

The Collaborative Economy

Impact and Potential of Collaborative Internet and Additive Manufacturing

The “perfect storm” of technologies related to Collaborative Internet, Big/Open Data, Crypto Currency and Additive Manufacturing will bring about fundamental changes in our lives and in the economy. The effects will be profound and those with an interest in maintaining the status quo will resist the anticipated changes. Such efforts should be resisted, as there are also potential long-term benefits. The following is a synthesis of the main policy options that could help decision-makers embrace the future that is coming upon us.

1. Stimulate the free flow of co-created ideas

Co-created ideas are increasingly important for creating new products that satisfy a fast-changing market; supporting those who work across borders to work effectively will help grow the European economy; model future legislative proposals in relation to the updating of [Directive 2001/29/EC](#)¹ (on the harmonisation of copyright and related rights in the information society) on the approach taken with [Directive 2014/26/EU](#)² (on collective management of copyright), which introduces the possibility of EU-wide multi-territorial licencing for online musical works. Tensions between [Directive 2001/84/EC](#)³ (resale right) and the legislative measures which are expected to adapt the [2001/29/EC](#) Directive to technological developments in the digital age will most probably also need to be resolved.

2. Reforming EU IP rules, fair use and consumer protection policies to enable emerging capabilities

To increase EU competitiveness in a collaborative economy, rules relating to copyright and Intellectual Property Rights need to be based on the same principles across the EU given the variety of national legal approaches. From the perspective of the existing EU acquis on product liability and consumer protection the emergence of the collaborative economy raises the need, among others, for the delineation and, in fact, extension of the existing limitations on fair use. For example, it is possible that current IP rules will have to be reconsidered in light of the need for collaboratively developed open data for the 3D printing of products. It is important for IPR rules to be applied as a balanced incentive system that on the one hand encourages inventors and compensates them for their creativity, and on the other, promotes benefit-sharing, fair use and further creativity. In fact, the concepts of 'intellectual property', 'access' and 'sharing' need to be redefined in the context of the collaborative economy as the latter may reshape the traditional defences to copyright infringement. The collaborative economy is likely to heighten the tensions between traditional legal approaches of ownership and the introduction of modern practices that focus on fair use, open access creative licences and flexible licensing structures. In this regard, the [recently adopted resolution](#) of the European Parliament concerning the modernization of the EU copyright system clarifies the scope of certain fair use exceptions, such as for Text and Data Mining (TDM). These reforms are expected to contribute to enabling the development of such "welfare-enhancing" technologies⁴.

¹ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society

² Directive 2014/26/EU of the European Parliament and of the Council of 26 February 2014 on collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online use in the internal market

³ Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art

⁴ For further information see: "Review of the EU Copyright Framework - European Implementation Assessment", EPRS October 2015 at: [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/558762/EPRS_STU\(2015\)558762_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/558762/EPRS_STU(2015)558762_EN.pdf)

3. Create new enforceable regulations capable of supporting and protecting all stakeholders in the Collaborative Economy

Steps could be taken to eliminate the legal uncertainties that follow from the usually transnational nature of collaborative technologies (Directives 2004/48/EC⁵ (on enforcement of IPR) and 98/44/EC⁶ (on biotechnological inventions) apply to producers, Directive 1999/44/EC⁷ (on aspects of sale of consumer goods) and Regulation 178/2002⁸ (on general principles and requirements of food law) apply to consumers and Directive 2001/29/EC applies to both. Getting this right gives the EU a leading opportunity to increase the rate at which innovations can be transferred into commercial reality and to reduce the potential for fraud. Similar policies against tax evasion and money laundering are also required and should be addressed through revisiting the 4th Anti Money Laundering (AML) Directive. This will require a global transparency agreement, to ensure monitoring and accountability of fraudulent activity.

4. Create new enforceable regulations capable of supporting and protecting users of derivative services growing out of the Collaborative Economy

Decentralized stock exchanges and insurance companies will very likely emerge and, again, it is possible that within these aspects of a collaborative cyber currency market, authorities will not be able to regulate the activities taking place within them using current approaches. Again, revisiting the 4th AML Directive is advisable.

5. Re-consider laws that currently limit what someone can do with their own data

"Personal" and "Private" need new definitions in a world where data are universal and even personal data sets are a tradable good (legal if the subject/owner is doing the trading). There needs to be a distinction between data subject, data owner, data collector and data user in future versions of the Data Protection Directive 95/46/EC⁹ (on the processing of personal data) and The EU General Data Protection Regulation, as a 'data owner' is not the same entity as a 'data subject'. All terms used should be explicitly defined. Personal data sets are now like appearance - models make a living by trading on their looks: now everyone has something to trade. Reconsider laws that currently limit what someone can do with their own data. Individuals need to be able to protect or use their own data in whichever way they choose. However, data protection issues will be impossible to enforce from central locations and the new empowered owners will need the support of specially designed enforcement tools, which will work in a decentralised environment. It is also necessary to establish a mechanism to determine the relative values of public good vs individual good especially in the clinical trials context. Many important (medical/clinical) advances depend upon access to personal data and are suffering from lack of clarity around terms used in current policies.

6. Establish a recognition process for crypto currencies

Driving the communities using crypto currencies underground will complicate matters in the future. It is better to proactively legislate, perhaps through a revision of the 4th AML Directive, to incorporate crypto currencies into the wider economy. View a crypto currency as just another currency which should not be feared but rather recognise that the sociological part of the system needs careful handling.

