

ORMEE

Observatory on Rights Management for eLearning in Europe

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WORKPACKAGE No. 2

Introduction to Work Package 2 Draft



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Introduction / Project Framework and WP 2

1. The OrmeE Project

OrmeE - Observatory on Rights Management for eLearning in Europe is an innovative project financed by the European Commission in the framework of eLearning programme, aiming at creating an European observatory on copyright on educational content to be used in eLearning and at providing an analysis of the implementation of the EU Directive on Copyright in the Information Society.

OrmeE is an opportunity to know the “state of the art” in the implementation of the EU Copyright Directive in all the European countries, with particular attention paid to the regulations adopted in each country as far as “educational” exceptions are concerned and the possible consequences of different regulations in the educational content market.

OrmeE will help to understand and evaluate how the EU Copyright Directive has been implemented in different European Member States, to suggest the best available applications in the eLearning environment, to identify the best technologies and legal options and existing services in Europe applied to rights management systems (for eLearning objects).

2. Studies and researches (WP 2)

OrmeE observatory has started providing the most broader overview of the existing situation in the digital educational content market, by leading researches and desk analysis concerning four key topics, and namely:

- the implementation of EU Directive on Copyright within the framework of national legislations in EU 25
- the use of Digital Rights Management systems to manage digital educational content
- the development of Public-Private Partnerships to grant legal access to copyrighted digital educational content
- the use of Learning Objects as core piece of information for digital educational content

Four studies deeply connected one with the others, as each of the above mentioned topics has cascading consequences on the other three.

2.1 Implementation of the EU Directive on Copyright (T2.1)

The analysis of the implementation of the EU Directive on Copyright in the information society in all the European countries has been conducted by The Federation of European Publishers (FEP). As we will see, the EU Directive on Copyright allows members to provide particular exceptions as far as “educational” purposes are concerned according to the regulations adopted in each country. The study analyses the possible consequences of different regulations in the educational content market. Further updates will be provided through the OrmeE web site (www.ormee.net)

2.2 DRM solutions addressed to eLearning environment (T2.2)

The deployment of DRM systems requires the analysis of legal, technological and business issues. The study, undertaken by the Italian Publishers Association (AIE) has gathered information and data on DRM systems in Europe addressed to eLearning communities, particularly focusing legal aspects and answering questions like: which kind of licences are adopted to distribute educational content through DRM systems in Europe? The final goal is to look for reliable solutions that allow content producers and eLearning providers to regulate the access to copyrighted content so to create a single European market although the existing differences in legal regulation.

2.3 European best practises in PPPs in eLearning (T2.3)

The analysis of European best practises in PPPs in eLearning as far as the access to copyrighted content is concerned has been made by TUB and CMR. Experiences have been selected looking for best cases of collaboration between private content producers and public learning organisations that demonstrate the actual possibility to combine copyright protection and effective access to content by educational organisations and individual learners.

2.4 Best practices in dealing with Learning Objects (T2.4)

The analysis of best practises in dealing with learning objects, also in charge to AIE, has taken into account – by means of the examination of a selection of EU case studies - the legal, economic and pedagogical aspects of the problem, trying to answer questions such as: which kinds of licence (legal problem) and management systems (technologies) allow the access copyrighted learning objects at the lowest transactional costs (economic effectiveness) with the maximum level of flexibility in the usage (pedagogical effectiveness)? Which is the role played by public (Ministries of Education, research institutes, etc.) and private (publishers, LOs’ creators, etc.) in providing the educational environment with reliable learning content?

3. Background of the studies

Main object of the OrmeE Project - Observatory on Rights Management for eLearning in Europe – that is how to manage copyright issues related to educational content in the digital environment, requires a first preliminary description of the background context to which it applies.

