

iCamp

innovative, inclusive, interactive & intercultural
learning campus

Draft Exploitation Model

Deliverable Number:	D5.2
Contractual Date of Delivery:	July / 2006
Actual Date of Delivery:	July / 2006
Work Package(s) Contributing:	WP5
Nature of the Deliverable:	Report
Status:	Final
Security (Distribution Level):	Public
Editor(s):	Onur Ihsan Arsun, Selahattin Kuru / (ISIK)
Project start: 1. Oct. 2005	Duration: 36 months STREP / IST

The iCamp Consortium consists of:

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Amendment History

Version	Date	Editor(s)	Modification
0.1	16/06/2005	Onur Ihsan Arsun (ISIK) Selahattin Kuru (ISIK)	Initial Draft
0.2	21/06/2005	Onur Ihsan Arsun (ISIK) Selahattin Kuru (ISIK)	Second draft
0.3	05/07/2006	Onur Ihsan Arsun (ISIK) Selahattin Kuru (ISIK)	Draft to be submitted to peer review
1.0	21/07/2006	Onur Ihsan Arsun (ISIK) Selahattin Kuru (ISIK)	Final version

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List of Acronyms

Acronym	Description
AC	Accession Countries
BSD	Berkley Software Distribution
CBT	Computer Based Training
EC	European Commission
FLOSS	Free Libre Open Source Software
FP6	6 th Framework Programme
GPL	General Public License
HEE	Higher Education Establishment
HEI	Higher Education Institution
ICT	Information and Communication Technologies
IT	Information Technology
MBT	Mobile Based Training
NMS	New Member States
TEL	Technology Enhanced Learning
WBT	Web Based Training
WLAN	Wireless Local Area Network
WWW	World Wide Web

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Executive summary

Successful exploitation of iCamp outcomes is one of the project primary motivations. For this, the project will develop an exploitation model to be executed by the consortium and by each partner. However, developing an appropriate exploitation plan is a time consuming process that matures as the project progresses. This exploitation plan draft document lays the foundations and methodology for developing the final exploitation plan.

This document investigates an approach for developing an exploitation model for iCamp. The approach is based on an analysis of currently relevant business models for e-business and technology enhanced learning, relevant existing cases and the characteristics of exploitable iCamp outcomes.

The result of the investigation is that the iCamp exploitation model should incorporate four main ingredients:

- A medium for exchanging exploitable outcomes of the project
- A community driven process
- A revenue model for generating the necessary revenue to support the infrastructure
- A distribution model based on the open source principles

We examine the existing business model conceptualization to utilize in drafting an exploitation plan. Furthermore, we study the Web 2.0 and e-learning 2.0 business models which are highly related to the iCamp. Combining these studies and examinations along with some case studies, we draft an exploitation model to use within iCamp's unique and innovative environment.

1. Introduction

iCamp project has the vision to be *the* educational web platform in an Enlarged Europe of 25+. To do this, we the consortium pursue the idea of gathering people (learners, facilitators, peers, etc.) into one common virtual learning environment. There are many reasons why the iCamp consortium may fail in realising this vision. One of the most obvious reasons for this is the lack of an efficient exploitation strategy. Producing a good exploitation strategy and model needs a gradual development. This is the reason why the iCamp work plan on exploitation model consists of two main deliverables to be produced at different stages of the project. This draft exploitation model in the early stages of the project will be transformed into a full scale exploitation model at a later stage. In the process, the model will get input from other project activities, especially the executed trials.

This document serves to discuss possible exploitation and revenue models appropriate for the iCamp project. A top down investigation is performed, e-business models to Technology Enhanced Learning (TEL) business models and finally to a study of the iCamp case.

2. Overview of Technology Enhanced Learning Business Models

In this section we briefly analyze the existing business models in technology enhanced learning. We follow a top-down approach by first giving an overview of e-business models, then e-learning business models and finally possible iCamp specific business models.

2.1. e-Business Models

A traditional definition of electronic business (or e-business) is given by Jones, et.al. (2000):

E-Business is the carrying out of business activities that lead to an exchange of value, where the parties interact electronically using network or telecommunications technologies.

In this definition, we include the exchange, not only of goods and services with a definite market value, but also of information, which is of value to partners in specific commercial activities (such as the formation or maintenance of a virtual organization), but has no market value per se. We can further enhance this definition by categorize the e-business activities by the way it is being practiced as follows – where examples are provided within parenthesis:

- Business-to-business (electronic trading, virtual enterprises)
- Business-to-consumer (online retailing)
- Interorganizational (management of logistics within businesses)
- Business-administration (submission of trading of trading information for tax purposes)
- Consumer-administration (electronic submission of individual tax returns)
- Consumer-consumer (online auction system)

Business models are perhaps the most discussed and least understood aspect of the web. There is so much discussion on how the emerging technologies in the ICT domain changes traditional means of doing business, there is less than sufficient evidence of what exactly it means. In the most basic sense a business model is simply a model of the logic behind a business. It describes how to generate revenue. A model on the other hand is a representation of the reality. A traditional definition is given by Timmers (1998) together with a “systematic approach to identifying architectures for business models” via a value-chain deconstruction and reconstructions (Timmers 1998):

A business model has three components:

- *An architecture for the product, service and information flows, including a description of the various business actors and their roles; and*
- *A description of the potential benefits for the various business actors; and*
- *A description of the sources of revenues.*

Another popular definition of business models is given by Osterwalder, Pigneur and Tucci (2005) based on an extensive literature review:

A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams.

In the view of Petrovic, et. al. (2001), a business model describes the core logic of a business. The following Figure 1 below demonstrates the hierarchical structure of the business logic from Petkovic, et al.'s (2001) point of view. The business model gives sense to the various business processes and the business processes on the other hand determine the information and communication system. All three levels are connected to each other. This means that changes on a higher level always result in changes on a lower level and that a business model itself can only be successful if the two lower levels fit.

