

# **BUILDING E-BUSINESS MODELS: AN ANALYTICAL FRAMEWORK AND DEVELOPMENT GUIDELINES**

## **ABSTRACT**

*The adoption of e-business innovation requires a framework guiding sustainable business development. The required elements and construction of a business model, particularly in the area of e-business is still an insufficiently addressed topic. In this paper, we draw on theoretical constructs relevant to the transformation introduced to value creation by the adoption of e-business practices to propose an analytical framework and a development method for constructing e-business models. The proposed method is then applied to the transformation of the advertisement thought television industry by extending interactive TV advertisement services.*

## **1. INTRODUCTION**

The interest in business models is currently fuelled by Information and Communication technology that changes dramatically the way activities are performed within an across firm boundaries [Bakos,1998]. In this paper we deal with the topic of studying business models and propose an approach to investigate the evolution of the structure that a business model has. The rapid growth of electronic markets [Bakos,1998] [Malone et al, 1987], complementary to traditional physical markets, exposed new methods of delivering goods and services, facilitating the ICTs. However fast moves from the physical to the digital environment affect the structure of the markets, while companies still need to answer question on how to conduct business electronically. The provision of e-business models, could sustain e-business activities; to this end e-business models need to address both organizational and network strategy issues. [Osterle et al, 1999].

In this paper we provide an analysis framework and a method for the development of e-business models, setting of with a traditional business model. Our modeling perspective is based on the established practice of analyzing the differences between the current situation and the projected challenge of the e-business practices

## **2. E-BUSINESS MODELS: CONSTRUCTS AND CONTRIBUTION TO UNDERSTANDING**

In the most basic sense, a model is considered as a schematic representation that addressed a specific set of questions [Rayport & Sviokla, 1996]. Thus, a business model describes the method of doing business by which a company can enshrine itself. According to Timmers a business model refers to the architecture of products, services and the information flows, including a description of the various business actors included and their roles. A business model provides understanding of how the business mission and objective of any of the companies that are actor within the model is realized [Timmers,1999]. A business actor represents a particular company inside the whole industry. Indeed, every company has a mission that is defined under the combination of the outer and inner forces. For example, regulation, competitiveness and market penetration are outer forces and available resources, maturity and type of organization structure are inner forces. It is not necessary or possible for a business model to capture an absolute picture of the business or to describe every business in detail. The business model is the focal point around which business is conducted or around which business operations are improved [Eriksson & Magnus, 2000].

## 2.1 Business Model Components

According to OMG group a business model is abstraction of how a business functions [Eriksson & Magnus, 2000]. Assuming that the business situation is clarified in a descriptive way a major issue is the definition of abstraction level that is suitable for the investigation of the business problem. If the level is very “high” then the business model will not provide the necessary understanding of the business function. Additionally if the business model is too concrete it will not include several aspects that affect the business function. In order to resolve such a problem we assume that the strategic level is the most appropriate approach for work [Timmers,1999].

A business model includes a series of objects (such as products, actors etc) that are used to present a business situation. Although this definition provides the guideline for what to search, we still have the problem to understand the context of the business model, because of the lack of a specific framework of work. Even if we define the entire set of the objects we will not be able to interrelate them in a uniform and effective way because we do not have the view of the functions and activities. In the next section we are providing a specific analysis environment with respect to business model development

In this based on Timmer’s perspective we propose that a business model consist of two basic components

- **Actors** that quote one or more organizations which have a common understanding of the market, produce the same products or services and maintain a common set of business processes
- **Relationships** referring to the transactions that two or more players are execute. We will not focus on the transactions that take place inside one business entity, since the level of the abstraction that a business model requires is rather high.

Both of these objects are “static” because they are presenting an instance of the whole business environment. Few practioneers are not able to define and understand how you can exploit a business model, but they seem to understand the schematic representation of a business function. Despite of this criticism a business model could help in several ways

## 2.2 Motivation for constructing e-business models

The major implication that a business model could have is positioned in a strategic level, thus the reasons for the development of a business model are relative to the strategy of the firm [Hammel & Heene,1994]. Although there are several widespread methods for strategy development, in our case we hold a more abstract level, where we aggregate and combine several business strategies, for various business units, namely the actors [Timmers,1999]. The macroscopic view we adapt, is necessary for the creation of a new business model and could deliver a series of benefits to the organizations and provide a better understanding for the strategy.

A business model supplies several business entities with a holistic approach [Eriksson & Magnus, 2000]. The last decade the strategy of the organization is characterized by strong introversion elements. The strategy of the companies was to survive within rivalry environments, to reduce cost and to gain competitive advantages but nowadays this orientation proved inefficient and various industries are reconfiguring their strategy [Dutta & Manzoni,1999]. The problem was that the companies following a shortsighted strategy lost the holistic and “universal” perspective that a business model could offer.

Further a business model could convey business rules, which are the limitations/requirements for the successful development of the strategy [Appleton,1996]. A business rule is anchored on the relation linking players in a market. Although capturing all the business rules for a business model is rather complex, the benefits that could arise from such a study reduce the probability of failure [Appleton,1996].

