

Digital Content – Preliminary SWOT Analysis

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Digital content is the essence of a digital economy and the so called knowledge based society, since it presents the vehicle for knowledge representation, sharing, access and use over traditional physical, social, demographic, geographic, economic, etc. boundaries. Because of technological, business, and social transformations, the EU faces important challenges in exploiting the benefits that digital content may bring to society. It is crucial that digital content is created, preserved and available for use in all aspects to the EU citizens and companies regardless of the technology changes that transform the content creation, and usage patterns.

The Internet economy ecosystem is driven by content and services. Current technology convergence breaks traditional technological areas and business models of communication providers, technology providers, services providers and users. Mobile platforms that have become one of the main areas of innovation transform the ICT ecosystems merging traditional content with applications and the WEB 2.0 social networking paradigm, where value is increasingly created in the network itself. This has created strong competition between whole ICT ecosystems including network, technology, service and content providers. Future internet initiatives including converged networks based on IPv6, sensors networks and distributed digital content and services infrastructure will bring even more dynamic space with unpredicted consequences on business as much as society. R&D activities in the content and services sector are becoming more and more globalised and driven outside the EU, which results in more and more pressure for action in this area.

Relevant EU policy has tried to follow the advances in digital ecosystems by addressing the challenges that impact the society at large such as privacy, security, IPR, openness of platforms, application stacks and services and interoperability. In the EU, special attention has been given to the availability of sources of digital content such as the digitisation of traditional cultural artefacts, scientific information, educational content, user generated content and public sector information with the aim of enhancing and enabling internal digital market in the EU. The SEE region countries do not show any special separate initiatives with respect to this policy and regulation.

Research activities in the EU have in many cases followed the market advances or been executed without adequate follow-ups in innovative business within the EU. The FP7 ICT programme has supported research activities in this area targeting technologies for content creation, aggregation, management, and use. Current data on FP7 participation show that the SEE region's performance is sub-par: Besides Austria and Greece, all other countries participate below the EU average. Slovenia ranks fairly high when the data are calculated per inhabitant. Intelligent information management and ICT for learning seem most promising and important for the region. In addition, the level of expenditures in ICT R&D is also much lower than EU average, which shows that there is not much capacity for enhancing the R&D activities in digital content themes although relative importance of these themes from FP7 participation in SEE rates above the EU average.

Current business trends show that in addition to technological innovations, non-technological innovations play an even more important role in a digital content ecosystem. Available data for this area in terms of

business performance is not extensive, i.e. only general ICT data can be used to assess the current status. Average ICT expenditure in SEE is much lower than the EU average, which shows the lack of potential for a digital economy. The participation of SMEs in FP7 and CIP can be used to gauge the potential for technological innovation coming from research. The results show that Austria, Greece, and Bulgaria rate considerably higher in comparison to EU average. Compared to the overall FP7 participation of SMEs, their participation in the digital content area is higher than the EU average, which means that SEE shows a relative demand as well as the capability for activities. This assessment is also backed by data on participation in innovation projects (eContent, eTEN, CIP ICTPSP) that places SEE not far below EU average – application statistics in eContentPlus show even above-average values and hence a clear interest in this area.

Although digital content transforms society, indicators of its use and participation show that the EU has not exploited these opportunities to the largest extent. In all major indicators, such as use (with exception of reading online newspapers), participation, and accessibility – the SEE region countries rank below EU average. This demonstrates the potential for further development. The financial crisis and the lack of sources for financing research, innovation, and access capabilities in ICT in general means that special attention is required to create a virtuous cycle of provision and demand that could build the capacity for growth and development.

The SEE region scores lower on average than the EU27 in regard to most indicators used to measure the innovation lifecycle. On the other hand, specific countries rank considerably higher than the EU27 average in specific areas, which signifies an opportunity for joint development. Combined with the availability of local content, this constitutes a potential that could be exploited, provided that policy-making will have to embrace digital content as a priority theme and act accordingly. A special focus would have to be put on a more targeted integration and cooperation at the regional – as well as the EU – level to leverage the relative capacities and capabilities of the more advanced countries, facilitate knowledge sharing, and realise market potential in this field.

SWOT table

Strengths	Weaknesses
Relatively good mobile penetration.	Missing participation in mobile content economy because of low mobile broadband penetration.
Solid level of local content production and availability.	Low R&D expenditure of both business and government.
Positive cases and experiences in tackling the barriers of orphan/out-of-print works and public domain works that could be used as best practices for other countries.	Low level of digitisation activities and integration of local content into Europeana.
Relative research excellence in digital content themes and specific topics.	Low intensity of open data re-use of PSI and low intensity of mobile apps development
High relative importance of digital content theme relative to all FP7 ICT themes.	e-learning, e-commerce, and e-banking are not used at a high rate.
Good scientific cooperation/co-publications, which enables knowledge transfer and sharing.	Low level of participation in EU innovation support programmes, except for Greece and Austria.
Better than average EU27 participation of internet users in WEB2.0 activities.	In terms of innovation lifecycle performance, SEE countries assume mostly the <i>innovation follower</i> part.
Relative good participation of internet users in building participative web of SEE relative to EU average.	Low ICT expenditure means a low option for economy of scale in adoption of ICT.
Good SME participation in FP7 ICT R&D activities in the topic of Network media and Information management.	Early adoption capacity for participative web services among general population is low.
Average use is comparable to EU27.	Low level of overall SME participation in FP7 ICT activities comparing to average EU27.
In general usage level can present the proper level of demand for new innovative services.	Lower scope of active participation of population in WEB2.0 activities.
Increasing percentage of population doing an online course.	Lack of technological innovation capacity because of low level of ICT R&D funding.

Opportunities	Threats
Better integration of SEE efforts in digitisation sharing best practices in tackling financial, technological, organisational, and process-related issues.	Low mobile broadband penetration.
Open up innovation opportunities with implementation of open data re-use model.	Lowering capacity of participation in EU programmes because of the current economic crisis.
Constant research and development expenditure as a percentage of GDP.	Still relatively low research and development expenditure as a percentage of GDP.
Positive GDP growth forecast in SEE economies.	Stopped digitisation efforts because of the current financial crisis.
Enhance research potential by mutual cooperation of SEE countries in EU programmes on topics that show good R&D participation.	Changes in EU support programmes for 2013-2020 can threaten relatively successful participation of Austria and Greece in innovation activities, inhibiting the SEE region's innovation activities.
Opportunities for follow-up innovation coming from participating SMEs in FP7 ICT projects.	Not catching up in use of more advanced services can cause skill gaps that would prevent to follow the advances in future internet evolution.
Better SEE cooperation and integration in innovation activities would help advance the participation in EU innovation measures.	Ageing population not being able to tackle with the contemporary technology and usage.
Start regional support action on themes that show good R&D participation.	
Rising usage rate for more advanced services could have positive impact for local economy and society.	
Increasing percentage of individuals with specialised internet/ computer knowledge and skills.	
opportunities for follow-up innovation resulting from SMEs participating in FP7 ICT projects	