The question is therefore “why is digital rights management a relevant topic for the educational environment?”. This introductory section has the purpose to answer this question. One question, three answers:

- 1- in the latest 5-10 years all European school systems have been deeply touched by the need for introducing information and communication technologies (ICT) in schools. As we will see, this process has been driver also by EU recommendations according to the Lisbon strategy, aiming at bridging the digital divide existing with the US, taking Europe to a uniform and standard level of “digitalisation” in all economic and social areas (i.e. e-government, e-health, e-learning, e-business, e-inclusion). Introducing technology in schools is much more than providing schools with ICT equipment (PCs, hardware and software); it also means to integrate digital educational resources into traditional teaching environment and to train schools personnel (teachers, but also administrators and head teachers) to the effective use of ICT. In many EU countries, ICT also (or is going to) became a compulsory subject in primary and secondary education.
- 2- EU legislation on copyright, and in particular on digital copyright, that has been received by EU members and implemented in the framework of national regulations, recommends that member states set up common basis in order to create global market for digital contents, but at the same time allows some kind of exceptions for educational purposes.
- 3- Even without taking into account the previous considerations, a market for digital educational content is actually growing at European niveau and its development will probably follow the path drawn by the US.

In the following chapters, these three main drivers will be analysed in details.

3.1 Technology at school

“Improving the quality of education thanks to multimedia and Internet technology is one of the priorities of European cooperation. All schools, if not all classes, should be highly computerised, all teachers should be able to use the technology to enhance their working methods and all young people should be able to broaden their horizons by using it comfortably though with the necessary critical perspective. These goals are among the priority objectives for 2010 that the education and training systems of EU countries have

set themselves in the follow-up to the Lisbon strategy.” (Source: Eurydice, *The information network on education in Europe*, March 2004, Preface by Viviane Reding).

This is an extract of the preface by Viviane Reding – European Commissioner for Education and Culture – to the study that the Eurydice European Unit has worked out on the “state of the art” of ICT in EU schools. And it is the most reliable (it takes account also of PISA e PIRLS surveys) and updated source (even though some figures refer to school year 1999-2000 and others to school year 200-2003) in order to compare facts and figures of the 25 member countries.

What seems to come out of this analysis – and in a certain way doesn’t surprise at all – is that the penetration of ICT in European schools has not reached any uniform level yet but varies from country to country if not from region to region of the same country. Moreover, a up to date technological equipment does not always imply its didactical usage and the effective integration of ICT in teaching (and learning methods). For example, in some countries where the level of penetration of ICT at school has already satisfied EU standards, more than 60% of the students state that they have never used computers at school (thought schools have them).

	use of computer for education		Internet connection		use of Internet for education		e-mail		web page		internal PC network (LAN)		access to help desk
	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002	2002
Belgium	99	99	91	93	82	81	86	83	44	45	50	38	40
Denmark	99	100	98	100	97	99	94	98	75	80	66	76	67
Germany	94	95	94	99	80	87	79	93	48	61	40	48	16
Greece	72	65	45	59	44	51	32	48	15	19	18	25	13
Spain	88	88	94	94	71	74	90	89	43	42	35	40	31
France	96	97	84	89	78	85	78	85	37	38	38	39	25
Irland	100	99	98	99	96	97	93	95	38	29	42	24	35
Italy	94	95	89	88	80	80	81	82	37	45	60	63	12
Luxemburg	94	98	92	67	73	60	62	51	47	42	49	43	44
Holland	100	99	93	92	80	86	91	90	44	50	44	50	77
Austria	90	95	72	94	64	70	69	91	43	52	45	52	24
Portugal	70	95	62	92	52	89	45	73	25	34	25	30	24
Finland	100	100	99	99	98	99	94	88	77	75	28	25	41
Sweden	97	100	100	99	96	99	92	90	81	81	71	69	79
UK	100	100	95	99	93	97	89	95	50	60	63	71	88
UE	94	95	89	93	80	85	81	88	44	51	47	51	36
Norway		100		99		96		97		57		46	58
Iceland		100		100		100		99		87		79	76

Source: Eurobarometer 2003

“Efforts to achieve progress in this area should thus be sustained and selectively targeted”.
 (Source: *ibid*)

Concerning pc usage in classes (the question here is: how many schools have computers in each class and how many have only one common equipped lab? It is clear that a real market for digital educational content is more likely to develop if each student has the chance to access to a PC anytime during whatever lesson) the study highlights that in primary schools PCs are mainly used as a tool to make learning easier and most funny, while in secondary schools PCs and technology are generally also taught as a compulsory subject.

