inside the organization)
- Knowledge Management: Organizing the flow of internal and external knowledge.

Before the systems is implemented the company offers a service of "Mapping", it means a preliminary study of client's needs, requirements and boundaries in order to implement a useful tool to its customers. Once delimitation and requirements have been defined, technical installation and recommended outsourced hosting services are provided. After sales services include training programs that support the implementation and execution of Comintelli's system, along with maintenance and customer support.

Another interesting product offered by the Company is called "Comintelli Agents". It is a web monitoring service which scans several web-pages, blogs and related content and feeds in real time. There are two available versions for the agents: General news sources and customized websites. Depending on the need of the customers, Comintelli agents can retrieve the desired information from predefined collections of web sites.

Neither the resources consulted to this investigation nor the interviews were stated a specific target customers for Comintelli's products. They openly declare that they aim to any kind of industries. In their web page they mention that they cover from small consultancy companies to multinational corporations.

Even though, a strategy to win customers was not stated clearly, the company joins many events and conference to promote their product and make presentations around the topic of competitive intelligence systems in several events around the world. In addition, they offer access to free Webinars and white papers delivered on demand with analysis of advantages of competitive intelligence systems.

Value Creation and Delivery Systems

As most of the companies in the IT sector, the principal resources are specialized people with training in computer systems and experience in the last technological developments related with information systems.

Comintelli's top management counts with extensive experience in the area of competitive intelligence systems and corporate information centers as a result of their careers at Ericcson. Junior engineers and specialists are the base of the implementation process and support offered to customers. Staff supporting sales activities and financial supervision are important for the operation of the company. In fact one of the main sources of value creation is the continued development of upgrades by engineers, then the retention of those engineers are fundamental for the sustainability of the product offer.

A network of business partners, built from Comintelli founders, based on years of experience in the sector was identified as a strategic resource, which is the basis for the creation of new business and sustainability of the company in the long term. As well as recent business partners and alliances which sustain a global coverage is a key resource for the company.

Physical resources such as computers, servers and the IT infrastructure to support the different services are necessary for the normal operation of the company.

One interesting finding during the collection of data for this case, was the realization that the company does not consider as suppliers the content providers for its system (Knowledge Exchanger). It was argued that content providers are suppliers for the final customer, and not for Comintelli; because the customer independently chooses the content origin and Comintelli offers only the platform. It means that (with the exception of the product Comintelli agents), the provision of content providers is not included in the value offer. They consider as suppliers, the companies of IT related services.

Delivery Systems: As we have stated above the product is an intangible asset package in a software which can be installed in customer's servers or "in the cloud" in remote servers. The product is in itself a tool to collect and retrieve information so it becomes a delivery system platform by itself.

Value Capture

For capturing value, the company mentioned different models offered to the final customer for the use of its main product "Knowledge Exchanger". They declared that, there is no use of standardized pricing model, for instance, determination of price will be defined on specific business cases.

In general terms there are three models to capture value declared by them:

1) Licenses: Offering a perpetual license was stated as a charge of a high fee as a single sale. Another method is described as a license subscription model with monthly payments that include the license and upgrades during the time the system is used by the customer. The price of the license in any case will depend on the number of users the client requires.
2) Service Fee: For the service offered depending on the terms of the license, a certain number of hours of support are included or it could be charge independently based on the worked hours.
3) Support and Maintenance: A percentage per year of the cost of the license fee is included as part of service for support.

Another revenue sources comes from training programs offered by the company. They could be included into the license scheme or can be additionally paid depending on the need of the customer. In an interview they sustained, that they train IT personnel in companies but they don't aim to train the real end user. They just train end-users in special cases, usually, small companies clients.

Regarding the costs, they just mention that the main cost is portrayed in software development and hardware which supports the system. They do not pay any patent licenses; instead they have a patent registered in Sweden that cover most of the innovation related with Comintelli's product.

4.3 BIS User Case Study

In this case study, we aim to evaluate the perception that a user of a Business Intelligence System has towards an application that organize and classify organizational internal data and external information coming from content providers. We pretend to assess the value perception this user has got from the system in order to understand the value creation process of the industry of business intelligence systems and content providers. We conducted a personal semi-structure interview with an end-user.

Our interviewee is an expert user in the IBM Business intelligence system, known as COGNOS. This person works for an insurance company analyzing information coming from this system and is an advisor in the implementation of COGNOS system in other business units and clients of her employer.

Main features of the BIS

In words of this person the main features of COGNOS Business Intelligence System are portrayed in three main modules as is listed below:

- Data warehousing
- Balance Score Card
- Planning and Budgeting

The systems focus on organizing internal information regarding transactional process such as sales and managing customer's portfolio. In the point of view of the interviewee the system not focus on external information; however a specific product "Risk Maps" seems to be obtained from an external entity. This person highlights that most of the external content providers are invisible for the BIS user, then, she is not aware if the information the system has comes from external sources. She just recognizes one of the external providers of information but declare that could be more external providers that are not visible to her. She stated that content providers are transparent to the end user, nevertheless it relates with sensible data, where in that case is important to know the source.

The user interface that COGNOS deliver is a consolidate report, called a Cube, that is a final report. COGNOS started to deliver customize dashboards to deliver information to end users.

The term "Content Provider" seems to have a broader meaning than the same in our research, when we asked the interviewee about it. It is related with any kind of content generated, especially within the organization. For example, the department of accountability is a content provider for her, along as the IT department or production department. Then, this term not refer directly to external content providers as is defined in this research.

For our interviewee, the final customer (User of the BIS) prefers to have a single solution which consolidates all the information in a central board. The solution of IBM used to be embedded in a platform such as ERP (Enterprise Resource Planning) or similar enterprise system. Then, corporate customers used to choose COGNOS for simplicity rather than choosing a small application, since it is likely embedded in the product. However, in a report consulted by the authors, Gartner Inc stated that business users have found benefits in choosing small applications because of special features,

despite of the risk to create isolated data (Richardson et al., 2009).Therefore, business intelligence systems have been forced to adapt to this new environment to complement with other applications.

These two points of view (i.e. Interviewee and Gartner) gave us an insight on the market competitive environment. BIS seems to be dominated by big multinational companies such as IBM, Oracle or SAP. However as it was previously referred some other actors have emerged such as: BITAM, TARGIT etc. It has produced a strong competitive environment for the BIS to provide specialized products and services.

5. Analysis

This section presents the analysis of the six case studies of content providers applying the new framework.

We divided the analysis in two main sections based upon five criteria stated in the new framework. First, we present a quantitative analysis for the six companies. Secondly, a qualitative analysis is presented into a discussion section by criterion including not only the content provider but the CIS and user in the analysis.

As it was described in the methodology section 3 from the extended list of content providers identified, the authors selected six cases to explore in deep their business models. The six cases can be considered a small sample to identify value creation; however, it is done as an exploratory analysis due to an absence of literature for content providers.

5.1 An approach for a quantitative comparison of content providers

In the first part of the analysis, we wanted to illustrate how the chosen content providers differentiated each other in terms of the five factors to introduce the discussion in section 5.2.

We developed a scale to valorize their performance with the objective to compare medium size B2B content providers between each other. Therefore, this scale should not be used to compare larger CP or companies in B2C relationships. It is just an illustration on how to utilize the new model to get an approach of comparison between different content providers.

After collecting the data, we selected a scale (from 1 to 5) for evaluating each of the criteria in the model, we selected: efficiency, perceived quality, lock-in, delivery mechanism and complementarities. Each criterion grade is based on the qualitative information provided and found available on the companies.

This scale goes from 1 to 5, where 1 means almost non present and 5 fulfill entirely the criteria, we selected Alacra Inc as a benchmark, since we consider that this content providers excels each of this criteria for value creation, this based on the integrative approach of considering the specific interactions described in section 2.4.5 and the perspective of the CIS developer and user. This means that Alacra has 5 in each of the criteria, hence, is not included in the evaluation within the scale.

The scale does not includes the CIS developer or the user, is solely for evaluating the content providers value creation, compared with Alacra Inc.

5.1.1 Comparison for Efficiency

The efficiency criterion is based on the time of response, 5 is almost instant delivery, 4 is less than 48 hours, 3 is between 48 hours and a week, 2 is a month, and 1 is more than 1 month. In this criterion, we have to consider that depending on the type of information, the delivery time changes, for instance, a forecast of the industry takes longer to be prepared, compared to an industry newsletter, which usually takes just some hours. Therefore, based upon the previous criteria we found that efficiency is graded with the same value for the five content providers due to very similar

patterns in the time to deliver. Alacra is the exception, which by leveraging in its delivery mechanism provides information almost instantly to the user system.

5.1.2 Comparison for Perceived Quality

It's worth to mention that the perceived quality criterion is also based on terms of brand recognition and reputation. However, each content provider serves different segments in the market, this makes their comparison difficult. Furthermore, the scope of this research doesn't include a direct valuation of quality, because this implies asking clients about the perceived quality of CPs.

An estimation of perceived quality was translate measuring the number of results of citations and publications in Google Scholar for each of the companies including former names, and selected a criteria of 5 when there were more than 200 results, less than 200 and more than 100 is a 4, less than 100 and more than 50 is a 3, less than 50 is a 2, none mention is a 1. Considering that Alacra is an aggregator, we decided to give it a 5 even if it has only 94 mentions, because aggregators are not quoted as authors of publications. IDTechEx got a 5 with 935 mentions, IGI Group got a 3 with 99 mentions, DFC Intelligence got a 5 with 320 mentions, Real Story Group got a 4with 143 mentions and ODS Petrodata got a 4 with 158 mentions. An extended explanation of Perceived Quality by case study is illustrated in section 5.2.1

5.1.3 Comparison for Lock-In

For evaluating lock-in, we consider how the network externalities and switching costs are build by the company. We gave a grade 5 which means a platform that has high switching costs. A 4 is given when the company gives access to databases and reports, linked to subscription models which include several products. A grade 3 is when subscription models are offered only for one type for product (e.g. subscription to a monthly report). Grade 2 is when the lock-in is based only in a newsletter or RSS feed and the switching cost is minimal. 1 is when only specific reports are offered without any further interaction.