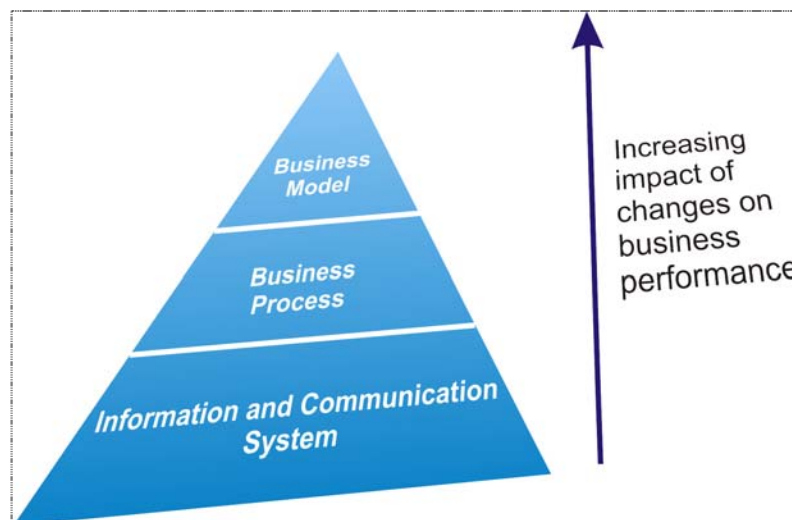


Figure 1: Hierarchical Structure of Business Logic

2.1.1. Conceptualization of Business Models

Many different conceptualizations of business models exist (Chesbrough and Rosenbloom 2000; Hamel 2000; Linder and Cantrell 2000; Petrovic, Kittl et al.; Weill and Vitale 2001; Gordijn 2002; Afuah and Tucci 2003; Osterwalder 2004). They all have various degrees of resemblance or difference. The model proposed by Osterwalder (2004) synthesizes different conceptualizations into a single reference model based on the similarities of a large range of models. The author's conceptualization describes a business model as consisting of nine related business model building blocks and thus forming an ontology of business models. Thus, a business model describes an organization's:

- Value propositions: A Value Proposition is an overall view of a organization's bundle of products and services that are of value to the customer.
- Target customer segments: The customer segments an organization wants to offer value to. This describes the groups of people with common characteristics for which the company creates value. The process of defining customer segments is referred to as market segmentation.
- Distribution channels: The various means of the organization to get in touch with its customers. This describes how a company goes to market. It refers to the organization's marketing and distribution strategy.
- Customer relationships: The links an organization establishes between itself and its different customer segments. The process of managing customer relationships is referred to as customer relationship management.
- Value configurations: The Value Configuration describes the arrangement of activities and resources that are necessary to create value for the customer.
- Capabilities: A capability is the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer.
- Partnership: The network of cooperative agreements with other organizations necessary to efficiently offer and commercialize value. This describes the organization's range of business alliances.
- Cost structure: The monetary consequences of the means employed in the business model.
- Revenue model: The way an organization makes money through a variety of revenue flows.

As we have stated, there are many existing business model conceptualizations. In this document, rather than going through a majority of them, a more general approach is presented. This approach is a superset of all existing works.

2.1.2. Categorization of e-Business Models

Business models have been defined and categorized in many different ways. This is one attempt to present a comprehensive and cogent taxonomy of business models observable on the web. The proposed taxonomy is not meant to be exhaustive or definitive. Internet business models continue to evolve. New and interesting variations can be expected in the future. A basic categorization is given below based on Rappa (2001):

1. *Brokerage Model:* Brokers are market-makers, they bring buyers and sellers together and facilitate transactions. Brokers play a frequent role in business-to-business (B2B), business-to-consumer (B2C), or consumer-to-consumer (C2C) markets. Usually a broker charges a fee or commission for each transaction it enables. The formula for fees can vary.
2. *Advertising Model:* The web advertising model is an extension of the traditional media broadcast model. The broadcaster, in this case, a web site, provides content (usually, but not necessarily, for free) and services (like email, IM, blogs) mixed with advertising messages in the form of banner ads. The banner ads may be the major or sole source of revenue for the broadcaster. The broadcaster may be a content creator or a distributor of content created elsewhere. The advertising model works best when the volume of viewer traffic is large or highly specialized.
3. *Infomediary Model:* Data about consumers and their consumption habits are valuable, especially when that information is carefully analyzed and used to target marketing campaigns. Independently collected data about producers and their products are useful to consumers when considering a purchase. Some firms function as infomediaries (information intermediaries) assisting buyers and/or sellers understand a given market.
4. *Merchant Model:* Wholesalers and retailers of goods and services. Sales may be made based on list prices or through auction.
5. *Manufacturer (Direct) Model:* The manufacturer or "direct model", it is predicated on the power of the web to allow a manufacturer (i.e., a company that creates a product or service) to reach buyers directly and thereby compress the distribution channel. The manufacturer model can be based on efficiency, improved customer service, and a better understanding of customer preferences.
6. *Affiliate Model:* In contrast to the generalized portal, which seeks to drive a high volume of traffic to one site, the affiliate model, provides purchase opportunities wherever people may be surfing. It does this by offering financial incentives (in the form of a percentage of revenue) to affiliated partner sites. The affiliates provide purchase-point click-through to the merchant. It is a pay-for-performance model -- if an affiliate does not generate sales, it represents no cost to the merchant. The affiliate model is inherently well-suited to the web, which explains its popularity. Variations include, banner exchange, pay-per-click, and revenue sharing programs.
7. *Community Model:* The viability of the community model is based on user loyalty. Users have a high investment in both time and emotion. Revenue can be based on the sale of ancillary products and services or voluntary

contributions; or revenue may be tied to contextual advertising and subscriptions for premium services. The Internet is inherently suited to community business models and today this is one of the more fertile areas of development, as seen in rise of social networking.

8. *Subscription Model:* Users are charged a periodic -- daily, monthly or annual -- fee to subscribe to a service. It is not uncommon for sites to combine free content with "premium" (i.e., subscriber- or member-only) content. Subscription fees are incurred irrespective of actual usage rates. Subscription and advertising models are frequently combined.
9. *Utility Model:* The utility or "on-demand" model is based on metering usage, or a "pay as you go" approach. Unlike subscriber services, metered services are based on actual usage rates. Traditionally, metering has been used for essential services (e.g., electricity water, long-distance telephone services). Internet service providers (ISPs) in some parts of the world operate as utilities, charging customers for connection minutes.
10. *Sponsorship Model:* Sponsorship includes donation of funds, goods, services from a sponsor to the organization in return for the grant of certain communicative rights and activities on the part of the sponsee. Thus, in this model, the source of revenue generation is the sponsor. In return, the sponsee may carry some activities like using the sponsors logo and name in the organization's activities.