Moreover a business model is needed when we want to depict inter and intra “process map” of the organization. The distinction between inter- and intra-organizational processes is in strong correlation with the boundaries and the assets of the firm [Ponce-de-Leon et al, 1996], which is an issue to explore during business model construction. Tracing changes to organizational process boundaries could facilitate organizational transformation.

Finally a collection of business models could act as a repository for transferring e-business practises among different sectors. Several e-business models are currently put forward (e.g. Brokerage, Infomediary, Merchant [Rappa, 2000]) independently from the industry in which they appear, although their consolidation has been based on several industry specific cases. The categorization of the business models is still an open issue, but it is clear that such effort will provide the alternative ways to the companies, which wishes to establish a “virtual” existence [Rappa, 2000]. All the above-mentioned reasons consecrate business models as a prerequisite tool for the strategic development.

### 3 A ROADMAP FOR THE CONSTRUCTION OF E-BUSINESS MODELS

The construction of a model is an ambiguous procedure resulting to more than one possible solution. The details differ depending on the perspective of the person developing the model, each one having a slightly different point of view regarding the goals, the transformations etc. This is not a problem as the business model will still provide a simplified view of the business structure that will act as the basis for communication, improvements, innovations and possible opportunities that are necessary to support the business [Eriksson & Magnus, 2000].

In order to create a more concrete and stable environment for the development of (business) models, the existence of a framework is required. We assume that a business model is defined from the traction of technology-oriented elements and encompassed to market driven forces [Scott Morton, 1991]. Indicative attributes of these forces are depicted in Figure 1.

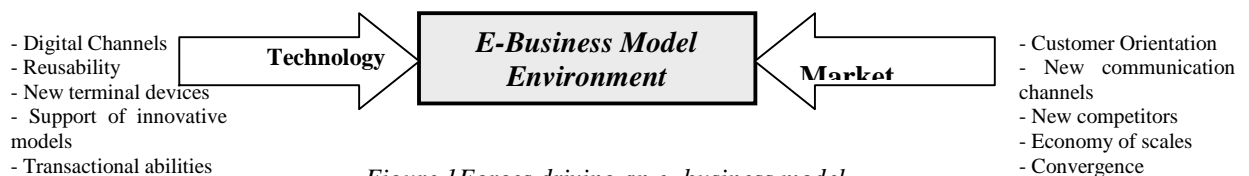


Figure 1 Forces driving an e- business model

#### 3.1 Analysis framework for e-business models

We propose that the major elements of the analytical framework are based upon the following issues.

- Coordination
- Cooperation – Competition
- Customers Value
- Core Competence

These categories defined through the special technological and market forces that every organization faces. Since these forces are coming from the organizational environment, each company can not handle and manage the resulting changes in isolation. In fact the above-mentioned perspectives tend to provide a better understanding for the organizational change [Hammel & Heene,1994], thus they could act as a set of agents in order to analyze efficiently the changes within the scope of the organization.

### Coordination Issues

Coordination is defined as the management of dependencies among activities [Malone & Crowston, 1994]. Since a business model is the abstraction of how a work is carried out, the activities are already included within the scope of the model. Dependencies reflect the interconnections between the resources and the activities, and for each dependency there are several coordination mechanisms to resolve the limitation and the problems that arises form this phenomenon [Malone & Crowston, 1994]. The chosen coordination process affects the way of the business is carried out and the structure of the market. For example the sharing of an information resource among several actors requires coordination mechanism, which will introduce new business rules in the business process and results into a new work system, affecting the structure of the organization [Appleton,1996].

### Collective Competition

The study of cooperation and competition within a market provides the required understanding in order to define the position of a specific actor. During the last decade cooperation and competition considered to be mutually exclusive terms between the organizations. However the requirement for flexible organizations introduced the concept of collective competition. [Bengtsson & Kock, 2000]The inability to understand if another company is a co-operator or a competitor affects the boundaries of the organizations. Several companies that were competitors have been merged in order to reposition is several business models, utilizing the benefits of the communication and information technology.

### Customers Value

Usually the activities of an organization tend to be in alignment with market and customer needs [Dutta & Manzoni,1999]. Using the customer as compass in the economic arena could support the organizations to reap market opportunities. Porter [Porter,1985] understood the potential benefits arising from the strength of the customers and proposed that the customer understanding is one component to gain advantages against the competitors.

### Core Competence

Core Competencies are firm-specific skills and cognitive traits directed towards the attainment of the highest possible levels of customer satisfaction [Hammel & Heene,1994]. The competencies contribute in the economic development of the company though the exploitation of the strengths and opportunities that it faces, through the provision of alternative ways to utilize the resources.

In the next table we indicative classify technological and market capabilities that are common practices and facts with respect to several organization changes.