For our six cases, Alacra again is considered the benchmark because they offer a platform to process the information delivered in the user that is easily integrate with customers' systems. Then Alacra got a 5. IDTechEx got a 4 because they offer several types of subscriptions, a credit system to acquire minor reports and presentations, to see details refer to section Appendix C. Case study IDTechEx. IGI Group got a 2 because only offer subscription to news letter and sell reports. DFC Intelligence got a 3 because they offer some subscription schemes. Real Story Group got a 4 because it has a clear portfolio of subscriptions models that can be quoted directly in their web-page and additional service of advisors to extend or complement information from their reports is offered. Finally, ODS Petrodata got a 4 because they offer different models of annual subscriptions, a portfolio of newsletters and access to databases.

5.1.4 Comparison for Delivery Mechanism

In the delivery mechanism criteria, 5 means a fully integrated platform that delivers the information immediately into the user systems, a 4 is a regular RSS, newsletters, social media and databases, 3 is just newsletters and pdf files, 2 is just reports, a 1 is only a paperback or printed copy of the information.

In the case of IDTechEx, they got 4 because they offer an extended social media schemes within their portals such as Facebook or Twitter for notifications and newsletters and reports. IGI Group just offers isolated newsletters about telecom issues then, they got a 3. DFC Intelligence got a 3 because they offer newsletters and reports in suitable formats, such as pdf files and word, but not any interaction with social media was found. Finally, Real Story Group and ODS Petrodata got a 4 because they offer to follow them in social media spaces, additionally they offer RSS feeds and access to online database and excel databases open to be manipulate in the case of ODS Petrodata.

5.1.5 Comparison for Complementarities

For the complementarities, we gave a 5, when the products offered shows vertical (e.g. after sales services) and horizontal complementarities (e.g. reports complementing newsletters), all this products embedded into a single platform. Grade 4 is given when company´s offering shows vertical and horizontal complementarities. 3 is when products of the company shows only vertical or horizontal complementarities, but not both types and in the type present it should include a whole range of products or services. A grade 2 is defined when the products shows vertical or horizontal just in a few products or services. 1 is when there are no complementary products.

IDTechEx got a 4 because their main products shows horizontal complementarities (RFID, Printed electronics, Energy Harvesting, Electric Vehicles) and vertical (consulting services, events, after sale support) however they don't present into a single platform.

IGI Group got 4 since it presents both types of complementarities, horizontal (newsletters, publications and reports) and vertical (consulting services, telecom event calendar, glossary and industry directory).

DFC Intelligence is 3 because all their products show horizontal complementarities only.

Real Story Group is 4 with both types of complementarities, horizontal and vertical (One-on-one advisory sessions, education courses).

ODS Petrodata is 4, presenting horizontal and vertical complementarities in its offering, vertical complementarities are mainly after sales support.

Finally, Alacra got 5 since it offer includes horizontal and vertical complementarities embedded into a single platform.

Table 10. Quantitative Comparison

Company	Efficiency	Perceived Quality	Lock-in	Delivery Mechanism	Complementarities
IDTechEx	Less than 48 hrs	935 mentions	subscription, credit system	Newsletters, social media, RSS	Horizontal and vertical
IGI Group	Less than 48 hrs	99 mentions	newsletter subscription	Newsletters and pdf	Horizontal and vertical
DFC Intelligence	Less than 48 hrs	320 mentions	subscription schemes	Newsletters and pdf	horizontal
Real Story Group	Less than 48 hrs	143 mentions	susbcriptions, advisors	Social media, RSS, databses	Horizontal and vertical
ODS Petrodata	Less than 48 hrs	158 mentions	susbcriptions, databases	Social media, RSS, databses	Horizontal and vertical
Alacra Inc	Instant delivery	94 *agreggator	Integrated system	Integrated platform	Horizontal and vertical into platform

Table 11. Comparison of CP with Grades

Company	Efficiency	Perceived Quality	Lock-in	Delivery Mechanism	Complementarities
IDTechEx	4	5	4	4	4
IGI Group	4	3	2	3	4
DFC Intelligence	4	5	3	3	3
Real Story Group	4	4	4	4	4
ODS Petrodata	4	4	4	4	4
Alacra Inc	5	5	5	5	5

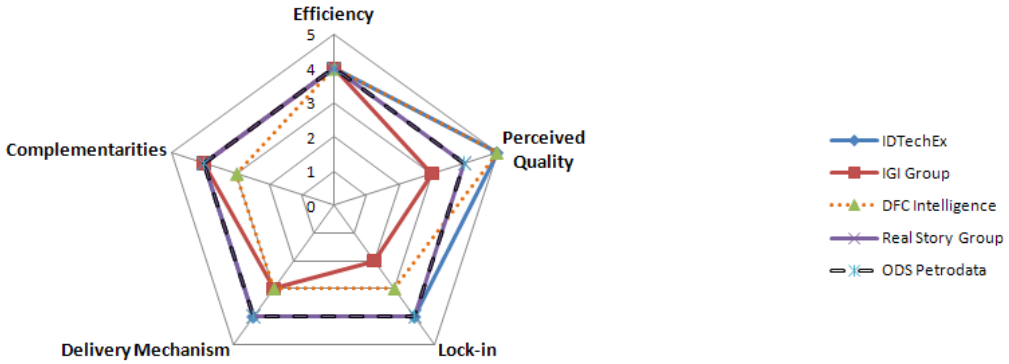

Figure 18. Comparison of CP Towards Value Creation

5.1.6 General Overview between the Cases

Excluding the case of Alacra as the best model of content provider to follow, we can detect from Figure 18 that IDTechEx offer the second higher value creation with positive valuation in all the criteria, especially with the higher perceived quality due to a strong commitment to publish and citations found in academic articles, additional to their participation in public events, they are followed by Real Story Group and ODC Petrodata, with consistent valuation in all the factors. They are follow by DFC Intelligence with high perceive quality due to a very specialize offer but with low value in the other factors and at the bottom of the valuation we found IGI Group.

5.2 Discussion

In the second part the qualitative analysis is developed. The authors introduce a discussion based on the integrative framework stated in section 2.5.6. *Therefore, each of the sections of this framework is evaluated among the six case studies.*

5.2.1 Perceived Quality

In the perceived quality criterion, we analyzed the six cases of content providers represented in this research, we found that creation of value towards the customers is relatively high, because most of them are considered specialist on their segments. It means the context where the information is placed is adequate for the users with a good amount of variety and meaning. The fact to be

recognized as senior specialists for a content provider within a specific industrial sector, could diminish the effect of Arrows information paradox (1974) when the consumer of information assume good quality for the information to receive, increasing the willingness to pay. In other way, it would be hard for an unknown CP to break the Arrows paradox without a gained reputation.

Some of the companies analyzed showed more tendencies to create a higher perceived quality through an enhanced brand loyalty. It is the case of Alacra Inc, an example of good brand loyalty is portrayed inside their market to deliver financial information to an extended group of users around the world. Even though, Alacra is in a very competitive market, they have got a strong commercial brand within financial circles, because of reliable reports that support many kinds of strategic decisions in corporations.

Other cases such as IDTechEx or ODC-Petrodata tend to create strong brands to impress a higher number of customers; however, we have to take into account that they are smaller companies with a limited market scope, compared to Alacra Inc. In the case of IDTechEx a high number of citations in articles and magazines confirm the brand recognition that they are achieving. ODC-Petrodata seems to achieve good brand recognition within American and European petroleum companies, for this company the offering for access to specific databases with concrete information about wells performance and future projects makes them a reliable source of information in the sector.

It is important to highlight that evaluation of perceived quality in this research is limited to publications, comments of customers in public journals and forums and so on. As it was explained in section 2.5.3 perceived quality is strictly linked with value perception. For instances the measure of quality will be determined by each customers depending on their context and needs. To define the perceive quality of an offer, it would be necessary to assess the perception of customers towards the offer of a particular content provider. It is not within the scope of this research to investigate in detail this kind of quality, however for future research the authors suggest to measure this factor through surveys or observation of customers perception, to delimit in a better way the recognized quality when this framework will be apply to any kind of content providers.

5.2.2 Efficiency

Efficiency encompasses the process and the way to reduce the transaction cost and increase the efficiency in the process to deliver the offer. In digital products such as information goods offered by content providers, transaction efficiency increases steadily due to low cost to transmit the final product to the customer. Telecommunication networks facilitate the cheap transmission of information in real time and with high reliability. Because content providers in our study use these networks in efficient terms, all of them achieve a similar level. With the exception of Alacra which offers a platform to execute transactions and deliver their products, all the cases seems to achieve the same level of efficiency required to get good brand recognition. The need to acquire good brand recognition was described in the previous section.

We argue that acquiring a good brand recognition, could be a consequence of achieving a proper efficiency in the internal process. In the absence of detailed information about the internal process of companies, we assume that efficiency is present in all the six cases. For instance, to describe this factor when applied to other content provider cases, it would be useful to use structural observation

to internal process inside companies and determined indicators in order to comprehend and compare levels of efficiency by case.

Within the scope of this research, we are considering the efficiency approach as just the time to deliver the product as a simplification of the concept of efficiency, in order to create a qualitative comparison between the cases studied in this research. Most of the content providers studied such as Real Story Group, ODS-Petrodata and IDTechEx offers consolidate studies and forecast that are ready to deliver when an order is in place. We detect lower efficiency in transactions in DFC Intelligence when it takes a couple of days to deliver a request. On the other hand, we are considering that the number of Newsletters and periodical publications is a variable for efficiency measure, however as it was mentioned before; it is not equal to compare the frequency of a newsletter with a forecast. The main idea was to consider that the larger number of publications a content provider offers periodically, will suppose to be the higher efficiency in their internal process; however, it cannot be assumed as a fact without a deep understanding and access to internal processes.