Business models have taken on greater importance recently as a form of intellectual property that can be protected with a patent. Indeed, business models (or more broadly speaking, "business methods") have fallen increasingly within the realm of patent law. A number of business method patents relevant to e-commerce have been granted. But what is new and novel as a business model is not always clear. Some of the more noteworthy patents may be challenged in the courts.

2.1.3. e-Business Models for Web 2.0

In the last very few years, e-businesses models are facing a new evolution with the emergence of Web 2.0 (O'Reilly 2005). Most of the iCamp project's exploitable outcomes fall within the scope of Web 2.0. Therefore, we give a brief discussion of Web 2.0 and available business models for it.

Web 2.0 has no formal definition and there's still a huge amount discussion about what the term really means. We may summarize these views that the term Web 2.0 refers to a heterogeneous mix of second generation of services available on the web, which lets users socially, collaborate and share information via the web applications.

Ultimately, the label Web 2.0 is far less important than the concepts, projects, and practices included in its scope (Alexander 2006). Hence, to better understand Web 2.0, we should know its scope. Below, we take a look at the characteristics of Web 2.0 defined by O'Reilly:

1. *The web as a platform:* The web should be strategically positioned as a platform that many people use and many applications exist. Open standards and open source are the most essential components of this platform.

2. *Harnessing collective intelligence:* This means an intelligent web. In order to harness collective intelligence, the information in a community should flow freely and it should be harnessed/processed in some way, otherwise it remains as a collection of information, not knowledge. In the Web 2.0 era small sites and individual users make up the bulk of the internet's content; narrow niches make up the bulk of internet's possible applications, so Web 2.0 applications should reach out to the all web.
3. *Data is the next intel inside:* Every significant internet application to date has been backed by a specialized database: Google's web crawl, Yahoo!'s directory (and web crawl), Amazon's database of products, eBay's database of products and sellers, MapQuest's map databases, Napster's distributed song database. This situation gave birth to the statement "SQL is the new HTML." Database management is a core competency of Web 2.0.
4. *End of software release cycle:* At the heart of Web 2.0 lies the service oriented architecture (SOA). This means delivering the software as a service, not as a product. In the Web 2.0 era, software evolves restlessly, considering users as co-developers.
5. *Lightweight programming models:* Web 2.0 utilizes programming models of which the barriers to re-use are extremely low and where the code is open source. Systems are loosely coupled and they do not consider coordination, they just care about syndicating the data to the outside world and cooperating with it.
6. *Software above the level of a single device:* Web 2.0 is not limited to the PC platform. Mobile devices like the iPod, or mobile phones are targeted by Web 2.0 applications.
7. *Rich user experiences:* Web 2.0 provides desktop-like usability experiences from the web browser with efficient use of new technologies like AJAX.

Nowadays, Web 2.0 applications are replacing their Web 1.0 counterparts rapidly. Applications like Google Maps (<http://maps.google.com>), Flickr (<http://www.flickr.com>), del.icio.us (<http://del.icio.us>) are gaining more and more users. Tagging is replacing taxonomies. Web 2.0 websites are allowing the data to get in and out of the system very easily. Users can conveniently add content to these websites, adding value to them.

The characteristics of the Web 2.0 enforce business models of the Web 1.0 to evolve. In the Web 1.0, the user was consuming content created by someone else. In Web 2.0, the content is created by the user. 1.0 is an "architecture of consumption," and read-only," the Web 2.0 is "architecture of participation". On the old Web, the user is the audience, in the new Web, the user is participant.

The main area targeted by the critics of Web 2.0 is that it lacks the ability to have a business model inherently. However, we believe that Web 2.0 offers many possibilities. Although, it is still a very immature discussion, we may categorize the business models for Web 2.0 as follows:

- *Technology Focused:* The technology business model is one primarily based around innovation, offering a compelling value proposition not

available elsewhere. These services are extremely useful and can be fully utilized without any investment on the part of a user. Revenue generation is mostly done through subscription or memberships methods. These allow users to get *premium* functionality for specific fees. This models also enables the opportunity for partnerships (specifically for Public Private Partnerships in iCamp case).

- *Network Effects Focused:* The network effects business model is one primarily based on user base and user interaction. Like its counterpart, technology is key for this model but it is not the focus. Instead, technology is important as an infrastructure tool, facilitating the business models of these companies. Possible revenue generation methods are; selling the content through syndication, commissioning transaction fees (like eBay), and advertising.

We summarize the business model of Web 2.0 in Table 1.

Table 1: Web 2.0 Business Models

	Focus: Technology	Focus: Network Effect
Differences	No IPO pressure, compelling value proposition	Build community around content
Revenue generation	Membership, subscription, partnership	Advertising, content syndication
Examples	Flickr, Skype	MySpace, Gawker

2.2. e-Learning Business Models

As we have discussed in the previous sections, with the emergence of Web 2.0, business models have evolved. This is also true for e-learning business models. This gave birth to a new term and new definition that has changed the way things are done in e-learning: e-learning 2.0 (Downes 2006). We may summarize e-learning 2.0's characteristics as follows:

- Facilitation of content authoring: Enabling a more active role for user/learner.
- Knowledge and information sharing: New e-learning platforms should have new and various kinds of tools for knowledge and information sharing
- Diversity of learning content and media: Utilization of different kinds of tools and a higher level of user created content results in a higher variety of content types
- Ease of collaborative learning: Learning environments should facilitate communication tools for collaborative learning.
- Use of microcontent and other Web 2.0 features/technologies to create learning experiences.

- Greater leveraging of “collective intelligence” and “wisdom of crowds”
- Facilitating “rapid eLearning” (through use of blogs, wikis, podcasts, etc)—without need of instructional design.
- Leveraging growing social networks and networks of interaction for learning—especially useful to help create culture of innovation.

These characteristics create a new learning culture with following properties:

- Bottom-up, less control oriented and more coordination oriented
- Dynamic and rapidly changing
- More experimentation with new tools and technologies
- Increasing role of informal and self directed learning
- Utilization of unstructured content
- Rising diversity of content formats and media
- Increasing role of social and community based networks

iCamp’s bases its foundations upon this new e-learning 2.0 concept.

E-learning products are offered by e-learning providers. Hoppe (2003)’s categorization is still valid for the e-learning 2.0 era.