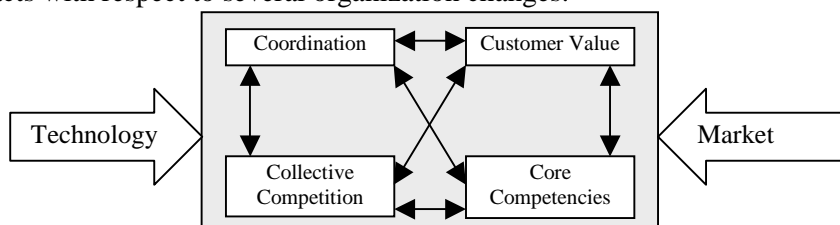


Figure 2 Framework for Business model analysis

The proposed framework will be combined with additional propositions that are transformed from organizational change propositions [Dutta & Manzoni,1999], as presented below.

### 3.2 ICTs and business performance improvement

The adoption of e-business practises constitutes an opportunity for the total increase of value creation. [Bakos,1998] Following Dutta’s [Dutta & Manzoni,1999] framework on business performance improvement we need to evaluate the specific contribution of a technological or market change in the marketplace we are studying. In general there are two forces that could affect the structure of a market. Consequently a new e-business model will arise, transforming the entire value chain. Adopting the perspective of business performance improvements, two types of changes are anticipated to contribute to the transformation of value chains [Malone & Crowston, 1994] [Kim & Mauborgne,1997]. These are:

- *Business Opportunities*: Offering new products and services increase the penetration of the companies that participate in the market. When a massive demand for a new product or service is generated, then a number of companies try to offer similar products/services, thus new co-operations begin and serious changes are made. In other terms a business opportunity close to customer value and collective competition.
- *Technology Advances*: Production of innovative new technologies or replacement of older techniques with new ones, promises faster growth, efficient and effective accomplishment of business objectives, gives the ability of developing new products and services. A technological innovation is able to apply effective and sophisticated coordination mechanisms [Brynjolfsson & Hitt, 1995] and provide a wide spectrum of core competencies with the creation of flexible organizations [Tuma, 1998].

There is a relation between technology advances and business opportunities because both forces refer to the same business context. Figure 3 includes some basic characteristics [Dutta & Manzoni,1999] [Hammel & Heene,1994]. This classification will be used in order to taxonomy the marketplace refers to the current business model. Ideally every marketplace objective is to positioned on the upper right quadrant, where the business and technology harmonized in the best way.

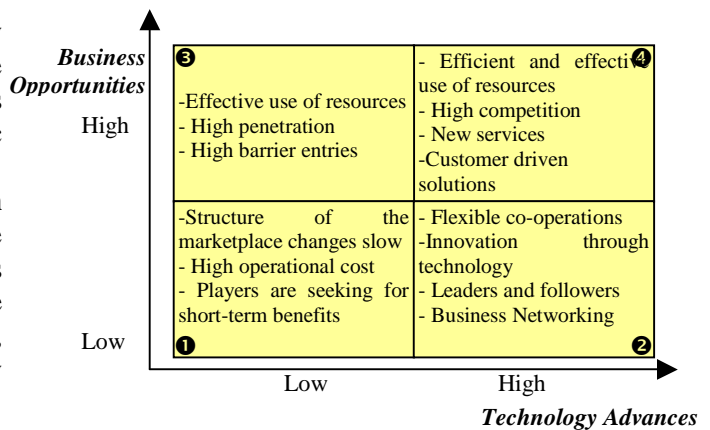


Figure 3 Classification of evolutionary characteristics

#### Quadrant 1

Total value gain remain stable a long period. No remarkable changes have been noticed. The evolution of value is coming to a deadlock, representing an overall uncertain situation for market.

#### Quadrant 2

Rapid development of new technologies could act as a horizontal force that will affect the way of co-operating. Information and communication technology can lead to radical changes, not only within the firm, but also between companies and customers. The idea of acting in a network will consequently classify leaders and followers, in a way that if an organisation participates at a network is a leader and if not is a follower. In that case network is defined as a collection of intermediaries business entities. Thus the functionality of the network defines the amount of value.

### Quadrant 3

Business opportunities are defining the amount of value. One or more sectors that participate in the value chain is (are) growing very fast due to various reasons that are invisible to the whole value chain. The rapid growth is increasing dramatically the barrier entries only to the specific industries. As a side effect, the other industries should develop sophisticated way of working and co-operation, thus effective use of resources is a critical factor for participating in the value chain.

### Quadrant 4

This quadrant is proposing an ideal situation, where high competition force all the firms and industries to be organised in an efficient and effective way. On the other hand the differentiation of product and services across industries and markets acts like a switch, defining whether or not a firm will participate on the value chain.