Under this scheme cases such as ODC Petrodata and IDTechEx offer the most periodical publications of newsletters and reports. The latter offers web portals with specific content topics that allow users to subscribe and follow just specific industries and consolidate information and interactions of actors through those portals. This scheme seems to be efficient for customers which subscribe to a specific portal, finding relevant information of their specific sectors without the need to classify further data. However to confirm this hypothesis is necessary to ask directly to customers and identify the implications in process that the company IDTechEx has to assume in order to run those portals. Initially, it seems as a good scheme that increases efficiency and it is imitated for other actors in the content provider industry. A clear drawback for this strategy would be a high cost to maintain those portals affecting the internal efficiency levels to deliver a good product.

5.2.3 Delivery Mechanism

As we mentioned before, the delivery mechanism can affect directly the efficiency but not vice versa. There are several mechanisms in this industry for delivering information; the commonality for reports is pdf files, originated in a words processors. It also exist the newsletter in a regular email format and nowadays, RSS capable of being accessed by different email systems or RSS readers. It also exist the possibility to request the information in paperback editions.

In the case of databases, the format is a regular SQL with capability of exporting into xls (Microsoft Excel format) files. All this formats, are a good delivery mechanism. However, when looking into the interaction cases, we see that sometimes there is no possibility to feed this formats into a CIS or it has to be made manually by the user.

According to the BIS user interviewed, having all the information into the same system platform gives the user higher value, since it doesn’t has to be changing systems back and forth to visualize and consult information or even feed it into their systems. Furthermore, there seems to be some disconnection between content providers and system developers, since both usually misses this criteria and only focus into their core activities. However, this is not always the case, for instance we have the example of Alacra delivery mechanism, which integrates fully into any system of the user; in addition Alacra also adds extra services to the same platform.

5.2.4 Lock-in

The content providers, usually tend to create higher switching costs by creating subscription schemes; this is the most common way of doing it. Content providers like DFC Intelligence, IDTechEx and The Real Story Group offers time subscriptions for publications and packages. Other content providers have subscription to their newsletters.

IDTechEx has a program that works on credits; the user can buy products, which gives him credit to his account, which could be exchanged for minor products (Not main reports) or discounts.

Alacra creates higher switching costs by having most of their products bundled into the same platform, which as it has been mentioned above, also connects to user interfaces (API).

Content providers; usually offer free content in order to increase the network of users, thus, network externalities. This also helps them to build trust and increase the willingness to pay for the full reports. Usually the free content comes in newsletters of the industry, which is the case of IGI group. Which offers the "Today in Telecom" newsletter directly to the email of the users, this newsletter always include advertisement of full reports and includes only headlines with brief summaries of the news in the industry. The lock-in here is based on the network externality factor, when everybody is reading the same newsletter.

Some content providers lock-in the clients by offering the clients access to the databases, this is based on the idea, that only them poses the specific type of information

5.2.5 Complementarities – Bundling

We see that all the content providers offer some degree of complementary products. For instance, companies such as ODS Petrodata offer their reports, which are complements of their databases. Also they offer vertical complementarities like support and the possibility to ask questions to the experts. Other Content providers, present similarities of giving access to databases as complements to their offering, for instance, DFC Intelligence offers subscriptions and research service packages, including several products for a single price.

Another aspect of analysis identified in this research was "Bundling" regarding the selling of two or more goods for a single price (Adams and Yellen, 1976). We have seen that in the Alacra case, bundling is a fundamental part of their value offering, the bundling could be considered a complement, however, we consider since bundling has to be offered from the same entity, and complementarities might not offered by themselves, we suggest bundling as an extra criteria for value creation that was not considered in the first model.

Furthermore, bundling CIS and CP is a possibility, since we realized that from the perspectives of Content Providers and CIS, they does not see each other as part of the value chain and their business models does not contemplate the possibility of bundling or integrating vertically. However the company Alacra is the exception, since they can be considered a vertical integration between content providers and CIS, and the value creation they have is greater than standing alone CIS developer and content providers.

When starting a vertical integration the need for acquire or imitate others routines arises, however Nelson and Winters (1982) mentions that the routines inside an organization are difficult to

replicate. Meaning that the capabilities for this integration could be completely different and the integration would be more difficult to attain. Hence, a joint venture seems more plausible. A joint venture is positive when each party want to retain their capabilities and at the same time benefit from the production of the business partner (Kogut, 1988).

Furthermore, in order to create this bundling the need of complementary assets arise. It is confirmed by Teece et al. (1997) that technological innovations require the use of complementary assets to produce adequate products and services. Consequently, the actor who can control strategic complementary assets has higher probability to start innovations and finish first those innovations, as is stated by Mitchell (1989) in Teece et al. (1997).

Teece (1986) identified three types of complementary assets: generic, specialized and cospecialized. Generic assets are the ones which do not be tailored to fit the needs of the production of the innovation. Specialized assets have a unilateral dependence between the asset and the product innovation. The assets which have a bilateral dependence are named cospecialized assets. This means that the need of cospecialized assets arises in order to create the bundling between the content provider products and a CIS.

There is the need for CIS and content providers to form collaborative partnerships in order to commercialize their products successfully, by complementing their assets, since it is likely that CIS and content providers don't poses themselves the assets and capabilities to make the bundling alone.

5.2.6 Isolating Mechanisms

As we mentioned before, the five criteria for value creation raise the isolating mechanisms. We observed during the study further isolating mechanisms, which are not created by the five criteria, but which are equally important for value capture opportunities.

Content owner providers usually protect their information with copyrights, which according to Rumelt (1984) intellectual property right protection gives a stronger isolating mechanism, by preventing imitation. However, the product of the content providers is so specialized, that we consider that the copyright protection could be meaningless in order to build the isolating mechanism, since the copyright only prevents competitors of reproducing the information, but it doesn't impede them from offering similar information.

We detected that the entire CPs in this research protects their information with copyrights. However, the main protection is done in terms of secrecy. Considering that CP's creates value by using access to certain sources and use specific processes for analyzing information. Secrecy seems a better way of protecting their processes, since Grandstrand (2000) says that secrecy is more effective to protect processes.

For the CIS, their software algorithm could be protected by a patent, even if the software is usually protected by copyright, the algorithm is protected by a patent, this is the case of Comintelli AB, which has protected their main product with a patent, this prevents competitors from using the same algorithm in different software.

5.3 Further Considerations

After a close look at content provider industry, we observed that there is an indirect relationship between the delivery mechanism and complementarities. When complementary services or products are embedded into the same delivery mechanism, enables to attain higher value creation. In addition, complementarities are also in direct relation with lock-in effect. This relationship only happens when the CIS is present, embedding the products into a single system (in this case the delivery mechanism) and complementing the offering. This does not happen when the Content providers offer their products without the interaction of the CIS.

In addition to the evaluation of the model we found out the mechanisms of price discrimination in the industry. In many cases we can see many strategies where the CP offers free versions of the products to have a more effective strategy for price discrimination in the industry.

In first degree price discrimination, CIS offers personalization or customization, this is possible when the users has the possibility to change the looks or appearance of the product, and in this case the CIS has the possibility to modify the interface in order to have a different front page for the user. For content providers, customization is possible just in some cases, usually all the reports are done the same, in the case of aggregators, user can customize the type of aggregation by selecting the topics.

On second degree price discrimination, the content providers tend to offer different versions of their products. The main reason is explained by Shapiro and Varian (1998), they say that for digital goods the cost structure offers vast economies of scale. In addition, the variable cost of producing copies of information does not increase. Furthermore, the fact that customers don't know what they are buying and what it's worth until they've actually tried it, leading to a creation of the second degree price discrimination.

Consequently, content providers offer free and small versions of their reports to build awareness, create dependency on the product, establish a network, attract eyeballs and attain competitive advantage. In a study López Aguirre (2009) shows that in most of Mexican digital journalist content is available for free, customizable and delivered by RSS feeds. This shows that at least first and second degree price discriminations are widely used by content providers.

On the third degree of price discrimination, CIS developer can charge depending on the customer, for example, the same product offering is sold with different price policies depending on the market segment. Since many content providers serve specific segments further segmentation is not performed due to the fact that their segments are narrow enough. An example is a company buying reports from a content provider specialized in content technologies for investors (e.g. Real Story Group). From the perspective of this content provider it's difficult to segment their customers, since all of them will usually be in the same segment. For instance they publicly show the cost of subscriptions, but this is not a rule. ODC-Petrodata, offering information in the petroleum sector, usually charges different fees depending on the type and size of their customer.

6. Conclusion

In this chapter, we will start answering our research questions, followed by future opportunities and further studies.

6.1 Answers to the Research Questions

The research questions stated in the first chapter of the study are portrayed an answered here. The answer is based on the extensive literature review of the study. Moreover, the data collection, namely the interaction cases and case studies, were integrated into the literature review to create a framework to understand the industry and answer the research questions. The empirical data was portrayed into case studies, which were analyzed using the proposed framework and a quantitative comparison between content providers. Finally a discussion of each of the criterion proposed into the framework was developed.

RQ1: "How do medium sized B2B Content Providers create value?"

We identified that content providers creates value with a specialized offer and reliable information, based on the five main mechanisms defined in our integrative framework; efficiency, perceived quality, complementarities, lock-in and delivery mechanism. These five mechanisms were present in the studied cases at different degrees.

The six content providers differentiate themselves through specialization; usually they offer information directly to the user, without considering that they can flood the user with big amounts of unclassified information in separated platforms. The content providers usually consider themselves as the unique provider of information to the user, and not as a part of a network of information providers. Thus, this study shows that the need to classify and process all this information is covered by the CIS.

RQ2: "In terms of content transfer, how do actors interact? and "How does the interaction create value?"

In this research, we identified that the need of accurate information of the competitive environment will continue to be crucial for companies. In addition, we identified the need for robust systems for information classification and delivery since there is a misconnection between content providers and CIS, meaning that there is a missing link in their perception of the value chain.

The proposed framework for valuating value creation in the content provider industry, considered the interactions between the user, CIS and content provider, which helps to have a better understanding in this research field. This framework can be used for evaluating how a content provider is creating value for the user and building isolating mechanisms for value capture.