However, *“The findings are encouraging: countries in which information and communication technology (ICT) was not a compulsory subject in the curriculum in 2002/03 are now exceptions to the rule.”* (Source: ibid)

In order to have a more defined idea of the “school digital divide” that still exists among EU countries, it’s enough to compare the values of Denmark and Greece concerning the average number of students per PC: 1 PC each 4 students in Denmark, 1 PC each 40 students in Greece (the European average is between 5 and 20 students per computer). And this gap exists also if we refer to all other indicators that describe schools’ digitalisation level: number of PC connected to the Internet, type and speed of the connection, network infrastructures, other hardware (TV, DVD, satellite, etc.), multimedia educational resources (off line) in school libraries, financial resources dedicated to the purchase of digital educational content. Coming back to our example, Internet is much more used at schools by students in Denmark than in Greece, as it is much more used in all those countries (Finland, Sweden or Iceland) where ICT is a compulsory curricular subject.

It is useless to underline once more the well known “digital divide” existing between a “under-equipped” Southern and Eastern Europe and a Northern and Central Europe much more advanced as the process of integration of ICT in schools as well as in all other field has begun long before thanks to a more engaged public commitment. This topic however could be of interest in order to provide the right context to our analysis of the development of a sustainable market for digital contents and of the adoption of rights management solutions. We can’t avoid noting that where ICT is already a structural component of everyday life there is also a developing market for digital educational content and there is also a higher level of awareness of the importance of digital rights management related issues.

We cannot talk about digital educational content and DRM systems without introducing the expression Learning Objects (LO): in other words we should think that digital educational contents need to be structured so that they can be easily put into a framework that involves the management of copyright in a digital environment, that is, content must be an autonomous, identifiable, researchable digital object, and it must also “embed” the idea of

“rights”. Only in this form, a digital content can be safely (and legally) delivered for example through the Internet.

A exhaustive analysis of what could be defined as Learning Object, of the best practice in the use of Los can be found in the fourth study released within OrmeE Project, that is *Best practises in dealing with learning objects* (T2.4).

The introduction (and the use) of Learning Objects in the educational environments is related to eLearning, one of the European main priorities set by the Lisbon strategy and pushed ahead by the eEurope Programme and related Action Plans.

“eEurope is based on two groups of actions which reinforce each other. On the one hand, it aims to stimulate services, applications and content, on the other hand it addresses the underlying broadband infrastructure and security matters”

(Source: <http://europa.eu.int>)

eEurope 2002, focused on extending Internet connectivity in Europe.

“Member States responded positively to the ambitious eEurope 2002 targets. Most schools are now connected and work is underway to provide convenient access to the Internet and multimedia resources for schools, teachers and students. In Barcelona, the European Council set the target of ensuring by end 2003 a ratio of 15 pupils per on-line computer for educational purposes in EU schools. Trans-European networks connecting national research and education networks have been upgraded substantially but, as yet, few schools are connected”.

(Source: <http://europa.eu.int>)

eEurope 2005 aims at stimulating services and applications, at developing content in order to create new markets, in economical areas of public, but also private relevance, as education for example.

This is also the main objective of the eLearning Programme that was launched in order to create appropriate conditions for the development of content, services and learning environments relevant to education. Conditions that, a part from the question of valuable and reliable educational content, are standardization in technologies and development of Public-Private partnerships to win the market challenges. To this latest topic is dedicated the third study within the OrmeE Project *European best practices in PPPs in eLearning* (t 2.3)

All this means that the time has come to think in terms of digital content really useful for school, both in terms of pedagogical effectiveness and of market compliance.

All this means that the time has come to think of a real market for digital educational content, a market with economical, legal, competition issues that need to be managed. Consequently, LOs and DRM systems are necessary parts of the scenario.

3.2 The EU Directive on Copyright and the legal framework

The development and the penetration of digital technologies (in households, public institutions, offices and companies) have broadened the number of people who can have access to information and knowledge on time and in place, thus enabling, as previously highlighted, the growth of a market for digital content, both for existing content and new added value services based on that content. In the meantime this evolution process has also opened new problems related to copyright protection's issues. Today digital technology allows perfect and unlimited copying and distribution of content, in a quite inexpensive way. This means that also copyrighted digital content, without adequate protection, could be easily (and illegally) duplicated and disseminated. We must not forget that illegal copying and dissemination does not necessary means a criminal organization trying to make money infringing laws, but also involves the so called "home" piracy, that is someone duplicating any copyrighted content and giving it to friends without any profit goals. As a consequence the European legislator had to take into consideration, beside pushing towards the development of ICT, how to regulate at international level problems regarding protection and enforcement of intellectual property rights in the digital environment. And, as technological progress becomes more and more sophisticated, the key issue to deal with the mentioned problems seems to be DRM (a complete report on the existing situation of DRM systems applied to educational content could be found in the study *DRM solutions addressed to eLearning environment* (T2.2) produced in the framework of OrmeE Project).