### 3.3 Drivers for the evolution of current business practices through ICT exploitation

We propose that the only way to gain higher value is to invest in new technologies or get a great business opportunity. A higher level of value could be gained through a technology push and/or a market pull [Scott Morton, 1991]. If a company tries to increase value in its products and/or services, only through technology (technology push) without taking into account the needs and the rules of the market, then it may not be able to increase the value at a desired level, because the market pull will not allow it. Vice-versa, if an organisation tries to increase value only through market pull then technology restrictions possibly will postpone this goal [Scott Morton, 1991]. Generally, it is preferred to start examining one dimension (either technology or market) and later move to the other. Considering the taxonomy, two alternative paths exist. The first path aims to achieve higher value through market pull, thus business opportunities should appear. The path ends with the adoption or development of new technologies. The alternative path considers that the technology push raises first and the value and the market pull follow afterwards. This means that the shift to the highest quadrant of value passes through the technology advances axis and later through the business opportunity axis. A prerequisite for this path is the existence of technologies and similar paradigms form other business activities. The above discussion is highlighted on figure below.

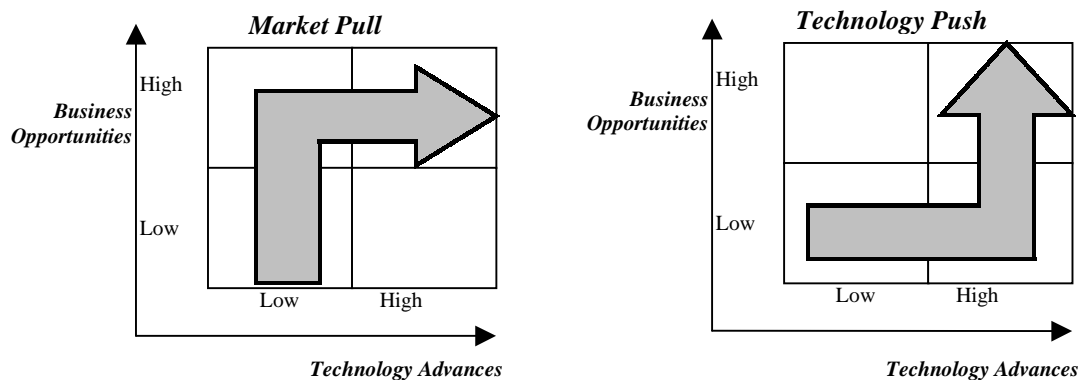


Figure 4 Alternative paths to increase the value

When a market pull or technology push has been examined within the proposed framework, the evolution of a business model returns to the exact step where a significant change is expected to take place. The benefits anticipated by existing key players within the scope of the evolution of a business model require the redefinition of the coordination mechanisms, the customer value levels, the (collective) competition and the core competencies embodied by each actor. At the next section we

will describe a four stages systematic method that it could extract the structure of a traditional business model. Using the above mentioned framework we could decide the way to increase the value of the traditional business model. Using for a second round the method we will be able to construct the e-business model.

### **3.4 Development Method**

#### **3.4.1 Identification of players**

The first thing that should be declared is the context and the scope of the business model. The theoretical basis is the identification of stakeholders [Pouloudi et al,1999] in the market where the business model will be applicable.

#### **Building the Context**

The context of a business model supplies the motives for defining an e-business model. The question that helps at this early stage is “What is the purpose of the study?”. The purpose could provide a business objective for the model and facilitates the next steps. A business objective is considered as a very simple statement and it is used as an orientation vehicle to start seeking for the players. The business objective of the model requires the breaking down in smaller pieces and match with the mission and the objective of the actors. In general this answer will highlight the central point of the business model.

#### **Building the Boundaries / Scope : Participation of actors to in the e-business model**

The scope of the business model is used to eliminate possible redundancies that will overhead the model with unacceptable complexity. Scope of the business model requires the abstract definition of the strategy for each potential actor.

We assume that strategy of an actor is accomplished through the implementation of several directives that we call in general business objectives and could be found in the strategic plan of each participant [Dutta & Manzoni,1999]. In the proposed method the criteria that will introduce an actor to the business model is based on the close match that the whole strategy of a player (or a part through the business objectives of the actor) has a common ground with the whole business objective of the business model. We propose this “entry barrier” for the following reasons

- Only strategic directions should be taken into account.
- A strategy of an actor is concerned with its impact on a market. This means that defining one actor is possible to investigate and illustrate the constellation that this particular actor is maintained.
- Strategic level changes more slowly rather the other level within an organization [Keeney,1996] [Thompson,1967] (Tactical and Operational). This fact is able to maximize the life cycle of the model.
- The actors that are necessary to support the business model should be present. Otherwise the model is complex and is difficult to maintain and explore.

The results of this step are the definition of the actors, the strategy and the boundaries for each participant in the business model. In the next table we provide several artefacts that the analyst could face, during the execution of the first step.