We answer the question of "How is the interaction between the actors in the industry?" by mapping the interaction cases in section 2.4.5, Specific Interactions. We mapped the different types of interactions in this industry. We observed how the three actors work with the information depending on the characteristics of this information. Based on this interactions, we can answer the research question "How does the interaction creates value?" by saying that even if cases 5, 6 and 7 (Figure 13, Figure 14, Figure 15) create value by adding the CIS as part of the interaction, only the interaction Case 1 and 2 (Figure 9, Figure 10) creates greater consumer surplus(as seen in

section2.1.3), due to the value for the user, which does not have to go back and forth feeding the CIS system.

6.2 Future opportunities

With this research, we observed that the delivery mechanisms in this industry seem to be similar, the possible explanation is that the standard for delivery has been established (e,g, RSS feed, newsletters).

In order to increase value, the delivery mechanism needs to be improved in terms of integration with user platforms and systems, which will also potentiate the other mechanisms for value creation in this industry: lock-in, complementarities, efficiency and perceived quality. Hence, the need for complementing CIS and Content Providers offering is identified as a potential success factor for these companies. As we highlighted in previous sections, they do not consider each other as important complementary products. We have detected few companies such as Alacra, which has identified the bundling of CIS and CP as strategic. When the authors enquired about this potential, most of the companies had not realized this advantage and seems to have neglected the opportunity to build joint ventures or partnerships.

Therefore, the perfect scenario is that content providers agree together to ask for a solution to the CIS developer. However, this alternative seems unlikely because none of the content providers demonstrated direct interest to offer their products through a CIS. Then, we suggest as an opportunity to adjust the offer of the CIS. This should be done in order to meet the requirements of the user (decision maker), facilitating and guarantee an efficient information delivery and its classification into a single platform.

Additionally, the CIS should integrate its systems to be embedded into popular ERP systems (e.g SAP, ORACLE) because users prefer a unique platform and a single report rather than multiple platforms and isolated reports. Integrating the CIS systems to popular ERPs would give access to an extended market and the content provider would benefit from this too, when they partnered with the CIS developer.

Many interesting questions remain to be explored. For instance, the consolidation of a content provider industry, and the identification as strategic actors will continue to portray the future advances on information analysis. When the market realizes their contribution, the number of content providers will increase and further division of labor will be consolidated by specialization by knowledge area. Furthermore, the definition of what is a B2B content provider is still unclear and not common agreement between different authors was found. As we determined with this research, many companies from different business could start providing content linked with their main business as a branch of their main offer. It could lead to a more difficult identification as a content provider of those entities. Hence, a definition of the industry would become even more unclear and blurry.

6.3 Further studies

Large content providers (e.g. Dow Jones, Bloomberg, Yahoo) have a broad offering of products and services, including B2C and B2B. Therefore, the study focused only on medium sized content providers. It is likely that these large companies already have their own system to classify

information and deliver it to the user; however, it has to be confirmed. Further research is needed to verify if the proposed framework fits larger companies. Despite of this, we can assume that for the large content providers, it would be easier to attain a bargaining position with the CIS developers, giving them empowerment to create joint-ventures or acquisitions towards medium or small content providers.

Finally, this research provides us with a picture of the industry and its interactions. It can be helpful for established medium sized companies in the industry to evaluate their value creation mechanisms and their interactions with other actors. However, the need for validation of the proposed framework needs to be portrayed in larger samples of content providers.

In order to have a greater understanding of this industry, there is the need of further studies to evaluate entry barriers in the industry, differentiation between international markets, policy and regulations.

Appendix

Appendix A. Content Providers List

#	Company name	Country	Website
1	Alacra, Inc.	USA - UK	www.alacra.com
2	Northern Light Group, LLC	USA - RUSSIA	www.northernlight.com
3	ANALYSYS MASON LTD	UK	www.analysysmason.com
4	SCREEN DIGEST LTD	UK	www.screendigest.com
5	Berg Insight AB	Sweden	www.berginsight.com
6	Datamonitor Limited	UK	www.datamonitor.com
7	STRATEGY ANALYTICS LTD	USA	www.strategyanalytics.com
8	COPENHAGEN INSTITUTE FOR FUTURE STUDIES	Denmark	www.cifs.dk
9	PLANET RETAIL LTD	UK	www1.planetretail.net
10	LexisNexis group	USA	www.lexisnexis.com
11	DIALOG, LLC	USA	www.dialog.com
12	Esmerk Oy	Finland	www.esmerk.com
13	Factiva, Inc	USA	factiva.com
14	Euromonitor International	UK	www.euromonitor.com
15	Thomson Reuters Corporation	USA	thomsonreuters.com
16	MarketWatch, Inc.	USA	www.marketwatch.com
17	The Motley Fool, Inc.	USA	www.fool.com
18	TheStreet.com, Inc.	USA	www.thestreet.com
19	Healthline Networks, Inc.	USA	www.healthline.com
20	MediaTel Group	UK	www.mediatelgroup.co.uk
21	HSW International, Inc.	USA	www.hswinternational.com
22	Tabor Communications, Inc.	USA	www.taborcommunications.com
23	The Bureau of National Affairs, Inc.	USA	www.bna.com
24	Mansueto Ventures LLC	USA	www.mansueto.com
25	Collexis Holdings, Inc.	USA	www.collexis.com
26	Agencia Mexicana de Noticias Notimex, S.A. de C.V.	Mexico	www.notimex.com.mx
27	ENERGY INDUSTRIES COUNCIL	UK	www.the-eic.com
28	ODS-PETRODATA (HOLDINGS) LTD	UK	www.ods-petrodata.com
29	FASTMARKETS LTD	UK	fastmarkets.com
30	MarketResearch.com, Inc.	USA	www.marketresearch.com

#	Company name	Country	Website
32	Allendale Inc	USA	www.allendale-inc.com
33	Versaly Entertainment Inc	USA	www.versaly.com
34	Mergent, Inc.	USA	www.mergent.com
35	DailyMe, Inc.	USA	dailyme.com
36	4th Wave, Inc.	USA	www.fourthwave.com
37	Access Intelligence, LLC	USA	www.pbimedia.com
38	ANALYTIQA ASSOCIATES LTD	UK	www.analytiqa.com
39	Acm Group Inc	USA	www.atlantic-acm.com
40	B2b Analysts, Inc.	USA	www.b2banalysts.com
41	Igi Consulting Inc	USA	www.igigroup.com
42	YOLE DEVELOPPEMENT	France	www.yole.fr
43	Basex, Inc.	USA	www.basex.com
44	Bertl	USA	www.bertl.com
45	BIA Advisory Services, LLC	USA	www.kelseygroup.com
46	Burrus Research Associates	USA	www.burrus.com
47	BUSINESS MONITOR INTERNATIONAL LTD	UK	www.businessmonitor.com
48	Caiteur Group Inc	Canada	www.csrwire.comdistribution
49	Cambashi	UK	www.cambashi.com
50	Chainlink Research Inc	USA	www.chainlinkresearch.com
51	Compass Intelligence LLC	USA	www.compassintelligence.com
52	CONTEXT Business Limited	UK	www.contextworld.com
53	Current Analysis	USA	www.currentanalysis.com
54	Cutter Consortium	USA	https:cutter.com
55	Databeans Inc	USA	www.databeans.net
56	Davidson Consulting	USA	www.davidsonconsulting.biz
57	Dell'Oro Group Inc	USA	www.delloro.com
58	Demartek	USA	www.demartek.com
59	DFC Intelligence	USA	www.dfcint.com
60	DIFFRACTION Analysis	France	www.diffractionanalysis.com

#	Company name	Country	Website
61	Digital Tech Consulting Inc	USA	www.dtcreports.com
62	Directions on Microsoft	USA	www.directionsonmicrosoft.com
63	ENDERS Analysis	UK	www.endersanalysis.com
64	EMA Enterprise management Associates	USA	www.enterprisemanagement.com
65	Evaluator Group	USA	www.evaluatorgroup.com
66	FAULKNER Information Services	USA	www.faulkner.com
67	FedSources	USA	www.fedsources.com
68	Forward Concepts Co.	USA	www.fwdconcepts.com
69	Freedonia Group Incorporated	USA	www.freedoniagroup.com
70	Freeform Dynamics LTD	UK	www.freeformdynamics.com
71	Gap Intelligence, Inc	USA	www.gapintelligence.com
72	GDS data International LTD	UK	www.gdsinternational.com
73	GreenTech Media Inc - GTM research	USA	www.greentechmedia.com
74	Harbord Research Inc	USA	www.harborresearch.com
75	IC Insights Corp	USA	www.icinsights.com
76	ICON Group International	USA	www.icongrouponline.com
77	IDC Research, Inc	USA	www.idc.com
78	IDTechEx, Inc	UK	www.idtechex.com
79	IE Market Research Corp	Canada	www.iemarketresearch.com
80	IGI Information Gatekeepers INC	USA	www.igigroup.com
81	IHL Group	USA	www.ihlservices.com
82	IHS Inc	USA	www.ihs.com
83	IMEX Research Corp	USA	www.imexresearch.com
84	Info-Tech research Group	Canada	www.infotech.com
85	Infocommerce Group Inc	USA	www.infocommercegroup.com
86	Javelin Strategy	USA	https:www.javelinstrategy.com
87	Jon Peddie Research	USA	www.jonpeddie.com
88	JUNIPER RESEARCH LTD	UK	www.juniperresearch.com
89	KLAS Enterprises LLC	USA	www.klasresearch.com
90	Lyra Researh Inc	USA	www.lyra.com

#	Company name	Country	Website
91	MARAVEDIS	Canada	www.maravedis-bwa.com
92	MORTECH LLC	USA	www.mortech-llc.com
93	Saugatuck Technology Inc	USA	saugatucktechnology.com
94	QUANTIFICA Publishing	France	www.quantifica.fr
95	Online financial Innovations	USA	www.onlinebankingreport.com
96	Photizo Group, Inc	USA	www.photizogroup.com
97	Pike Research LLC	USA	www.pikeresearch.com
98	PK worldmedia incorporated	USA	www.pkworldmedia.com
99	Plunkett Research, Ltd	USA	www.plunkettresearch.com
100	POINT Topic LTD	UK	point-topic.com
101	PORTIO RESEARCH LTD	UK	www.portioresearch.com
102	Quocirca LTD	UK	www.quocirca.com
103	Real Story Group, Legal name: CMS WATCH LTD	UK	www.realstorygroup.com
104	Retail Systems Research LLC	USA	www.retailsystemsresearch.com
105	Plant-wide research	USA	www.plant-wide.com
106	Techaisle LLC	USA	www.techaisle.com

Appendix B. Interview templates

Semi-structured Interview

Value Proposition

1. How do you describe the product / Offer? It is software or a subscription service or a combine offering?
2. Do you offer support to your customers when they use your systems(in case there is any)
3. Do you offer training programs
4. Who is your target customer? Are they big companies? Small companies? Companies with a particular need
5. What is your strategy to win customers? Do you offer promotions, updates, after sales service?