The legal framework in which DRMs would be administered is that of Directive 2001/29 and that of Directive 2004/48/EC "Enforcement of Intellectual Property Rights" in the Information society.

Directive 2001/29 establishes a framework which balances incentives to create and distribute content with mechanisms which ensure appropriate revenue through the exercise of intellectual property rights and at the same also serves the interest of the public (individual users) by requiring access to copyright works for certain types of use.

"Copyright and related rights play an important role in this context as they protect and stimulate the development and marketing of new products and services and the creation and exploitation of their creative content". (Directive 2001/29, Art. 2)

Main goal of this chapter is to underline key statement in the EU Directive on Copyright that could be relevant in the OrmeE framework, that is references and recommendation

regarding rights management for digital contents and references and exception referring to the educational environment.

“Technological development has multiplied and diversified the vectors for creation, production and exploitation. While no new concepts for the protection of intellectual property are needed, the current law on copyright and related rights should be adapted and supplemented to respond adequately to economic realities such as new forms of exploitation”. (Directive 2001/29, Art. 5)

The need for a shared system (and shared basis) to regulate the market of digital content, to protect copyright and to grant rights owners a fair compensation, is much more urgent as the existence of such a market for digital content depends itself from the existence of a “standard” regulation. Only if these condition will be fulfilled, it will be possible to develop an economically sustainable business model for the “commercialisation” on digital content.

“If authors or performers are to continue their creative and artistic work, they have to receive an appropriate reward for the use of their work, as must producers in order to be able to finance this work. Adequate legal protection of intellectual property rights is necessary in order to guarantee the availability of such a reward and provide the opportunity for satisfactory returns on this investment.” (Directive 2001/29, Art. 10)

According to the OrmeE perspective, this issue is even more significant as the Directive itself allows exception for the educational environment.

“This Directive should seek to promote learning and culture by protecting works and other subject-matter while permitting exceptions or limitations in the public interest for the purpose of education and teaching.” (Directive 2001/29, Art. 14)

However, without stating the form and nature of those exceptions, demanding decisions to national legislators.

“Member States should be given the option of providing for certain exceptions or limitations for cases such as educational and scientific purposes [...]” (Directive 2001/29, Art. 34)

It is otherwise clear the opportunity of creating a global market for digital educational content is bound to the existence of common market rules in the EU countries. (Study *Implementation of EU Directive on Copyright* (T2.1) lead by FEP is totally dedicated to the analysis of differences in educational exceptions in Member countries).

“[...] The existing exceptions and limitations to the rights as set out by the Member States have to be reassessed in the light of the new electronic environment. Existing differences in the exceptions and limitations to certain restricted acts have direct negative effects on

the functioning of the internal market of copyright and related rights. Such differences could well become more pronounced in view of the further development of transborder exploitation of works and cross-border activities. In order to ensure the proper functioning of the internal market, such exceptions and limitations should be defined more harmoniously. The degree of their harmonization should be based on their impact on the smooth functioning of the internal market". (Directive 2001/29, Art. 31)

Harmonization consequently involves also technological issues: which are the most appropriate standards to describe digital content (and digital educational content in particular)? Which are the most appropriate standards to describe digital rights? And which are the most efficient to guarantee interoperability as far as devices and content delivery are concerned?

Such technology needs to be robust, interoperable, open, applicable across different content types, and acceptable to the consumer. Such technology needs to be agreed upon, developed and deployed by the private sector. These criteria should be determined by the market with the risk that possibly divergent or even incompatible standards will emerge.

Important progress has been made in the international standardisation of technical systems of identification of works and protected subject-matter in digital format. In an increasingly networked environment, differences between technological measures could lead to an incompatibility of systems within the Community. Compatibility and interoperability of the different systems should be encouraged. It would be highly desirable to encourage the development of global systems. (Directive 2001/29, Art. 54)

However, the directive does not create any legal framework for standardization at EU level.