Coordination	Collective Competition	Core Competence	Customer Value
- Which are the assets of the actor	-Product Differentiation	-Time compression diseconomies	-Boundaries of the business model
- Optimal solutions for resource management belong to business objectives	- Corporate Value	-Asset mass efficiencies	-Customer oriented strategies
		-Interconnected asset stocks	
		- Casual ambiguities	

*Table 1 Indicative issues in the proposed analytical framework for the identification of the actors*

### 3.4.2 Highlight the Value Flows

The second step in the method is the description of the relationships, holding the perspective to capture the value chain concepts. A business model could be seen as the collection of a series of bilateral relationships between industries participating in the creation of value in a field of economic activity [Kim & Mauborgne,1997]. Each bilateral relationship between two different industries defines a market [Parker et al, 1988]. Value is considered as a term with multiple perspectives and in the literature there are several definitions. Value according to McDonald [Scott Morton, 1991] is anything that directly increases the profitability, capability or mission-readiness of the organization. Thus, we consider that a set of activities will create value for more than one actor. [Keeney,1996]

Linking activities and furthermore business processes with the term of value we should attached two major perspectives that will help us to clarify the behaviour of the business model. Thus value is analysed in financial / service and communication terms [Malone et al, 1987] [Malone & Crowston, 1994]. These are the main exchangeable elements (and a business model can “reach”) among the actors.

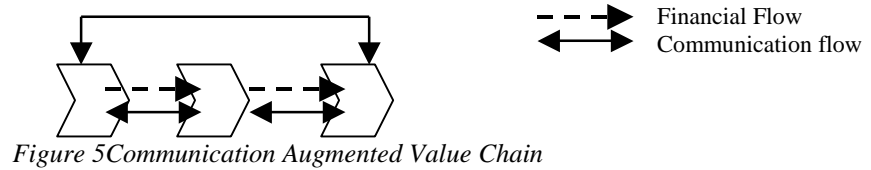
Financial flow refers to the exchange of money, thus answers the question how is paying whom [Parker et al, 1988. Obviously an actor pays in order to get a service / product. Our assumption is that the financial flow is always equal with the service flow, for a specific business situation (instance). The only distinction is the directions of the financial flow to the service flow, which is opposite [Porter,1985] [Rayport & Sviokla, 1996]. Financial flows should be viewed like the front end of a “productive” business process that consumes resources basically from the side of the one player. For simplification matters in the next sections we will take into account the financial flow.

The second flow named communication refers to the exchange of ideas, guides, information resources etc. Communication flow is passing messages form one actor to the other and facilitates the cooperation’s among the players [Rayport & Sviokla, 1996]. Communication is broader than the exchange of information that in the last years is executed with the use of Information and Communication technologies. The value coming from the communication flow should create a set of processes mainly focuses on the cooperation procedures and schemes. Note that Information and Communication Technologies affects in various levels the processes, which includes this category of value.

There are lots cases that the communication flow affects the financial and vice versa. When the management of the General Motors designed the operations for the new Saturn plant, they worked the concept of EDI directly into the design and eliminated the need for complex purchasing system, which requires specific department and functions for search, negotiate and hire materials from the suppliers. This system is characterized as valuable due to the fact that speed up the life cycle of the purchasing process. [Dutta & Manzoni,1999]

Having defined the position and the links of the players the Value Chain come along as shown in Figure 5. Following the decomposition of value in communication (solid arrows) and financial flow (dotted arrows) we could get an communication augmented value chain, which provide a better

understanding of the marketplace that is under investigation, because it allows the presentation of cooperation’s characteristics within the scope of study.



Coordination	Collective Competition	Core Competence	Customer Value
-Inter and Intra coordination issues - Organization typology	-Definition of Customer / Buyer relationships - Products and services between the players	-Special exceptions due to the existence of several competence for specific players	-Needs of the customers

Table 2 Indicative issues using the proposed framework for the Value flows

### 3.4.3 Identification of key competitive drivers in the market

The third step combines in a more detail level the relationships and the roles for each player in order to clarify the positioning of each player. Having defined the value chain, we now need to determine the possible overlaps among the players. Following the business objective of each player, we need to define two basic things. First, the differences between the instances on the same business entity [Appleton,1996] and how these affect the business model. Second the nature of competition in the marketplace [Porter,1985]. Each player participates in a value chain because it has some characteristics that are able to increase the value. These roles come up through the business processes that each player has. Depending on the range of activities undertaken by different of organisations within the industry the amount of information created changes their competitive position within the marketplace [Ponce-de-Leon et al, 1996].

Using the competitive drivers for each actor we can identify which role seems to have the highest market. Usually an economic wealthy role has more possibilities to become in the close future a distinct business entity. It is clear to understand that a player participates in a value chain because of the roles, and furthermore the process that has. Despite this fact internal or external competitive pressures affects the alliances between the actors and in conclude the structure of a whole business model.

Coordination	Collective Competition	Core Competence	Customer Value
-Special dependencies	-Competitive forces between actors of the industry and buyers - sellers -Special alliances	-Enhanced core competences	-Ways to communicate with the customers

Table 3 Indicative issues using the proposed framework for the Competitive drivers

### 3.4.4 Construction of Feedback Chain

The value chain is considered as a good tool to explore the structure of a market but there are cases that it is not able to pave the ground in order to get some useful extensions of the market. Thus we propose the Feedback Chain as complementary to the value chain. The objective of the Feedback chain is to examine and collect all the information resources that could help and empower some processes that are placed on the Value chain.