Value Creation and Delivery systems

1. What are the main resources needed for you company to deliver the offering?
2. What are the capabilities needed to deliver your product? Do you need people with a special background, computer engineering background? Managers with a specific background?
3. How is the organizational structure of your organization in order to deliver the offering? is it highly hierarchical? Flexible? How is the value chain? Who are the suppliers? e.g software licenses, patent licenses, outsourcing software developers.
4. What is the position in the value chain of the company?

Value Capture

1. How do you charge for your products, a fix price for the software or a subscription base, annual, monthly??
2. What are the main costs for delivering the offering?

Appendix C. Case study IDTechEx

IDTechEx is a company providing information; custom consulting and developing research specialized in the next business areas:

- Printed Electronics
- Passive RFID
- Active RFID / Wireless Sensors
- Smart Packaging
- Thin film Photovoltaic's
- Energy Harvesting
- Electric Vehicles
- Batteries
- Smart Grid

IDTechEx gives independent marketing, technical and business advice and services on these subjects in three forms - consulting, research and events. The scope of its research includes technology and market benchmarking, analysis of companies, due diligence, in-company master classes and global research. IDTechEx place special attention to monitor RFID technology in over 110 countries. Located initially in the UK, opened a new office in Boston due to an increase in the number of customers in this region. Later opened a German Office based in Chemnitz, Germany.

Value Proposition

The offering: The Company offer different business intelligence tools to provide information through specialized web portals (journals) and databases all of these tools are consistent with their focus areas listed above, the service offered are portrayed in five web-portals:

1) RFID Knowledgebase Case Studies: It is a database with 3500 case studies based on different industries. They are describing cases for other industries outside the typical supply chain scope such as, healthcare, archiving and personal transportation.
2) Printed Electronics WORLD. It is a web-portal classified as a journal, with free online source of analysis, opinion, news and forecasting covering printed electronics. It includes whitepapers and search capabilities through the reports in the areas of Logic and Memory, Photovoltaic and Batteries, sensor and sound, displays and lighting, materials and manufacturing.
3) Printed Electronics Supplier and Researcher Database: It is described as the global collection of Printed Electronics Suppliers. The database provide information in the topic of printing inorganic transistors, it focus in identify innovation in this sector and breakthroughs in materials. Here they follow the most innovative actors and the leaders patenting in the technology. There are over 700 organizations involved in the topic. It gives contact details, company profiles including company activities and other benefits such as latest news articles from the companies and presentations with audio that they have given at IDTechEx events. You have to pay for access to most of the content in this section.

4) Energy harvesting journal: Energy Harvesting Journal gives daily articles on the latest developments in this sector. It is a free online source of analysis, opinion, news and forecasting about energy harvesting and storage. All articles provide comments and analysis on the subject.
5) Electric Vehicles Research: It provides with a free daily update of the latest industry developments. Launched in May 2010, this free portal covers progress of electric vehicles and the enabling technologies in all its forms.

Target Customer:

- Companies involved in the electronic industry looking for information and trends of its market
- Supply Chain's researches looking for trends and applications of RFID technology
- Environmentalist focus on areas of renewable energies

Value Creation and Delivery Systems

Resources and Capabilities: The Company creates value, through the assembly of in deep reports and delivering news, focus on topics around printed electronics, making them a reliable source of information in the sector. The senior management of the company seems to participate actively in events and conferences and they are recognizing experts in the area of printed electronics. Therefore, a valuable resource is specialize people with good reputation as experts within the industry, which also support the customers if they have specific questions regarding reports. This resource was highlighted for the interviewee as a key resource as well; it was mentioned that the company founders brought a lot of experience and credibility to build a strong reputation within the sector.

Delivery Mechanism

The company sends updates through newsletters and RSS Feeds, reporting the last events on each sector as is describe in the next table:

Table 12. IDTechEx Delivery mechanisms

Newsletter	Frequency
Updates of latest IDTechEx research and events	Random
Printed Electronics World Summary	Weekly
Energy Harvesting Journal Summary	Weekly
Electric Vehicle Research Summary	Weekly

News updates: For the last three items, the company delivers news in three main sectors: Printed Electronic, Energy Harvesting and Electric Vehicles through the web-portals. On them the user can subscribe to Twitter, Facebook or RSS Feeds reports for free. The interviewee mentioned that they encourage clients to use the Portals and subscribe to Newsletters and News alerts through this system. He mentioned that they not use any other mechanism or business intelligence system to provide or organize the information delivered.

Custom Research and Methodology

Experts assess technology from primary research with users and vendors. They provide independent timely analysis for specific needs. It includes research in market forecast (granular detail by technology, territory and application) and consulting services (technology trends, benchmarking, competitive environment, optimal product positioning and due diligence. In consulting, the company offers "master classes" which include customize sessions for companies; it could include brain storming sessions and so on.

Companies' presentation

The company sells power point presentations of experts carry out in different scenarios around the world, they can be obtained for a fee or acquiring IDTechEx credits. The interviewee explained that most of the presentations are hold by IDTechEx employees, because they are recognize experts and they include presentations of guest lecturers in events they organize and promote themselves.

Value Capture

In order to capture value the company main focus are the sales of individual reports, specially forecast on specific sectors and devices and the expected market tendencies on each one. The reports have an average price of US$3000 which includes a five user licenses.

Another mechanism for capturing value is a magazine that is sold by subscription to customers. It was mentioned in the interview as an important medium of diffusion.

IDTechEx Credits

IDTechEx Credits is a scheme to capture value, giving access to specific content on the IDTechEx web-site, rather than having to purchase whole sections or in depth reports described above, the customer can purchase individual case studies, journal issues, and conference presentations with IDTechEx Credits.

Available to buy with IDTechEx Credits are:

- 171 Case Studies
- Each Case Study costs 1 Credit
- 498 Journal Issues
- Each Journal Issue costs 1 Credit
- 1392 Conference Presentations
- Each Conference Presentation costs 1 Credit

IDTechEx Credits cost:

- 1 Credit: $49.00
- 3 Credits: $139.00
- 6 Credits: $269.00
- 10 Credits: $419.00

Another revenue sources is the access to the RFID Business Cases Database: Cost for access the database is $2.800 for the whole database covering all sectors or $750 for access for one sector.

Appendix D. Case Study IGI

The Information Gatekeepers Group was founded in 1977, the company is a consultant and information service provider in the fields of fiber optics, optical networks, WDM, ADSL, ATM, Internet, Local Area Networks (LANs), wireless, and emerging telecom markets. The company is headquartered in Massachusetts, USA. It is subdivided in two divisions: Information gatekeepers Inc. (IGI) and IGI consulting (IGIC).

Value Proposition

They offer 3 types of products and services, this can be classified as: free services, publications and consulting. Consulting is a service offered for the telecom sector and is tailor made. The Publications products include market and technology studies and newsletters about telecom. In Free services IGI offers a range of free of charge services to its users, these services includes telecom glossary www.telecomterms.com, Telecom event calendar www.telecomcalendar.com and a directory of the fiber optic industry at www.fiberopticsyp.com. In addition IGI Group has a free news letter named "Today in Telecom".

Value Creation and Delivery System

Their main resources are the human resources, meaning the intellectual capital they have, since they count with a staff of researchers and associates and agents in 10 offices around the globe. They acquired brand name recognition by participating in several conferences in the telecom industry and trade show organizer. Furthermore, IGI group has a partnership with Aarksrore.com, a market research company to offer IGI reports (PRLog, 2008).

The delivery system for reports and newsletters is through portable document format files (pdf) and mailed printed copies for an extra charge. In the case of the free services, the "Today in Telecom" newsletter is received through HTML email or text, depending on preferences selected by the subscriber.

Value Capture

The publications and newsletters are sold individually and the price varies from hundreds to thousands of dollars, depending on the report. The free services, as it names indicates are free of charge for using them, however there is fees, in order to add information. For adding an event to the Telecom event calendar there is a fee of $25 and $125 USD for adding and event and URL link. In the case of the directory of fiber optics, the client can advertise and add its company in the listing for a fee of $25 or $495 USD with the client company logo.

Besides the regular prices in reports, users could have the possibility of receiving an extra free report when buying special reports.

Appendix E. Case Study DFC Intelligence

DFC Intelligence is a market researcher and consulting firm, specialized in interactive entertainment and the video game industry. Publishing since 1995 and serving companies in 30 countries around the world.

Value Proposition

DFC intelligence has different types of products and services, this are:

- Individual reports
- Research service packages
- DFC dossier
- Monthly briefs
- Industry surveys and Custom research services

Individual reports. The individual reports are basically market research done on specific industry sectors, namely PC videogames, consoles and portable and mobile devices.

DFC Dossier. The dossier is a ten times a year publication; which includes industry updates and market trends. It also includes forecasts for individual products and market segments and updates on any events that can cause changes in forecasts on previous reports.