EU Directive on Copyright also deals with topics concerning technical measures of content protection, however without making it compulsory for rights owners, but only recommending their adoption if necessary. Stakeholders as rights holders, commercial exploiters and end users should agree on the adoption of such technical protection measures.

There is, however, the danger that illegal activities might be carried out in order to remove or alter the electronic copyright-management information attached to it, or otherwise to distribute, import for distribution, broadcast, communicate to the public or make available to the public works or other protected subject-matter from which such information has been removed without authority. In order to avoid fragmented legal approaches that could potentially hinder the functioning of the internal market, there is a need to provide for harmonized legal protection against any of these activities. (Directive 2001/29, Art. 56)

EU Directive then addresses the use of DRM systems to manage rights and prevent illegal access to copyrighted content, but also recommends the adoption of technical measures to prevent illegal usage of digital content by the end user or attempt to infringe copyright rules. Here a list of the most common technical protection measures for digital content: encryption, watermarking, fingerprinting, digital signature. A more detailed review of these protections is provided In the study *DRM solutions addressed to eLearning environment* (T2.2).

This preliminary overview makes clear that DRM issues are far more complex and interconnected than expected. Indeed, digital rights management involves many different stakeholders along the value chain: authors, publishers, content providers, aggregators, institutions and end users and their relation to each other. It could not be forgotten that one of the most sensitive issue in the value chain is that concerning licensing models; that is how is the relation between part regulated: who's the rights owner, which are the usage rules applied to copyrighted content and who can access and use that content at which conditions, just to name some. Technology is also involved in the licensing issue, as it can prevent unauthorized access and usage, track copyrighted content flows, identify end users and grant usage rules.

3.3 The digital educational content market

Interest for digital in the context of educational content arises in the first instance in the United States, followed by Northern and Central Europe and finally all over the EU members, as natural consequence of technological innovation in the Cultural Industry and in the publishing sector as a whole. Moreover, the typical structure of textbooks' content, organized in single learning units with a high level of granularity, is more likely to be transposed in the digital environment.

Besides, schools all over Europe are demanding more and more flexible educational resources, that offer the possibility to be personalized according to teachers' teaching methods and approaches. This evolution of demand has pushed educational publishers to create school books more and more structured in self-consistent units of content, that can be used in the framework of the whole book and within national curricula, but also as independent source of information.

As pointed out in the previous pages, both EU legislation and national regulations push in direction of the maximum integration of ICT and of the development of eLearning initiatives in schools systems; following publishers – being themselves content providers in the first place – have moved towards the integration of the traditional book offer with a digital one. At first, publishers have thought of multimedia products (floppy or cd rom) that could serve as extension or support for the textbook or just as digital version of the printed book.

Following the development and the penetration of the Internet, educational publishers have begun to deliver free content through their web site.

This reconfiguration of the offer has meant also the redefinition of the productive workflow (the same has happened in all other sectors starting a cross media production), as each piece of content has to be originally produced in a so called neutral digital format, in order to be reused on different media and for different purposes, and to be stored in a database in order to be easily retrieved. All this process could work efficiently only if content is described by specific languages and standards for identification and interoperability.

In the meantime, there has been a speed up process in the market of digital content in other business areas, due to the engagement of technological players (TLCs and software houses). New value chains and new business models have been experimented for example in the music industry, in mobile phone sector, or in corporate training). Once proved the sustainability of these early experiences, the same ICT players have started to look at the educational environment as a possible market to exploit and to establish new partnerships, creating an extra-sectorial competition for educational publishers. New players in an old market often mean also new business opportunity, thus educational publishers are now trying to reassess their specific role of content providers also in the digital environment. But new players mean also new problems, first of all the question on how to control the new scenario, with particular regard to copyright issues. And DRM fits perfectly in this context.