- *Content providers:* Content providers offer predetermined e-learning content.
- *Application providers:* Application providers offer e-learning applications in cooperation with e-learning content providers.
- *Hardware providers:* Hardware providers offer e-learning hardware. In most of the cases the offered hardware is not e-learning specific.
- *Service providers:* Service providers offer e-learning services. E-learning services complement the mediation of e-learning content by e-learning applications. E-learning services can directly relate to earning processes.
- *Full service providers:* Full service providers offer all-in-one solutions which comprise products and services in relation with e-learning services.

The **asset model** (Hoppe 2003) comprehends cost and revenue models. The revenue generation can be categorized in four:

- *Direct revenue generation:* This is done by directly letting users of an e-learning system pay for the product or the service.

- *Indirect revenue generation:* In this case, third parties, like educational institutions who want to offer an e-learning application to its learners, sponsors or data mining agencies are possible payers for the product or the service.
- *Transaction dependent:* These are generated by selling an e-learning product respectively by charging fees for specific additional services, e.g. fees for tutoring paid per time unit or fees for an e-learning news paid use.
- *Transaction independent:* These are generated by charging fees for services which are rather unspecific, like membership fees.

We discussed revenue models for e-business and in particular Web 2.0. Most of the models discussed in these sections apply to e-learning 2.0. Here we can give models that are possible for e-learning businesses:

- Earning revenues by selling e-learning products based on list prices (not valid for e-learning 2.0 and iCamp)
- Revenues by brokerage come from fees or commissions for bringing interested parties together and facilitating transactions. As we have stated this was the case for eBay's business model. Similar models can be applied the e-learning 2.0.
- Membership fees are levied regularly for participating in regular e-learning services.
- Subscription fees are levied for specific individually requested services. This method is most suitable for technology focused e-learning 2.0 businesses, although the distinction is not clearly defined.
- Advertising messages can be posted by supplier of e-learning products generating revenue by pay-per-click or pay-per-impression. In the Web 2.0 and e-learning 2.0 context, Google AdSense is a good example. Context aware advertisements are displayed on web pages.
- The sale of customer related information to data mining agencies. This method may have controversies related to privacy.
- Public private partnerships (PPP) are introduced as novel methods for revenue generation and funding. Private sector participation in education already stimulates exchange of experience and the transfer of knowledge and expertise but this needs to become more strategic through focusing on partnerships that result in systemic change. Partnerships between the public and private sectors have the potential to: provide longer-term investment strategies; encourage the exchange of experience and best practice; promote dialogue on future requirements for multimedia learning materials; enhance technology transfer; and ensure that business skill needs are taken into account.

Using these sub-models, a final business model can be produced. A supplier's business model addresses his core business. The core business is defined by the activities he accomplishes with his in-house resources and by his revenue model.

Both partial models have to be aligned with the actual e-learning market structures. Basing on actual market structures (e. g. market players), typical e-learning activities and common revenue sources business models for e-learning are composed of the elements presented in Figure 3 based on Hoppe (2003).

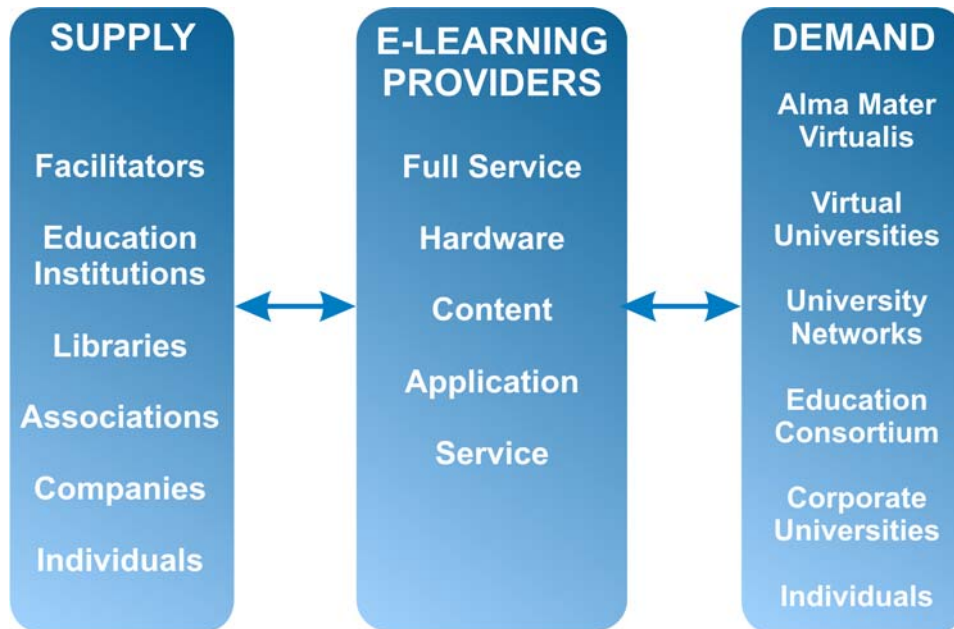


Figure 2: Elements of business models for e-learning

However, we modify Hoppe's visualization within the context of e-learning 2.0 and iCamp. In our case, individuals are located both at the supply side and demand side.

3. Case Studies

In this section we present brief case studies for further investigating e-learning exploitation models. The studied cases are:

- EducaNext
- Ariadne
- Learn@WU
- Euro Schoolnet
- EuroPACE

Some of the data in this study is based on Duval's (2001) and Mendling's (2005) studies. The motivation for these case studies is to get a better understanding of the real-life examples to create a well-defined structure for the iCamp exploitation plan.

3.1. EducaNext

EducaNext (<http://www.educanext.org>) is an academic exchange portal and knowledge community where members of higher education, research organisations, and professional communities can share, retrieve, and reuse learning resources. It builds on an e-learning application called Universal Brokerage Platform (UBP).

Until recently sharing knowledge over the Web had three major drawbacks:

1. faculty was not able to control the dissemination of its material,
2. faculty was not enabled to attach usage conditions to learning resource offerings,
3. faculty did not get rewarded for learning resources offerings.

EducaNext is a knowledge mediator that supports both the exchange of reusable educational materials based on open standards as well as collaboration of educators via the Internet. The portal is specifically designed to overcome the three obstacles mentioned above by

1. allowing users to define and manage closed exchange communities,
2. enabling providers to attach licenses to learning resource offerings, and
3. providing faculty a platform to gain international recognition.

In particular, EducaNext allows users to

- Participate in knowledge communities,
- Communicate with other experts in a field,

- Exchange learning resources, such as electronic textbooks, recorded lectures, presentations, lecture notes, case studies, quizzes, etc.,
- Deliver distributed educational activities, such as distributed courses, lectures, tutoring sessions, etc.,
- Distribute electronic content under license,
- Work together on the production of educational material.