Monthly briefs. These reports are smaller than individual reports, are published monthly and access-free. A newsletter is available, to let know users when new content is added.

Industry surveys and Custom research services reports. DFC Intelligence participates in several syndicated surveys worldwide among video-gamers; these surveys are available as individual reports. Furthermore, the company offers off the shelf custom research services, based on their deep knowledge about the industry.

Research service packages. DFC Intelligence offers the individual reports of the industry, which can be acquired individually or by packages depending on customer needs. The research service packages are annual based subscriptions, which gives access to the users to the individual reports and updates on the reports as they are released. Over the years, they have built a proprietary database of market information, which is available only to subscribers of the research packages. Furthermore, the all research packages include a one year subscription to the DFC Dossier. Subscribers to DFC Research Packages are also eligible for discounts on DFC Consulting Services and Custom Surveys and Reports

Value Creation and Delivery System

They participate as speakers in major trade shows in the industry, such as the E3 and Game developers' conference. This has made them have a recognized brand name in the interactive entertainment industry. In addition, they are often cited by major newspapers publications when touching upon the industry.

Having the contacts to interview industry executives and attend private conferences, have made them have a greater insight of the industry and increase the value of their reports.

News on the website and updates on new reports are available by subscription via RSS feeds. The reports are emailed in Portable document format (pdf) or by an extra fee can be sent in a printed format, which is mailed to the customer. The reports are sent within 24-48 hours ordered and faster delivery can be arranged by phone or email. The database is exportable as excel spreadsheet (xls)

Value Capture

As it was mentioned before, the reports can be acquired individually or by package. The prices changes depending on the users. Individual reports prices vary from 495 dollars to almost 3,500 dollars. The annual package is nearly 10,000 USD

There are no customer loyalty programs or complementary partnerships with other publishers.

Appendix F. Case Study of Real Story Group

Real Story Group is a content technology analyst firm; they are working to provide information to corporate buyers interested to invest in content technology such as web diffusion and systems to manage enterprise information. The company's headquarters is located in USA in Olney close to Washington D.C. They have offices in Boston and London in the UK and Delhi in India, with nearly 160 employees. The company was founded in 2001 with the name of CMS Watch. In 2010, it changes its name to Real Story Group.

Value Proposition

The Company offer content and analysis regarding the industry of digital content. The basic product offered are evaluation reports in the next areas which depict the pillars of its services:

- **Web Content Management:** It is a complete analysis regarding the offer of forty four most representative Web CMS Vendors around the world. Web CMS Vendors are companies in the industry of information management which develop web interfaces and applications in B2C and B2B environments.
- **Document and Records Management**: It is an analysis of thirty-two Document and Record Management vendors. This report compares the technologies and offering of different vendors and the methodology that they use to store and process information, comparing prices and value offered.
- **Portal and Content Integration**: It is an analysis of eighteen developers of enterprise portals and content integration. This companies subject of the analysis are the actual developers and programmers of those portals, then they develop own technologies and protocols that are track in this report.
- **Search and Information Access**: It consists of an analysis of twenty-two search and information access vendors. They could be classifying as companies with products related with business intelligence systems to organize and find information inside and outside an organization.
- **Digital Asset Management**: It is a report about twenty-two Digital and Media Asset Management vendors. This industry focus on manage of rich media and digital assets such as graphics, videos, images and layouts through the life cycle form production to delivery. This report analyzes and compares the technologies used for those companies and price offerings.
- **SharePoint Ecosystem**: The report includes a detailed explanation on how to use the Sharepoint ecosystem (Collaborative web platform of Microsoft) with evaluations of Microsoft partners and advise on how to scale the platform across organizations
- **Enterprise collaboration and Social Software:** It is a report that analyzes twenty-seven collaboration and Social software vendors. These companies develop software and applications for on-line collaboration and social interaction and they are the most advance and representatives on this industry.

Based on those pillars listed above, the company offers special subscription services product updates, personalize advice and the following services

- Complete vendor evaluation reports along with all of the ongoing updates
- Access to special reports and webinars covering best practices, trends, and critical know-how
- One-on-one advisory sessions with our expert analysts
- Registrations to online education courses
- Online access to the latest research

Furthermore, in their offering they have online education, where they offer the following courses: Virtual Courses; Fundamentals of Web Content Management Technologies; Fundamentals of Enterprise Portal Technology; Fundamentals of Web Analytics Technology: Fundamentals of a Successful Intranet; Web Development Platforms; Enterprise Information Technologies; Fundamentals of ECM Technologies; Fundamentals of Digital Asset Management Technologies; Fundamentals of Electronic Discovery; Fundamentals of Information Compliance.

Target Customer:

- Investors: People looking for options of investments in content technology companies.
- Content Companies: Enterprises within the sector of content technologies looking for market trends.
- Users of specialize technologies: Individuals or entities using a specific technology or willing to acquire one of them, looking for comparisons for better decisions.
- Market trackers: Analyst searching for information about the sector to forecast tendencies and provide consolidate economic information.

The company seems to provide further services through a premium subscription that includes not only the reports but On-line education and personalize advisory. It could be a way to retain the users of the reports. Other strategies identified are participation in key events and conferences and reports in computing media channels that mention the company.

Value Creation and Delivery Systems

Resources and capabilities: The main resources are people with experience in the sector as the company stated “Our research is the result of careful research by independent industry veterans with strong technical backgrounds, and is supported by interviews with actual customers.”

The company highlight that its offer is a strong analysis regarding the industry of content, suited to specific scenarios. In words of the company a differentiator between them and companies such as Forrester or Gartner is that Real Story group´s point of view is in buyer’s interest not it vendor’s interest. One example of this focus is the Blog, Real Story Group blog (previously known as "CMS Watch Trends") which is often referenced as a source for content management information.

To create the value is necessary a strong network of collaborators and contacts among the universe of companies of content to obtain strong and useful analysis. The company has been working to develop those contacts since its foundation, participating in different events and being a reference of information in the sector.

The founder of the company, Tony Byrne, also publishes articles in other media on this subject, like EContent, where he is one of the panelists for their Top 100 and Information Today.

Consulting Services

The company provides advisory services to companies in specific cases of content technology. Some of the customers listed in the web page are: IKEA, NOKIA, SHELL, Astra Zenecca, and The British Museum. The typical services provided to those companies are: On-line Education, selection of decision support systems and advice to negotiate contracts.

Delivery Mechanism:

Each of the analyst, write in a personal blog with news about the field of concentration. Anyone can subscribe Newsletters and to RSS Feed linked to Blogs. Twitter and Facebook updates are also available. With the subscription the user have access to search through the blog and get more details about the posts of the analyst, this feature is not allowed with the free subscription. The reports are accessed through the web page of the company in words of a representative of the company "Our subscription services deliver content electronically via our website. Each subscriber has a unique id and password – and once they login, they can open/read/print/download the content."

Value Capture

Price Subscription alternatives in each of the topic pillars are: 3 Months: $2,450 Include Research updates and Advisory papers and webinars. Annual: $3,500 Additional to the latter, it includes 2 hours advisory hours and 2 hours education course. The prices allow access to 8 people as maximum within an organization. Prices for more licenses are showed in the web page of the company. Each report listed cost US $1,950.

Appendix G. Case Study of ODS – PETRODATA

ODS – Petrodata is a company focus on the provision of content about the petroleum and energy sector world-wide. It includes market intelligence, data, publications and analysis tools to the energy sector. The company tracks the zones of petrol exploitation the use of specialized equipment e.g. offshore drilling units, the use of vessels to transport oil and so on. The company is including information about renewable sources of energy as the market move to non-conventional energy generation.

Founded in 2002, ODS-Petrodata builds on the legacies of its predecessor companies, Offshore Data Services, Inc., Petrodata Ltd. and Bassoe Offshore Consultants Ltd., each a premier provider of data, information and market intelligence to the offshore energy industry. ODS-Petrodata operates from offices in Houston, Aberdeen, Oslo, Singapore and Dubai.

Value Proposition

The company specializes to provide information through access to databases and reports in the next areas:

RIGS: ODS-Petrodata provides coverage of the worldwide offshore rig market. The company offers a real-time online tool, including news about the global state of contracts in the drilling industry. It is the successor to World System Online, giving details about the operative rig fleet, along with customizes reports and key market activity.

WELLS: ODS-Petrodata's Wells group provides data and up-to-date reporting on current and proposed offshore drilling. They offer a publication with detailed data on wells drilled in the U.S. Gulf of Mexico. This publication is offered every Wednesday in PDF format. The coverage include well names and location, well production results, future drilling plans, future wells and drilling permits.

MARINE: Market intelligence on the offshore marine transportation and seismic markets. It provides information about offshore supply vessel market. The offer consists of three components: News: Coverage of the latest supply vessel chartering requirements as well as fixtures and construction. It includes reports on vessel moves and a monthly newsletter covering offshore vessel market. Data: It is a database with detailed vessel work histories and future works on a contract by contract basis. Analysis: Market analysis and research including charting tools, reports and so on. Some specific products of content the company offer are: Global Supply Vessel Forecast, Offshore Marine Monthly, The OMEGA Report (North Sea vessel market),

SEISMIC: SeismicBase is a tool to track marine Seismic vessels fleet and know about market movements. It includes contract status and expected contracts of high technological 2D and 3D scan vessels around the world.

FIELD DEVELOPMENT: It is a web-base tool for tracking global activity about off-shore field development projects. It gives to the user instant historical and future installation activity for fixed and floating platforms, pipelines, subsea trees and new offshore discoveries. Also is included FPSbase, which include content about the floating production and storage systems. ConstructionVesselbase is a database of 500 vessels giving information about vessels that install

and maintain vital offshore oil and gas infrastructure. The Aquanaut is a newsletter that analyze and comments the recent events in the global subsurface support business.

RENEWABLES: It is a source of information news, data and analysis supports decision-making in the fast-growing offshore wind sector. It includes information about wind farm localization, name of projects, ownership, size and status. Another part of the content provides information about turbine supply details. The offshore renewable newswire is a newsfeed on the subject of renewable energies. They offer the international offshore wind vessels market report regarding supply of components to offshore wind farms.