3.4 Players in the digital educational content market

Once described the main general features of the developing market for digital educational content, it's worth to give a first overview of the main players acting in this market, in order to provide a common background to each following analysis and to better understand how the traditional value chain changes in the digital environment. While traditionally, educational publishers were almost the only and principal players in the school book market, publishing books according to the guide lines provided by national Ministries of Education and national curricula, in the new digital market – as already pointed out – players are much more different in terms of number and typology. Their role along the value chain, moreover, is not always easy to identify, as they usually tend to play more than a single role. Therefore, it could be useful in this introduction to the studies to outline a provisional categorization, as follows:

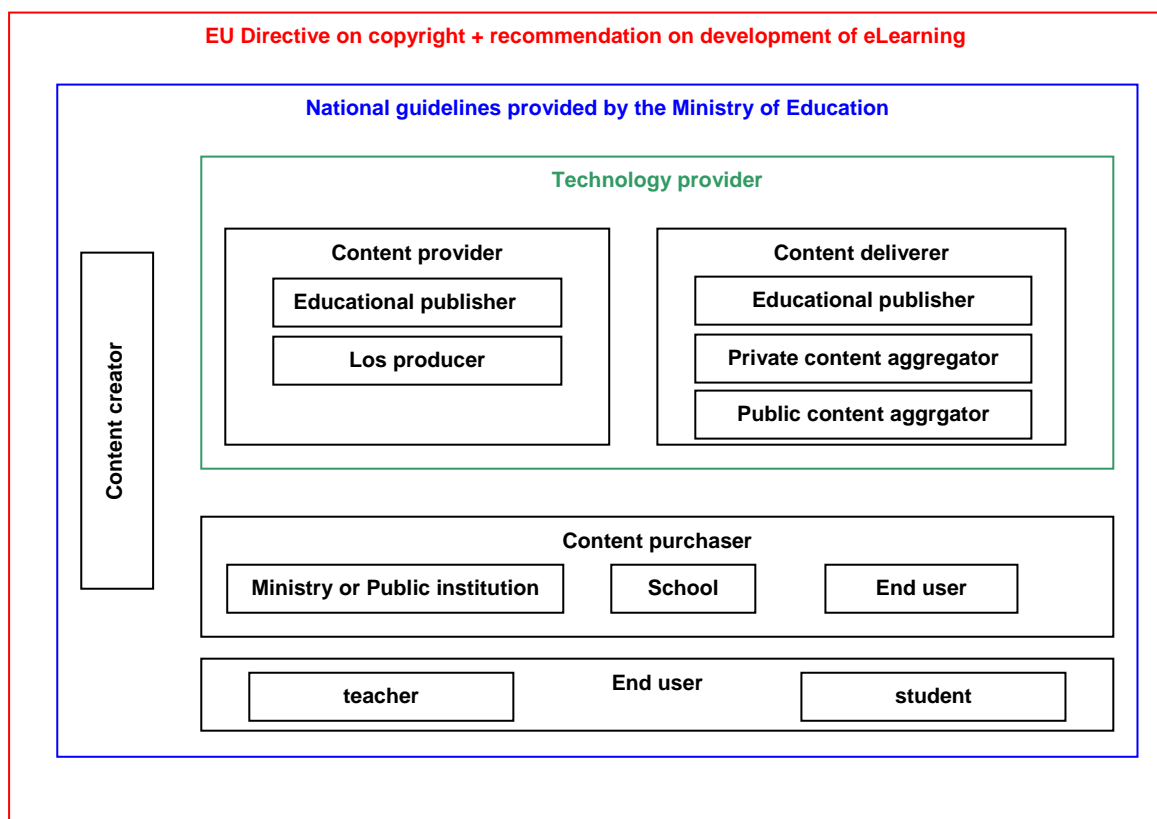
- Pure publishers, that is school book publishers traditionally specialized in textbook, that in the digital environment produce and deliver also digital content to “extend” the printed book or to be used as an independent content unit (production, delivery);
- New players that have seen in the educational digital market an opportunity to broaden their business area. We can count in this category, for instance, TLCs companies, already

massively entered in the corporate training market, hardware vendors and software houses (production delivery);

- Content aggregators, that is companies that usually don't produce any content themselves, but collect digital educational content by third parties and deliver it to the end user (collecting, delivery);
- Public institutions, namely the Ministry of Education, that, as seen, on the one hand guide the development of the internal market according to EU recommendation, and on the other hand, though they do not produce content themselves (but there are exceptions as we will see in study T2.2 and T2.3) can serve as reference point to the end user.
- End users, it is here important to notice that though end users are teachers and students, it is more difficult to define who purchases digital content: families, schools, Ministries, etc; therefore content producers and deliverers have to take care to shape their offer (commercially) according to the target.