EducaNext is governed by two bodies. First, a Steering Committee is responsible for defining the EducaNext strategy, service planning and supervision, promotion and the general fulfilment of the EducaNext Mission. Second, an Executive Board is responsible for the daily operations of running the service. The UNIVERSAL consortium that initially developed EducaNext appointed the first Steering Committee and the first Executive Board. This group of people is called the initial group of promoters.

EducaNext is considering many different revenue generation models. These include a subscription based revenue generation model (transaction independent, direct revenue generation according to Hoppe's model). The subscription-based revenue model seems appropriate because charging users directly is not an option since they already provide significant contributions through their engagement in the community. Furthermore, EducaNext management has some empirical evidence that suggests that about 25% of EducaNext users would strongly dislike seeing ads appearing on the website. Other options in consideration are the advertisements and cross-selling of software and service provision. The sole realized model for EducaNext is the sponsorship model. The portal has the sponsor's logo and information on their web site.

3.2. Ariadne

ARIADNE stands for Alliance of Remote Instructional Authoring and Distribution Networks for Europe. It is a research and technology development project pertaining to the "Telematics for Education and Training" sector of the 4th Framework Program for R&D of the European Union.

The ARIADNE Foundation was created to exploit and further develop the results of the ARIADNE and ARIADNE II European Projects.

The basic mission of ARIADNE is to enable better quality learning through the development of learning objects, tools and methodologies that enable a "share and reuse" approach for education and training. The purposes of the Association are:

- to improve the quality and efficiency of educational systems by the sharing and reuse of knowledge components,
- to foster the creation of new knowledge components and to make them easily accessible and reusable,
- to promote the appropriate use in education and training of information and communication technologies, and

- to promote and, if necessary, to defend multilingualism and multiculturalism, which characterize Europe's - and most of the world's - formation systems

The Association has no economic or profit-oriented aim, but may engage in any activity related directly or indirectly to the realization of its purposes.

ARIADNE foundation employs a subscription model for memberships like the EducaNext. The subscription has varying fees depending on the organization type (private or public). The foundation has over 40 members across Europe. ARIADNE offers individual memberships and restricts content access to its members.

3.3. Learn@WU

Learn@WU (<https://learn.wu-wien.ac.at/>) is an e-learning application developed at the Vienna University of Economics and Business Administration (WU for "Wirtschaftsuniversität"). It acts as a full service provider to first year students. The Learn@WU project has been aligned to achieve the following goals of its stakeholders:

- Higher student satisfaction through better preparation for introductory exams, opportunities to getting in touch with peers online, and higher transparency of study goals.
- Increased learning performance through a collaborative learning approach and additional opportunities for interaction.
- Higher faculty satisfaction by easing the process of publishing course material on the web, efficient mass administration and delivery of courses, electronic homework assignments, and marking.
- Standardizing the knowledge level of students entering the second part of their studies by collaborative development of joint course materials among different departments.
- Creating a modern image of the university while reducing teaching cost through decreasing the need for classrooms and lecture halls while increasing throughput through half-semester courses, and off-term studies (Summer School).

In order to achieve these goals, Learn@WU has become an integral part of the curriculum and the teaching strategy of first year courses. As a consequence, Learn@WU is a heavily used system. A Learn@WU is one of Austria's most used web sites.

Learn@WU employs an advertising model as its primary method for revenue generation. There are banners of 468x60 pixels through out the platform. Although the platform generated significant revenue, it still wasn't enough to cover all the costs.

3.4. Euro Schoolnet

European Schoolnet (EUN) is a joint venture between 20 Ministries of Education of the European Union, the European Free Trade Area and the countries of Central and Eastern Europe enjoying the financial and political support by the European Commission.

The decision-making body of the European Schoolnet is its Steering Committee, which is composed of one representative of each of the participating ministries. The management of the European Schoolnet is the responsibility of the EUN Office in Brussels with a truly European staff of currently 20 persons.

The Ministries of Education have given the European Schoolnet two key tasks:

1. The setting up of a virtual multilingual European campus for learning and collaboration designed as a portal to national and regional school network sites and resources centres.
2. The establishment of a European network for innovation and exchange of information on ICT in education

By completing these two tasks, the European Schoolnet should achieve its key objectives:

- To facilitate collaboration between teachers and pupils in Europe
- To foster the European dimension in education
- To encourage the use of ICT by schools in Europe

Euro Schoolnet is publicly funded initiative. Also, Euro Schoolnet is considering a Private Public Partnership (PPP) model for the sustainability of the initiative. Thus we may categorize its revenue generation as a sponsorship model.

3.5. EuroPACE

EuroPACE (www.europace.org) is a trans-European network of universities and their partners in education and training, i.e. private enterprises, regional and professional organisations and public authorities.

Approximately 60 member organisations (45 of them universities) participate in this network throughout Europe.

EuroPACE demonstrates and develops the potential of telematics for the European university of the future and thus contributes materially towards the realisation of the concept of lifelong learning & the creation of a Virtual University for Europe.

The services provided by EuroPACE are:

- Information Service: General, technological, pedagogical and member information. A one-stop information and communication website and database for EuroPACE members and partners, concerning e-learning or ICT in higher education and training

- **Courses:** This service is a directory of courses, gateway to courses and hosting of courses. This is designated as a virtual university for Europe, where all information on available courses or learning materials in the EuroPACE network are located. Through this service in learning activities offered by EuroPACE and its members could be accesses.
- **Projects:** This service provides information, support, management, research and development. EuroPACE is a connection for European inter-university projects. There are 10 projects carried on within EuroPACE as of time of writing.
- **Training:** This service includes training modules for trainers on the efficient and effective use of ICT for higher education and training in a networked environment. Also, EuroPACE supplies training based on the results of own research and development projects mentioned above.
- **Themes & SIGs:** This service provides information on Special Interest Groups related to actual themes or network oriented topics in e-learning or the use of ICT in higher education in particular European Ph.D. programs and development cooperation.
- **EPYC partnership:** EPYC is a spin-off from the EuroPACE project, K. U. Leuven and the Gemma Frisius Fund. EPYC offers solutions for e-learning initiatives. This service provides partnership potentials with the EPYC.