CONSULTING & RESEARCH: ODS-Petrodata Consulting & Research builds industry insight and addresses tactical and strategic commercial questions.

INDUSTRY NEWS: ODS-Petrodata provides global coverage of breaking news and current events in the offshore energy business.

The main customer is portrayed in petroleum companies or companies with related businesses in the area of energy such as:

- Multinational Petroleum companies looking for information about other competitors exploring and exploring oil fields.
- Service petroleum companies, looking for opportunities to develop projects for multinational companies and sell equipments to operate new wells and offshore facilities.
- Government policy makers, tracking the energy sector in different countries and regions.

Value Creation and Delivery Systems

The company main resources are specialists in the area of energy with experience working in the energy sector and with strong contacts in the main multinational companies, getting information about wells exploitation and future projects. In capabilities we can perceive the importance to access certain databases of petroleum companies and to reach key people whom can provide information to update the information that ODS Petrodata provide to its customers. Other important resources of the company are their computer systems, servers and the basic infrastructure required to deliver and storage the database.

Delivery Mechanism

The company offers a series of databases to access online and a broad portfolio of newsletters with specific information regarding energy topics that the customer can select as it is describe bellow:

ConstructionVesselBase .It is an interactive database and newswire service supplying information about the construction of offshore platforms and the use of vessels to do that job. This database covers all vessels that install and maintain offshore oil and gas infrastructure including:

- Platforms
- Pipelines
- Subsea hardware

The information is provided in Real-time with Newsletters and in Web format accessing through ODS-Petrodata web site.

FieldsBase. It is a tool that provides information about offshore field development projects. It allows the user to track activity on the macro and micro levels. A news feed is provided to keep update with the latest developments in the market. This includes analytical tools to organize the information in tables or graph form or it can be downloaded into spreadsheets programs.

FPSbaseI It is database providing information in the floating production industry and storage systems. FPSbase delivers current and future supply and demand data, technical specifications, market analysis and streaming news via a user-friendly web interface. The database is updated every business day by ODS-Petrodata's global field development market reporting team. The information can be viewed in tables and graphs, or downloaded in spreadsheets. News searches and queries can be saved and schedule and results can be forwarded by email.

MarineBase. It is a web based vessel database and analysis tool that allows users to follow vessel supply and demand on a global basis. Users can generate reports or download in spread sheets.

Market Survey System (MSS). It is a comprehensive market insight within defined market segments in the oil and gas service industry. The system covers 24 market segments. Services include quarterly updated market analyses and supplier/contractor profiles for each market segment, and a daily news service.

Offshore Windfarm Locator. Includes 1,000 projects from conception through generation, providing what ODS-Petrodata believes to be the most comprehensive coverage of the global offshore wind market. This database track the latest information from sources directly involved in the projects. The company uses an interface to show projects by name, ownership, localization, size and status. Another sections cover turbine supply details, information and statuses of vessels working on turbines.

SeismicBase. It is a database covering the seismic vessel fleet and market. ODS-Petrodata offers a suite of products and services focusing on global supply vessels; construction vessels; offshore rigs; offshore wells; offshore field development activity and more.

WellsBase. It is a web-base platform providing a complete suite of information on over 60,000 wells drilled in the Gulf of Mexico region since 1947. The team of researchers on wells tracks well activities, permits, drilling plans and related well activities. They consolidate information from government agencies with information obtained from operators in order to fix inconsistencies in governmental reports with accurate data based on reliable sources. It makes this database very valuable for people tracking and looking for business opportunities in the sector.

Additionally to access to specialized databases explained above, ODC-Petrodata offer a series of forecast such as:

Table 13. ODS Petrodata forecasts

Name	Frequency	Format
Floating Rig Market Report: 2010-2018	Twice Annually	Hard Copy
Global Supply Vessel Forecast	Twice Annually	Hard Copy
Gulf of Mexico Rig Report	Monthly	Email Hard Copy Web
The International Offshore Wind Market to 2020	Twice Annually	Email Hard Copy
North Sea Rig Report	Monthly	Email Hard Copy Web
World Rig Forecast: Short Term Trends	Monthly	Email Hard Copy Web
Jack up Rig Market Report: 2010-2018	Twice Annually	Hard Copy

Value Capture

The company neither show prices of any product explicitly nor declare prices in the interviews. From the information collected, we can assume some schemes to capture value. It seems to offer annual subscriptions to each of the specific databases that are renewable. However the price policy can change between renovations. It looks like depending on the kind of customer and the number of utilities he wants to use the price policy will be different and confidential.

Appendix H. Case Study of Alacra, Inc.

It is a privately owned company, founded in 1996, with its headquarters in New York. It is specialized in the aggregation of information databases, employing more than 60 people.

Value Proposition

The company receives data and information from other content providers and partners. The information is saved and classified on their data warehouse. They receive the data from application programming interfaces (APIs) and file feeds (XML or CSV).

All the data and information received is used in their 9 products: Compliance, Concordance, Book, Portals, Premium, Pulse, Current awareness, Connections and PCAN.

Concordance: Is an Entity identifier mapping service, which provides a comprehensive identifier map for global public companies, private companies, subsidiaries and divisions. This service analyzes the data and clean it, in order to eliminate duplicate records, also creates a centralized file that enables easier linkage of the information.

Compliance: web-based, federated searching platform (i.e. simultaneous search of multiple searchable resources). It is based on worldwide sources, mainly from Western Europe and North America. The database extends to the 1980´s. The compliance product works with Concordance mapping service.

Book: It is a publishing tool, which compiles company data from different sources and gather this information into a single document to make more efficient the process of printing, emailing or viewing.

Portals: Combines data from different providers into the client´s intranet. The product can integrate other Alacra´s products such as Current awareness for alerts or Pulse.

Pulse: Is an intelligent web filter delivered through a web-interface, via mobile alerts, or integrated within existing data platforms.

Alacra Pulse includes four event-specific filters:

- **Street Pulse**: aggregates comments from 25,000 sell-side, ratings agency and industry analysts. Deal Pulse compiles the latest news on rumored, announced and completed M&A transactions. Weak Pulse shows corporate distress signals like announcing layoffs, filing for bankruptcy, debt restructuring. Chief Pulse offers quotes from CEOs, CFOs, Presidents and other key corporate officers.
- **Current awareness:** gathers information and send it via an email or RSS feeds to individuals or teams, and can be delivered to computer or Smartphone.
- **Connections:** Provides biographical information about 400,000 professionals, including executives and board members from over 30,000 companies.
- **PCAN:** Acronym for Alacra Premium Content Ad Network, it is an advertisement network, specialized for financial websites and blogs.

Besides the 9 main products, the company has a web store named AlacraStore.com, where users can register and buy business reports; once the reports have been paid the user can download it to its computer. They advertise the store as "Pay only for the content you need, with no added fees". The types of reports that can be bought are: company snapshots; company profiles and financial; credit and investment research; market research; economic data and analysis; deal information; share ownership; executives and mutual fund research.

In addition, users can sign up on the website to receive a newsletter to alerts regarding free reports; there is also the possibility to add an RSS feed for free reports.

Value Creation and Delivery System

The main advantage for the company lies in the partner networks it has for content aggregation. It has more than 200 different sources or publishers to feeds it systems. In addition, the company offers an interface on each of its products to make the information more accessible and efficient. Furthermore, the company creates value through complementing its products one to another. An example of this would be that a customer could have the "portal" product and the "current awareness" to receive alerts to its mobile by RSS feeds.

The reports bought in the AlacraStore.com are from different publishers, Alacra owns some of the information or has licensed content, and these reports can be downloaded in a portable document format (pdf). There is also the possibility to join to newsletters or add RSS feeds on specific research.

In the interview, it was noted the properties of the Alacra Pulse API, which can connect with any working environment of the customer, this means that they can feed the information directly into the customer existing ERP and BIS.

This company shows vertical integration, since we consider that besides being a content provider is also an application service provider, this is proven by seeing some of their products, which in addition offering content in different ways according to Camponovo's classification, we also see the content embedded in a software application.

Value Capture

For their products, the company charges subscription fees, where they provide access, the price vary depending on the need of the customers. In the price technical support and training is included.

In the web store, the prices of reports varies from less than hundred dollars to thousands of USD, it can be paid by credit card.

References

ADAMS, W. J. & YELLEN, J. L. 1976. Commodity bundling and the burden of monopoly. *The Quarterly Journal of Economics,* 90**,** 475-498.

AMABILE, T. M. 1983. The social psychology of creativity: A componential conceptualization. *Journal of personality and social psychology,* 45**,** 357.

AMIT, R. & ZOTT, C. 2001. Value creation in E business. *Strategic Management Journal,* 22**,** 493-520.

ARROW, K. J. 1974. *Essays in the theory of risk-bearing,* Amsterdam, North-Holland.

BAKOS, Y. & BRYNJOLFSSON, E. 1999. Bundling information goods: Pricing, profits, and efficiency. *Management Science,* 45**,** 1613-1630.

BLOEMER, J. M. & KASPER, H. D. P. 1995. The complex relationship between consumer satisfaction and brand loyalty. *Journal of Economic Psychology,* 16**,** 311-329.

BOGNER, W. C., THOMAS, H. & MCGEE, J. 1999. Competence and competitive advantage: towards a dynamic model. *British Journal of Management,* 10**,** 275-290.

BONTIS, N. 1998. Intellectual capital: an exploratory study that develops measures and models. *Management decision,* 36**,** 63-76.

BOWMAN, C. & AMBROSINI, V. 2000. Value creation versus value capture: towards a coherent definition of value in strategy. *British Journal of Management,* 11**,** 1-15.

BREIDERT, C. 2006. *Estimation of willingness-to-pay: theory, measurement, application*, Duv.

BRYMAN, A. & BELL, E. 2007. *Business research methods*, Oxford University Press, USA.