Since the discussion on the value chain is the adding service the question that arise is how and in what way an activity adding value to a whole system. The orientation of the feedback chain is coming from the business objectives that were already defined among the activities of value chain. In that way the

feedback chain affects the structure of the business model indirectly through the information provision, which investigates the real divergence between actual and expected indicators. There are key players, which maintain and guarantee streamlined diffusion of information resources to all the players of the value chain. The players of the feedback chain target their behaviour to exploit market potential, having ICT capabilities in order to count the flow of product and services and finally manipulate and transform these data sets into useful information resource.

The players of the feedback chain are in strong relation with the players of the value chain and there are acting like arbiters in the negotiation that a “buyer” and a “seller” make. We propose that the feedback is the way to define the exact “adding” to value. The definition both of the Value Chain and the feedback chain could create a model that explain two major things

- Which are the functions to produce products and services? (Value Chain)
- How the value chain is adopted to the real market needs (Feedback Chain)

These questions includes either the actors or the relationships for the current status of the market, thus the current business model is already highlighted.

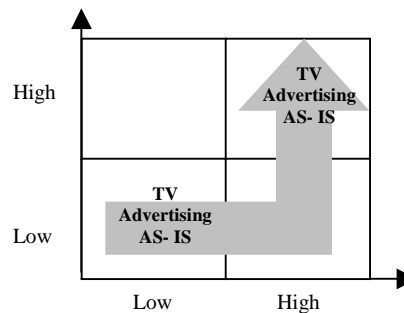
Coordination	Collective Competition	Core Competence	Customer Value
-Negotiation mechanisms	-Affect of the feedback chain to value chain	-Competence leader.	-Methods for the definition of customer – buyers relationship/value

*Table 4 Indicative issues using the proposed framework for the Feedback Chain*

#### 4 METHOD VALIDATION STUDY

We apply the above analysis framework and the four stages method in order to construct the e-business model within the scope of iMEDIA<sup>1</sup> project. The iMEDIA aims to develop the required technological infrastructure in order to deliver interactive and personalized advertisements to the viewers. The system will broadcast advertisements comprising both video and/or interactive content, monitor (upon consumer permission) the interactivity of viewers in order to measure the efficiency of the advertisements and products and finally offer personalized information through a TV set-top box in the consumer household.

The introduction of new IT-based technologies is often said to revolutionaries media industry, providing an opportunity for the efficient access to consumer information, loyalty building, but at the risk of further media fragmentation and waste [Boscheck, 1998] [Bane et al, 1996]. This fact states as an indicator that the only way to achieve higher value within the market is to follow the technology push path, with respect to Dutta’s framework for business improvement. At the next section we will present our findings based on the above-mentioned method, starting from the current situation.



*Figure 6 Increasing value though technology*

<sup>1</sup> IMEDIA (Intelligent Mediation Enviroment for Digital Interactive Advertising) is funded by European Commision’s INFORMATION SOCIETIES TECHNOLOGY (IST) programme. Partners : INTRACOM, Research Centre of Athens University and Business, SYSECA Spain, Oracle Italia, RAI, ERT, ADEL, CYBERCE

**Step 1: Identification iMEDIA’s players**

The context of the business model is to investigate the advertisement of products and services through the television. For this context we recognized various players and we assigned a suitable business objective.

- **Advertising Company** : To present / promote a product or service to a group of consumers and effectively support the requirements of their customer
- **Advertiser**: To sell goods to their existing customers and acquire new customers
- **TV Channel**: To broadcast a specific program including advertisement breaks for commercial exploitation
- **Consumer / Viewer**: To buy products and/or services in order to meet his/her needs

These four actors also defined the scope of the current business model (e.g. functions related to retailing issues will not be included).

**Step 2 : Highlight iMEDIA’s Value flows**

In a more detail presentation we examined the relationships of the players. The Advertiser usually cooperate (Communication Flow) with Advertising Companies, specialised in developing and managing advertisement campaigns. If they succeed to cooperate then the Advertising Company pay an amount of money, equal to the service provision (Financial Flow). The Advertising Company contacts the TV Channel and requests the broadcasting of the commercial spot during specific time and dates. This request can only be served if the TV channel offers the broadcast network resources, and more specifically the airtime, for advertisement purposes. At the end, a contract is signed between the two, validating one or (usually) more transactions. Internally, the TV Channel extends the program flow (content provision) with commercial spots and broadcasts it to the end viewer/consumer.