EuroPACE has a revenue generation model based on memberships. The membership mechanism has two increments. There's an introductory membership mode which is €500 and lasts for one year. The full membership is €2.000 per year. All members are entitled to use all of the services provided by EuroPACE.

3.6. Comparison of Case Studies

In this section, we present a brief comparison of the investigated case studies.. There 5 tables, each comparing a different aspect:

- Table 3 compares e-learning provider roles of each case
- Table 4 compares the activity types executed by each case
- Table 5 compares revenue models employed by each case
- Table 6 compares the target market segments of each case
- Table 7 compares uncategorized dimension for each case

Table 2: E-Learning Provider Role Comparison of Each Case

	EducaNext	ARIADNE	Learn@WU	Euro Schoolnet	EuroPACE
Full service provider					√
Content provider	√	√	√	√	√
Application provider	√				√
Hardware provider					√
Service provider	√	√		√	√

Table 3: E-Learning Activity Types of Each Case

	EducaNext	ARIADNE	Learn@WU	Euro Schoolnet	EuroPACE
Product design	√				√
Pricing	√				√
Content Generation		√	√		
Didactic Planning	√	√	√	√	√
Software Provision	√				√
Hardware Provision					√
Packaging					√
Promotion	√	√			√
Distribution		√		√	√
Learning Process Related		√			√
Support Activities	√	√		√	√

Table 4: Revenue Models Comparison of Each Case

	EducaNext	ARIADNE	Learn@WU	Euro Schoolnet	EuroPACE
Direct generation	√	√		√	√
Indirect generation			√		
Transaction dependent	√	√	√		
Transaction independent				√	√
Selling e-learning products	√				
Brokerage	√	√	√	√	
Membership				√	√
Subscription	√	√			
Advertising			√		
Infomediary					
Merchant					√
Affiliate					
Community	√	√		√	√
Sponsorship			√	√	

Table 5: Target Market Segmentation of Each Case

	EducaNext	ARIADNE	Learn@WU	Euro Schoolnet	EuroPACE
University networks	√	√	√	√	√
Alma mater virtualis	√	√	√	√	√
Virtual university	√	√	√	√	√
Education consortium	√	√	√	√	√
Corporate University	√	√	√	√	√
Individuals	√	√	√	√	√
E-Learning providers	√	√	√	√	√

Table 6: Uncategorized miscellaneous dimensions of Each Case

	EducaNext	ARIADNE	Learn@WU	Euro Schoolnet	EuroPACE
Distribution channels					
Partnerships			Sponsors	PPP	
Organizational model	Association (in consideration)	Foundation			Private company & Consortium

4. The iCamp Case

We have given models and case studies for business models. These investigations will be the pillar for developing an exploitation model for the project. The aim for this document is not producing the actual exploitation plan but giving guidelines based on literature analysis and identifying sample models to facilitate the development of the iCamp exploitation model.

In developing an exploitation plan for iCamp, the project's unique status should be considered. iCamp's objectives and outcomes are very different from case studies examined. The project brings many innovations to the domain.

4.1. Drafting an Exploitation Plan

In drafting an exploitation plan, we utilize Osterwalder's conceptualization of a business model. We need to identify each business model ontology element. The following discussion is an outline of the exploitation plan to be produced. The elemental categorizations is based on the ontology presented in section 2.1 while mixing the many other elements discussed in section 2.2 with learned lesson from case studies in chapter 3. This discussion also models the iCamp exploitation model to be used in developing the final exploitation plan. The content column discusses the details of each business model ontology element. Please note that, the content in this discussion is only provisional and would be elaborated to the largest extent in the final exploitation plan.

iCamp has many innovative and unique characteristics. These make the project's exploitation plan more inline with the modern Web 2.0 or e-learning 2.0 models presented in previous chapters.

Value Proposition

These are the products and service iCamp has to offer as values to the target groups. The exploitable outcomes are: iCamp building blocks, iCamp models, iCamp space, iCamp interoperability patterns, iCamp best practices. These are described in more detail in section 4.2.

The final exploitation model should be designed according to the type of e-learning provider type:

- Content provider: iCamp provides content to the target groups. However the project is not the content creator, instead iCamp provides services for content delivery and production
- Application provider: iCamp provides applications, tools and models to the target groups. All these applications and models are provided using open licenses. The licensing type might be GPL, BSD-style or a CreativeCommons license based on the content type.
- Hardware provider: iCamp does not provide any kind of hardware solution

- Service provider: iCamp provides e-learning services via the iCamp Space to its target groups. iCamp space is a virtual learning environment composed of various interoperable tools and platforms.

Target Customer Segments

Using the e-learning market model presented in section 2.2, we can identify iCamp target group segmentations as:

- University networks
- Alma mater virtualis
- Virtual universities
- Educational consortiums
- Corporate universities
- Individuals

The iCamp Dissemination Plan (Arsun 2005) has also defined the target groups. The final exploitation plan should mix the above with that definition to create the very well defined target segmentation.

iCamp project gathers all these target groups into one iCamp community.

Distribution channels

This element is the link between the value propositions and the target customer segments. iCamp project has a variety of options here. We can categorize these channels as follows:

- *Awareness (Dissemination)*: All awareness raising activities are distribution channels. These serve to get the target groups' attention and getting known in the market. The dissemination strategy of iCamp (Arsun 2005) complies with this. Published papers, participated event, presented poster, etc are examples for this category.
- *Involvement*: Beyond the dissemination activities themselves, it does exist the possibility of having selected team members from iCamp consortium partners being involved in different FLOSS development communities promoting, with their presence and influence, the educational environment requirements for some social software initiatives.
- *Evaluation*: This includes matching the target groups' needs with the value propositions, including them in the community and supplying them with the necessary information. iCamp deliverables and other dissemination materials are tools for this. Community, social interaction and open source oriented approaches of iCamp are ways to include target groups in the community.
- *Purchasing and active participation*: This category is where the actual transaction of value takes place. This includes the transaction process, making this process more convenient and providing added values. For the iCamp case, this element means the active participation of target groups with

iCamp's outcomes. The project does not plan to directly generate revenue from its services and other exploitable outcomes. Rather, purchasing in iCamp's context refers to the enrolment of the target groups in iCamp provided services.

- *After Sales (participation)*: The iCamp Consortium will not directly provide support services; hence we will need to define the mechanisms for having the community and partners providing such services. The iCamp project website could be the single point of contact for delivering information and getting the target groups involved within the iCamp Space communities.