All these players are often involved in some kind of partnership to each other. PPPs (Public-Private Partnerships) for instance are gaining more and more relevance, as shows *European best practices in PPPs in eLearning* study (T2.3).

It is not useless to remind once more that in the new market for digital educational content the role of traditional stakeholders, their position in the value chain and also their number has deeply changed, and therefore to figure out a very simple stakeholder model, that can be the basis of any further analysis of the value chain.



4. Methodology

In order to get reliable information directly from the market and avoid a mere theoretical analysis, the four studies have been based on a desk analysis concerning actual situation existing in national educational markets in Europe. Therefore OrmeE team set up questionnaires in order to investigate in details some of the market features, concerning on the one side the state of the art of the implementation of the EU Directive on Copyright, focusing on educational exceptions and on the other side all the topics referred to DRM, LOs and PPPs. The following chapters describe topics and main issues discussed with stakeholders both in the questionnaires and in face to face conversations.

4.1 Implementation of Directive on Copyright

Within the OrmeE project, FEP was in charge of monitoring the implementation of the 2001 Directive on Copyright in national legislations of EU member countries. Information requested have been organized into different thematic areas:

4.1.1 Implementation status

Highlights if the EU Directive on Copyright has already been implemented and harmonized into a national law.

4.1.2 Timeline

Tracks the history of the implementation (drafts, discussions, further steps towards implementation, etc.)

4.1.3 Right of reproduction

Points out how right of reproduction has been managed in the harmonized national law (or proposed drafts), according to EU Directive, underscoring existing differences.

4.1.4 Right of distribution

Points out how right of distribution has been managed in the harmonized national law (or proposed drafts), according to EU Directive, underscoring existing differences.

4.1.5 Right of communication to the public

Points out how right of communication to the public has been managed in the harmonized national law (or proposed drafts), according to EU Directive, underscoring existing differences.

4.1.6 Exceptions to copyright

This is one of the most interesting features to be analysed as the EU Directive leaves space to each member country to define what is to be intended for “exception”, and for educational exception in particular.

4.1.7 Levies

Describes the levy system adopted in each country.

4.1.8 Legal protection granted to technological measures

Describes limits and possibility set in order to prevent illegal copying by circumvention of technical measures.

4.1.9 Other provisions

Other measures or obligations related to copyright management provided in other national laws.

4.2 DRM, LOs and PPPs

As far as T2.2, T2.3 and T2.4 studies are concerned, a single questionnaire has been structured and addressed to a panel of stakeholders involved in content production or delivery. Following, we list main thematic areas taken into consideration by the questionnaire and in the further discussions.

4.2.1 E-learning service – business model

1. Description of e-learning services you offer in terms of contents, access, storage and delivery system
2. Description of the business model underlying the e-learning service provided
3. Existence of a ROI analysis on the revenue on selling e-learning contents.

4.2.2 Public – private partnership

1. Presence of any Public – Private Partnership
2. Characteristic of the PPP
3. Kind of public partner (government, school, university, others)

4. Kind of Contractual relations
5. Presence of other private partners within the PPP
6. Subject of exchange Private to Public
7. Subject of exchange Public to Private
8. Expected duration of the partnership
9. Business affected by Copyright issues or problems

4.2.3 Content – learning objects

1. e-learning content structure: Learning Objects (LOs), metadata scheme
2. Rights owner on the contents (author/deliverer/publisher relationship)
3. Use of a proper Digital rights management (DRM) system in order to track copyrighted materials
4. Presence of any copyright protection on the contents in terms of access – delivery – reuse (watermark, fingerprint, cryptography)

4.2.4 Licensing model

1. Description of the licensing model (end user/publisher/deliverer)
2. Existence of tracking methods of copyrighted content. Presence of educational exception in term of reuse of contents

4.2.5 Technology

1. Use of identification standard/DRM standard/ file description languages (XrLM etc.)/interoperability standard

4.2.6 Future strategy of e-learning services and business model

1. Expected changes to e-Learning Services or Business Model due to the EU Copyright Directive or due to the harmonisation process the country