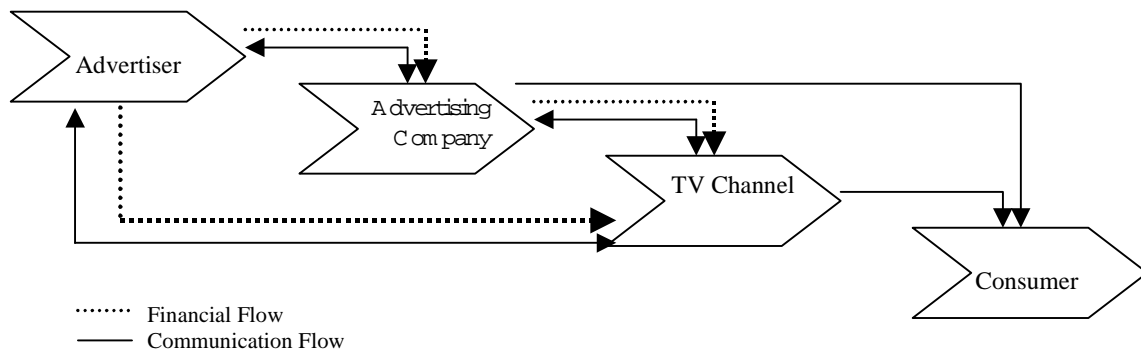


Figure 7 Augmented communication value chain

**Step 3: Identification of iMEDIA’s key competitive drivers**

The specific types of companies that were identified within the market are presenting in Table 5. Using Porter’s [Porter,1985] competition framework we identified as expected horizontally competitive forces between buyers and suppliers but this was enriched with vertical competitive forces (i.e. Advertising Agencies with the Communication Agencies).

Advertising Companies	Advertiser	TV Channel	Consumer
-Product Advertisers -Service Advertisers	-Advertising Agency -Media Organisations Specialised Marketing -Communication Agencies -Collateral Services agencies	-Public Broadcaster -Private Broadcasters	No special types

Table 5 Types of iMEDIA actors

These forces create a better understanding for the negotiation mechanisms of the current business model, thus allowed us to move to the next step.

#### Step 4: Construction of iMEDIA’s feedback chain

The negotiation between the suppliers and the buyers is facilitated by the existence of the feedback chain, which is maintained form two major actors

- **Media Metrics Services:** Collects information about TV viewership
- **Program Monitor Services:** Monitors the actual program flow of the various TV channels and checks it with the announced ones

The Media Metrics Services Company selects a representative panel of households and supplies them with hardware monitoring devices. These pieces of equipment capture consumers’ preferences for a set of TV Programs. The Program Monitor Company is the player that monitors the broadcast program flow, compares it to the announced program flow of the TV Channels and announces the results to both the TV Channels and the Advertising Companies. The Advertising Company - Advertiser uses this information in order to evaluate whether the money paid (Financial flow) for booking advertisement airtime has been turned into information to consumers. As such, it acts as an intermediary between the TV Channel and the Advertising Company and the Advertisers.

Combining the extended value chain and the feedback chain, we concluded to the current business model, as depict in Figure 8.

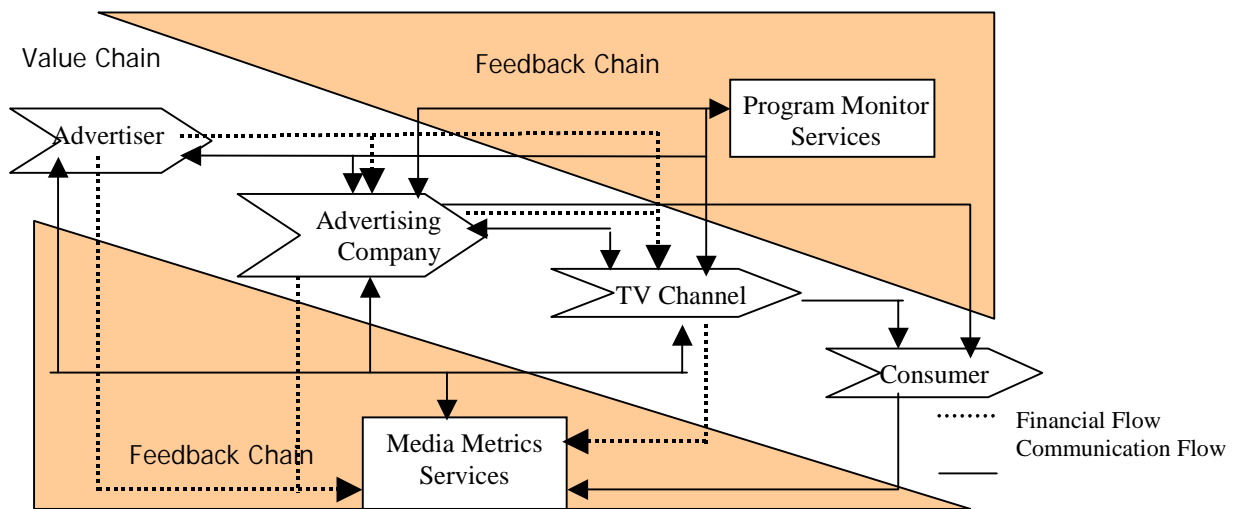


Figure 8 Current Business Model in TV advertising

The framework presented in Figure 2 acted as a guideline and revealed significant issues. Indicatively we present in Table 6 various issues with respect to the proposed framework and methodology.