Customer relationships

The relationship element describes the relationship a company establishes with a target customer segment. Within the iCamp Space, the key mechanisms for doing this are the community building processes we must promote among the different partners and users as individual members. Hence, the recommended actions to be implemented in the exploitation plans must be measured in terms of social capital and social networking manageability.

Loyalty must be considered as a key driver for sustainability from a marketing point-of-view, so we should be putting in place some fidelity strategies that must be aligned with the actions to be taken in order to dynamize the iCamp user communities.

Branding strategies are especially useful in the iCamp case, since our key "product" must be the changing approach for new learning environments design and analysis. These strategies should be carried out through a consistent e-evangelization activity systematically included as an integral part of the dissemination plan each partner must be developing, taken into consideration their own requirements for resources allocation.

Value configuration

These are different kind of activities carried out by the iCamp project partners:

- *Product design*: The Personal Learning Environment (PLE) approach could be a design-specific product; and even the interoperability tools and models we're developing for being integrated into different institutional platforms.
- *Pricing*: iCamp will carry pricing activities for its services and products (e.g., developing revenue generation models). However, revenue generation is not iCamp's primary focus. In fact, all the tools and models produced will be provided under open licenses like the GPL or the CreativeCommons. If we're going to spin entrepreneurial (commercial) initiatives off the institutions joining the iCamp consortium, we must define a consistent revenue generation model based on a realistic business case.
- *Content generation*: Content generation is not in iCamp's scope as the content provided by iCamp is generated by the members of its community.
- *Didactic planning*: The iCamp project is supposed to be producing, not only the integral pedagogical models for Self-Directed Learning (SDL) but the didactic planning and cognitive tools for applying them in the actual educational scenarios defined by pre-HEES HEIs.

- *Software provision:* The iCamp Space, beyond its people- and site-centric community nature could be understood as a software provisioning “platform”; hence we must include this activity as a potential value proposition for iCamp project consortium and/or external partners.
- *Hardware provision:* iCamp does not execute hardware provisioning activities, although we still envision iCamp Space and/or iCamp Building Blocks as the components to be bundling with the suitable hardware/services provider.
- *Packaging:* iCamp does not execute packaging activities. In fact, this activity could be a horizontal one for software and hardware provision from the value added provision point-of-view.
- *Distribution:* iCamp executes distribution activities for its value propositions (e.g., open source approach). Although the iCamp consortium or communities are not intended to be directly distributing any product, the FLOSS approach of the development communities themselves could be integrated as a distribution activity within the business model.
- *Learning process related activities:* iCamp executes learning process related activities (e.g., iCamp models)
- *Learning process related activities:* The iCamp pedagogical models, and their deployment, could be integrated as educational re-engineering tools.
- *Support activities:* The iCamp consortium does not primarily plan to execute support activities; although these activities will be the core “business” for iCamp communities in terms of sustainability.

Capabilities

A capability describes the ability to execute a repeatable pattern of actions, in other terms, it is referred the core competences of iCamp. These are the iCamp consortium’s ability to create value propositions to the target groups. After the completion of the project, these capabilities should not cease to exist to ensure sustainability. The iCamp consortium partners create their own communities to ensure the sustainability criteria.

Viral, Buzz and ‘Word-of-Mouth’ (WoM) Marketing could be considered as critical capabilities for leveraging the network effects within the iCamp Space communities. While these three terms could be understood as a single concept¹, there are some details and slight differences worth taking into account for an effective usage of the different associated techniques.

According to Dave Balter (2004), *WoM* “is the actual sharing of an opinion about a product or service between two or more consumers” and “it happens when people become natural brand advocates”; *Viral Marketing* “is an attempt to deliver a marketing message that spreads quickly and exponentially among consumers”; and *Buzz Marketing* “is an event or activity that generates publicity, excitement, and information to the consumer”, and it’s achieved by “combining an event or experience with pure branding, like tattooing your forehead”.

¹ http://en.wikipedia.org/wiki/Buzz_marketing

Partnerships

Partnerships are essential for iCamp sustainability:

- Commercial partnerships (e.g., building partnerships with Internet Service Providers and digital libraries to offer iCamp bundle of tools)
- Research partnerships (e.g., PRO-LC cluster)
- Public Private Partnerships which can also act as revenue generation / funding mechanisms
- Educational partnerships (e.g., with higher education institutions, or EuroPACE)

Cost structure

This is an important sustainability issue. The iCamp partners should produce a consistent cost structure for keeping the project outcomes alive after the project's funding scheme is completed. This cost structure should comply with iCamp revenue generation model.

The cost structure will be – in a certain amount of cases – directly tied to the organization's (i.e. HEI) one; hence we won't have a long range of possibilities for sustaining the exploitation activities within the original project partners, without new projects for funding such activities.

Anyway, in order to facilitate a better marketing mix for iCamp outcomes, we can recommend the partners to apply an Activity-Based Costing (ABC) scheme for defining their own exploitation model, clearly defining the cost drivers for each specific business case.

Revenue model

This is the revenue flow mechanism. There are various options as we have discussed. iCamp should choose the most suitable revenue model(s):

- *Selling products*: Some of the iCamp Building Blocks could be defined as software products; mainly the ones for interoperability and institutional LMSs extended functionalities.
- *Brokerage*: Possibly one of the most suitable models for iCamp. The project overall position in the market can be labeled as brokerage.
- *Membership*: This is a popular transaction independent mechanism. iCamp can use a membership structure for the proposed iCamp space.
- *Subscription*: Transaction dependent mechanism. iCamp can use subscription based revenue generation especially for the produced tools
- *Advertising*: iCamp does not provide one platform so advertising might be hard to integrate. However, innovative advertising mechanisms can be employed, e.g. leveraging virtual environments and ecosystems community

effect, like Second Life avatar-based marketing (Hemp 2006). Revenue generation by advertising should also consider the level of satisfaction of the target groups with the iCamp value propositions.

- **Informed intermediary:** This model can be controversial and might be avoided. However, this model can be employed with the users' consent.
- **Community and Network Effect:** The iCamp Space integrates an implicit community building model. The FLOSS approach used for developing the tools should be thought of as a driver for leveraging the community-based nature of such software engineering projects.
- **Public Private Partnerships (PPP)** offer many opportunities for project like iCamp. This is a relatively new subject and well-established models are rare. The iCamp consortium can benefit from the potentials of PPP as a mechanism for delivering education and training services that correspond to the needs of the Information Society. The extended iCamp pedagogical models for adult learning from a converging approach could be a good sales argument in the PPP scenario.
- **Sponsorship:** The sponsorship model may be accounted as a very appropriate model for TEL projects. iCamp may sign one or more sponsors to donate the resources for running the project. In return, the sponsors' credentials like their logo or more information can be placed on iCamp services and products. Especially private sponsors may be vastly interested in participating in the iCamp space in return for donations.
- **Merchant, Manufacturer, Affiliate:** These models are not very suitable e-learning revenue generation models.