BURSTEIN, F., HOLSAPPLE, C., NEGASH, S. & GRAY, P. 2008a. Business Intelligence. *Handbook on Decision Support Systems 2.* Springer Berlin Heidelberg.

BURSTEIN, F., HOLSAPPLE, C. & SAUTER, V. L. 2008b. Competitive Intelligence Systems. *Handbook on Decision Support Systems 2.* Springer Berlin Heidelberg.

CAMPONOVO, G. Year. Mobile commerce business models. *In,* 2002.

CARBAUGH, R. J. 2006. *Contemporary economics: an applications approach*, Thomson South-Western.

CEPEDA, G. & MARTIN, D. 2005. A review of case studies publishing in Management Decision 2003-2004: Guides and criteria for achieving quality in qualitative research. *Management decision,* 43**,** 851-876.

CHESBROUGH, H. & ROSENBLOOM, R. 2002. The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and corporate change,* 11**,** 529.

DEWAN, R., FREIMER, M. & SEIDMANN, A. 2000. Organizing distribution channels for information goods on the Internet. *Management Science,* 46**,** 483-495.

EISENHARDT, K. & ZBARACKI, M. 1992. Strategic decision making. *Strategic Management Journal,* 13**,** 17-37.

ETSI. 2002. *Terms and Definitions Database Interactive (TEDDI)* [Online]. European Telecommunications Standards Institute Available: http://webapp.etsi.org/Teddi/ [Accessed 02/02/2011 2011].

FRANSMAN, M. 2007. Innovation in the New ICT Ecosystem. *International journal of digital economics,* 68.

GALPER, J. 2001. Three business models for the stock exchange industry. *The Journal of Investing,* 10**,** 70-78.

GALLAUGHER, J. M., AUGER, P. & BARNIR, A. 2001. Revenue streams and digital content providers: an empirical investigation. *Information & Management,* 38**,** 473-485.

GEBAUER, J. & GINSBURG, M. 2003. The US wine industry and the Internet: an analysis of success factors for online business models. *Electronic Markets,* 13**,** 59-66.

GIURGIU, L., BARSAN, G. & MOSTEANU, D. Year. Web syndication in educational environment. *In,* 2009. IEEE, 353-356.

GORDIJN, J. & AKKERMANS, J. 2003. Value-based requirements engineering: Exploring innovative e-commerce ideas. *Requirements Engineering,* 8**,** 114-134.

GOTTSCHALK, P. 2006. *E-business strategy, sourcing, and governance*, IGI Global.

GRANSTRAND, O. 2000. *The economics and management of intellectual property: Towards Intellectual Capitalism,* Edward Elgar Publishing.

HAIG, M. 2001. *The B2B e-commerce handbook: how to transform your business-to-business global marketing strategy*, Kogan Page Ltd.

HALASCHEK-WIENER, C. & KOLOVSKI, V. 2008. Syndication on the Web using a description logic approach. *Web Semantics: Science, Services and Agents on the World Wide Web,* 6**,** 171-190.

HAMEL, G. & TRUDEL, J. D. 2000. *Leading the revolution*, Harvard Business School Press Boston, MA.

HERRING, J. 1999. Key intelligence topics: a process to identify and define intelligence needs. *Competitive Intelligence Review,* 10**,** 4-14.

HOOVERS, I. 2011. *Internet Content Providers* [Online]. Available: http://www.hoovers.com/industry/internet-content-providers/1457-1.html [Accessed 01/02/2011 2011].

KOGUT, B. 1988. JOINT VENTURES: THEORETICAL AND EMPIRICAL PERSPECTIVES. *Strategic Management Journal,* 9**,** 319-332.

LEPAK, D. P., SMITH, K. G. & TAYLOR, M. S. 2007. Value creation and value capture: a multilevel perspective. *Academy of Management Review,* 32**,** 180.

LILLRANK, P. 2003. The quality of information. *International Journal of Quality & Reliability Management,* 20**,** 691-703.

LÓPEZ AGUIRRE, J. L. 2009. Estudio de servicios y productos ciberdocumentales en la prensa digital mexicana. *Documentación de las Ciencias de la Información***,** 93-132.

LUCKING-REILEY, D. & SPULBER, D. F. 2001. Business-to-business electronic commerce. *Journal of Economic Perspectives,* 15**,** 55-68.

MAGRETTA, J. 2002. Why business models matter. *Harvard business review,* 80**,** 86-93.

MANSELL, R. & WEHN, U. 1998. *Knowledge societies: information technology for sustainable development,* United Nations Pubns.

MARR, B., SCHIUMA, G. & NEELY, A. 2002. Assessing strategic knowledge assets in e-business. *International Journal of Business Performance Management,* 4**,** 279-295.

MARX, K. 1867. Capital, volume I. Harmondsworth: Penguin/New Left Review.

MCGRATH, R. G. 2010. Business Models: A Discovery Driven Approach. *Long Range Planning,* 43**,** 247-261.

MENGER, C. 2007. *Principles of economics*, Ludwig von Mises Institute.

MITCHELL, W. 1989. Whether and when? Probability and timing of incumbents' entry into emerging industrial subfields. *Administrative Science Quarterly,* 34**,** 208-230.

MIZIK, N. & JACOBSON, R. 2003. Trading off between value creation and value appropriation: the financial implications of shifts in strategic emphasis. *Journal of Marketing,* 67**,** 63-76.

MONTGOMERY, D. & WEINBERG, C. 1979. Toward strategic intelligence systems. *The Journal of Marketing,* 43**,** 41-52.

MOORE, J. F. 1993. Predators and prey: a new ecology of competition. *Harvard business review,* 71**,** 75-75.

NELSON, R. R. & WINTER, S. G. 1982. *An evolutionary theory of economic change*, Belknap press.

OSTERWALDER, A. 2004. The Business Model Ontology-a proposition in a design science approach. *Academic Dissertation, Universite de Lausanne, Ecole des Hautes Etudes Commerciales,* 2.

OSTERWALDER, A., PIGNEUR, Y. & TUCCI, C. L. 2005. Clarifying business models: Origins, present, and future of the concept. *Communications of the association for Information Systems,* 16**,** 1-25.

PETERAF, M. A. 1993. The cornerstones of competitive advantage: a resource-based view. *Resources, firms, and strategies: A reader in the resource-based perspective***,** 187-203.

PORTER, M. E. 1985. *Competitive advantage*, The free press New York.

POWER, D. J. 2003. A brief history of decision support systems. *DSSResources. com*.

PRESS, O. U. 2010. content provider. *Oxford Dictionaries Online*. Oxford University Press.

PRLOG. 2008. *Aarkstore.com announces partnership with Information Gatekeepers Inc* [Online]. PRLog. Available: http://prlog.org/10161344 [Accessed 20-03-2011 2011].

PROFESSIONALS, S. O. C. I. 2010. *Competitive Intelligence* [Online]. Society of Competitive Intelligence Professionals. Available: http://www.scip.org [Accessed 18/01/2011 2011].

RICHARDSON, J. 2008. The business model: an integrative framework for strategy execution. *Strategic Change,* 17**,** 133-144.

RICHARDSON, J., SCHLEGEL, K., HOSTMANN, B. & MCMURCHY, N. 2009. Magic quadrant for business intelligence platforms. *Retrieved September,* 28**,** 2009.

RUMELT, R. 1984. Towards a strategic theory of the firm.

RUMELT, R. 2005. Theory, strategy, and entrepreneurship. *Handbook of Entrepreneurship Research***,** 11-32.

RUMELT, R. P. 1997. Towards a strategic theory of the firm. *Resources, firms, and strategies: A reader in the resource-based perspective***,** 131-145.

SALAÜN, Y. & FLORES, K. 2001. Information quality::: meeting the needs of the consumer. *International Journal of Information Management,* 21**,** 21-37.

SHAPIRO, C. & VARIAN, H. R. 1998. VERSIONING: THE SMART WAY TO SELL INFORMATION. *Harvard business review***,** 107.

SHAPIRO, C. & VARIAN, H. R. 1999. *Information rules: a strategic guide to the network economy*, Harvard Business Press.

SHIM, S., PENDYALA, V., SUNDARAM, M. & GAO, J. 2002. Business-to-business e-commerce frameworks. *Computer,* 33**,** 40-47.

SMITH, A. D. & RUPP, W. T. 2002. Application service providers (ASP): moving downstream to enhance competitive advantage. *Information Management & Computer Security,* 10**,** 64-72.

STABELL, C. B. & FJELDSTAD, Ø. D. 1998. Configuring value for competitive advantage: on chains, shops, and networks. *Strategic Management Journal,* 19**,** 413-437.

TEECE, D. J. 1986. Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research policy,* 15**,** 285-305.

TEECE, D. J. 1988. Capturing value from knowledge assets: the new economy, markets for know-how, and intangible assets. *California***,** 55-79.

TEECE, D. J. 2010. Business models, business strategy and innovation. *Long Range Planning,* 43**,** 172-194.

TEECE, D. J., PISANO, G. & SHUEN, A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal,* 18**,** 509-533.

TIMMERS, P. 1998. Business models for electronic markets. *Electronic Markets,* 8**,** 3-8.

TOBIN, J. 1969. A general equilibrium approach to monetary theory. *Journal of money, credit and banking***,** 15-29.

TURBAN, E. & WATKINS, P. R. 1986. Integrating expert systems and decision support systems. *Mis Quarterly***,** 121-136.

VARIAN, H. R. 2001. Economics of information technology. *University of California, Berkeley*.

VERDIN, P. J., WILLIAMSON, P. J., INSEAD. & ADMINISTRATION, T. E. I. O. B. 1994. Core competence, competitive advantage and market analysis: Forging the links. *status: published*.

WHITE, M. 2000. Enterprise information portals. *Electronic Library, The,* 18**,** 354-362.

WILLIAMSON, O. E. 1981. The economics of organization: The transaction cost approach. *American journal of sociology,* 87**,** 548-577.

ZOTT, C., AMIT, R. & MASSA, L. 2011. The Business Model: Recent Developments and Future Research. *Journal of Management*.