Step	Coordination	Collective Competition	Core Competence	Customer Value
1	-The content and access to a broadcast network are the assets of the TV Channel	-Ad companies focuses on the brand name of the product/service.	-Advertisers usually outsourced their marketing strategy, because another company creates the media plan	-Customers are classified based demographics criteria -Strategies focusing on Sales and not at customer needs.
2	-Most of the activities are sequential. -Limited assets (e.g. Network, Advertisement Budget) creating bottlenecks.	-Transformation of a media plan to a booking activity	-The bargaining power of the advertiser	-Relationship between the content and the promoted product-service
3	-Different companies are implementing the media plan	-Broadcasters and Ad companies decides for the best airtime slot	-Advertisers know the profile of their customer	-Ad companies and Broadcasters using “informal” communication channels.
4	-Results of the Media	-The future collaborations	-The knowledge of	-Measurements for the

metrics company are used for future negotiations	are determined from the results of the feedback chain	alternative communication channels	advertisement effectiveness.
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Table 6 Elements for the e-Business models for the ITV industry

Returning to the question of how the technology will affect the current business model, we utilized again the steps of the proposed methodology. The evolution stage is anchored on the description of the iMEDIA technological requirements. Our analysis lead us to conclude that the key capability issue in the iMEDIA context is that of targeted distribution of (interactive) content, leading us to the redefinition of the objective for the key players [Bane et al, 1996]. In order for this capability to be exploited we identified the benefits that it promises to introduce for the existing key players, in order to ensure the value adding, which lead to the acceptance of a mediation-brokerage scheme of cooperation. Then we defined the technological capabilities the existing key players need to develop in order to participate in the benefit structure of the iMEDIA environment. By examining their role in the current situation, we then identify a role gap, which we need to fill in order for the benefits to be materialized. Therefore, we introduce a new role in the emergent iMEDIA marketplace: the iMEDIA service provider. A detailed analysis of the structure, responsibilities and functions of the new role followed in order to place the new role within the current business model, thus constructing the proposed business model.

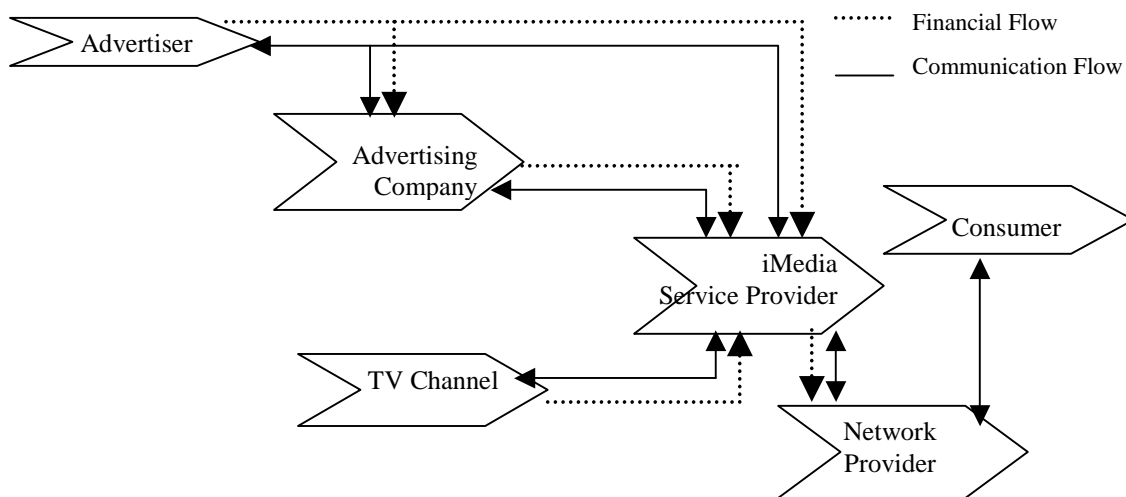


Figure 9 The e-business model for the ITV industry

## 5 RESULTS AND FURTHER RESEARCH

The construction of an e-business model was found helpful because it highlighted several issues, corresponding to the four element of our analysis framework:

- **Coordination:** the effect of innovative ICT adoption eliminates the feedback chain using automated coordination mechanisms to resolve resource dependencies.
- **Customer value:** increases as the sellers can use system capabilities to provide intergrated services to their customers.
- **(Collective) Competition:** tends to fall, allowing for the actors to gain the benefits of economies of scale
- **Core Competences:** In the proposed business model, actors exploit their current competencies and have the opportunity to develop new ones.

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Further research will be conducted in order to validate both the method and the analytical framework. For this purpose we will apply the work presented in this paper in other application areas including mobile commerce services for the tourism sector and home reenlistment services within electronic retailing. Further to model validation we are also considering the introduction of performance measurement indicators, thus turning our method to a strategic forecasting tool.

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