Organizational model

This element is originally non-existent in Osterwalder's model. But it is essential to have this in the iCamp case as the organization type that will engage all the discussed business model elements are undefined at this level. The possibility of building up an organization should be taken into consideration in developing the exploitation plan.

Applying the networked nature of iCamp Space idea and iCamp consortium, and taking into account the FLOSS promotion principle, we should strengthen the importance of entrepreneurship and e-Professionals communities for developing innovative organizational models within the iCamp project's sustainability criteria, being at the same time coherent with the NMS and AC focus of the project itself.

In adopting such an approach, we must include within our criteria some new parameters from a business point-of-view i.e. like the worthiness of a suitable network of complementary capabilities (Majumdar 2006), and the trust building strategies (Caby-Guillet 2006) that apply in that networked scenario populated with individual entrepreneurs and/or Small- and Medium-sized Enterprises (SME).

The Virtual Professionals Communities (VPC) concept is the first derivative from the community approach we are adopting along this preliminary project exploitation draft. Since the consulting services aimed at change management related to the deployment of iCamp pedagogical models in different HEIs would be the first commercial alternative for business cases, we must strengthen the '*iCampers*'

competences in social networking and collaborative working environments engagement.

Intellectual Property Rights (IPR) Issues

This is also a novel element attached to Osterwalder's model. The reason for its existence is its significant importance for iCamp and other TEL projects funded under the 6th Framework Programme (FP6).

The IPR issues for FP6 have been clearly defined by the EC IPR helpdesk². However, IPR is still a very critical issue for TEL projects. Below, we list some dimensions to be considered in developing IPR infrastructure of the exploitation model:

- IPR approach should be fully compliant with the exploitation model produced.
- Licensing is a key issue. While the legal nature for licenses is not still clear³, the iCamp project has an open source/open content approach, thus using licensing schemes like *Creative Commons*⁴ (or *Coloriuris* contracts⁵) for open content, and GPL (or BSD-style licenses) for the developed software could be an option.
- International characteristic of FP6 projects have an impact on IPR. The iCamp project's approach also adds to this impact. It is important to clearly understand and define the legislation and jurisdiction that would be enforced, when there is an infringement.
- IPR should be considered as a risk factor in strategic planning for the final iCamp exploitation plan. The software patentability discussions within the EC should be followed up for assessing the actual risk levels we could be integrating in our decision taking processes..

² www.ipr-helpdesk.org

³ We can read in the text from GPLv3 draft version, discussed when writing this deliverable: *9.[5] Not a Contract. You are not required to accept this License in order to receive a copy of the Program. However, nothing else grants you permission to propagate or modify the Program or any covered works. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating the Program (or any covered work), you indicate your acceptance of this License to do so, and all its terms and conditions.*

⁴ The CC licensing scheme has been transposed into more than thirty countries all around the world at the very moment of writing this deliverable down.

⁵ This is a Spanish initiative that is in an early development stage yet, with only Latin-American partners. It is based on the European continental 'civil law' principles aimed at preserving not only monetary rights but the morale property rights of digital contents.

4.2. iCamp Exploitable Outcomes

As we may observe from the initial list of the project outcomes (Table 7) the majority of them are quite related to the iCamp “brand”. We are continuously considering educational and/or technological elements that are going to be integrated in a value proposition mainly based on iCamp “reputation”.

Since we agree on that observation, it’s important to consistently define and develop a branding strategy for iCamp, well beyond the basic marketing actions we’re taking just right now. Such a branding strategy would be eventually designed by the project consortium itself; and it will include specific actions for empowering the iCamp project team members with suitable tools for dynamizing virtual communities, as these structures will be the basic support for our distribution channels.

At the end of the day, the most valuable outcome from iCamp project should be the expertise the project team members had acquired during the project time. And, as a matter of fact, from the sustainability point-of-view, exploiting such an expertise e.g. via consulting services could be a good way of integrating the change management HEIs will need for adapting their traditional organizations to the new learning environments they are putting up with.

Table 7: iCamp Exploitable Outcomes

Exploitable Outcomes	Target Groups	Agent Mechanism	Scope	Infrastructure
iCamp validated bundle of tools	End-users, educational institutions	Internet service providers	Europe 25+	Internet service providers provide hosting solutions with iCamp validate bundle of tools. This should be achieved through cooperation
Special iCamp tools	End-users (facilitators, students) which needs mediation from an institution	Commercial company or non-profit association	Europe 25+	Developing distribution channels and product development units
iCamp certification for tools (iCamp approved logo programme)	Developers or HEIs	Commercial company	Europe 25+	The commercial company assesses the tools and offer certification for a fee
iCamp community	End-users (in institutions, outside institutions, institutions)	Non-profit association incorporating a community process	Europe (Bologna countries)	The non-profit association offers memberships and controls the development process of iCamp models and tools
Integrate iCamp models, tools into universities	HEI	Through consortium partner's own institutions	Partner HEIs	Producing an implementation plan together with university administration
Offer ECTS certificate for iCamp based courses	Students	iCamp agencies accredited by the ECTS	Europe 25+	Get ECTS accreditation then offer ECTS points as our competences are aims of Bologna process
iCamp trademark	iCamp partners	Consortium partners	EPO	Getting trademarks for relevant classes
iCamp project team members expertise	HEIs, consulting services	Consulting, e-lance markets	Europe25+	VPC and/or consulting firms

5. Conclusions

In this document, we have outlined the exploitation model ontology for the final exploitation plan for the iCamp project. We have given a detailed discussion of the elements of such an exploitation plan along with a brief literature review.

iCamp has many innovative and unique characteristics, so it is hard to implement a classical business model for the project. However, relating to the models in Web 2.0 and e-learning 2.0 context, along with a very generic conceptualization of business models, we have outlined a draft exploitation model. Also, as hard as it may be to draft an exploitation plan for iCamp because of its innovative and unique aspects, this also brings new opportunities.

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