7. Engage with a wider set of consultative bodies in the Additive Manufacturing policy debate

Current approaches to the development of industrial, innovation and research policies at the EU level neglect how Additive Manufacturing and 3D printing technologies go far beyond traditional

⁵ Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights

⁶ Directive 98/44/EC of the European Parliament and of the Council of 6 July 1998 on the legal protection of biotechnological inventions

⁷ Directive 1999/44/EC of the European Parliament and of the Council of 25 May 1999 on certain aspects of the sale of consumer goods and associated guarantees

⁸ Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety

⁹ Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data

manufacturing and are relevant for areas including healthcare, medicine, chemistry and construction. Current stakeholder groups may be too restricted, not just in the sense of mainly representing traditional manufacturing industries, but also because they represent large established companies with their embodied need to preserve or increase competitiveness, often to the exclusion of most new entrepreneurial possibilities.

8. Modify education policies to ensure that relevant skills are in place when they are needed

In the light of experience in the area of 3D printing in education, two issues that seem to arise in the wider Collaborative Economy context include the need for training teachers in the use of 3D printing and related technologies, and the need to develop suitable curricula that go beyond the mere use of 3D printers as “demonstrators”. In the broader context, a new techno-centric and multidisciplinary approach to education will have to be designed and deployed. Knowledge transfer is critical in all aspects of the Collaborative Economy. For those who are engaged in this kind of society, the rapid change in all aspects of life implies that education will become a continuing function in everyone's lives. The EC ‘Opening up Education’ initiative¹⁰ should recognise these strategic issues in its plans.

9. Implement policies at the global level

In the Collaborative Economy, everything is data. All aspects of life are to some extent conducted in the digital domain. Data will become the main source of desire, the preeminent medium of exchange and the main source of tension. Global policy formulations are required in the Collaborative Economy because it operates on a global scale, regardless of national or regional borders. The creation of global policies that can be implemented, regulated and enforced will be crucial to the success of the Collaborative Economy. National or regional policies will be meaningless. Follow the lead set by those involved in developing the General Data Protection Regulation in its approach to extra-regional policy-making.

10. Stay ahead with policy

Policy makers should not try to make policy for current digital technologies and capabilities. Digital technology evolves so fast that policy implementation may lag behind and, generally, harms the prospects of what follows. Instead, policy makers should look ahead and devise policy in a manner that regulations are in place as technology arrives. A catch up approach might be problematic when chasing increasingly short technology innovation cycles.

11. Disintermediation and decentralisation will have profound effects upon society and market structures. Radically new ways of policy making, deployment and regulating will need to be developed.

Disintermediation is a key concept to emerge in this study. The technologies embraced in the Collaborative Economy will ultimately eliminate conventional professional people from the workplace and destroy large hierarchical corporations. Once services are decentralised, new means of enforcing policy measures and regulations should be constructed, perhaps in a revised Directive 1999/44/EC.

12. Protecting and regulating for the notion of individual identity

The morals and ethics of Identity and individual identity are concepts that will eventually need to be regulated in the Collaborative Economy; possibly in the same way as IP, and protected in the same way; through revisions of Directive 2014/26/EU, and Regulation No. 608/2013¹¹ (on customs enforcement of IPR). Ideas of individual identity need revision in the data-is-everything world. Not only is it possible to collect and store data about our activities and other aspects of our lives, now it is possible to capture appearance data. The ability to synthesise (parts of) people is a real consideration. New codes of morals and ethics need to be considered. When a printed everything is possible, what will “real” or “individual identity” mean?

¹⁰ <http://openeducationeuropa.eu/>

¹¹ Regulation (EU) No 608/2013 of the European Parliament and of the Council of 12 June 2013 concerning customs enforcement of intellectual property rights and repealing Council Regulation (EC) No 1383/2003

13. Objectively consider the fears of criminal use

It is true that all of the technologies covered in the study might be used for illegal purposes but so may any other technology. Cars can be used in burglaries and bank robberies; the proliferation of guns does not depend upon new forms of printing; big data is not the only repository of information useful to extortionists; terrorists have many means of collaborating and spreading their message outside of Internet collaboration technologies. It is also true that the technologies under investigation bring with them new and unusual problems that must be overcome before they can become mainstream.

14. Foundational issues associated with Access and Availability need to be addressed

In the Collaborative Economy, all data will be digital. Digital data are stored and processed in an electronic network environment. The services supported on the network will become a fundamental and essential part of most people's lives. Fair access to the digital environment will be essential. Fixed and mobile devices need reliable network connectivity. In many parts of Europe this is still not available even in the wealthiest member states. These gaps must be filled. Furthermore, the electricity supply that all electronic devices rely upon must be secured. Directives on electronic communications networks and services, namely 2002/21/EC¹², 2009/140/EC¹³, 2002/19/EC¹⁴, 2002/20/EC¹⁵, 2002/22/EC¹⁶, 2009/136/EC¹⁷ and 2002/58/EC¹⁸ (as well as its amending Directive 2006/24/EC¹⁹) and Regulations No 1211/2009²⁰ and No 531/2012²¹ (on roaming) all apply here. The education system is very wide and no technology will be adequate to solve all problems. Moreover there are many and fast evolving technologies while every region and country face specific challenges and have specific contextual factors. Therefore the policy options are intended as strategic approaches that provide a framework for decision-makers to define more concrete policies.

¹² Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services

¹³ Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services

¹⁴ Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities

¹⁵ Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services

¹⁶ Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services

¹⁷ Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws

¹⁸ Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector

¹⁹ Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC

²⁰ Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office

²¹ Regulation (EU) No 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union

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The study can be found at <http://www.europarl.europa.eu/stoa/>. A summarizing video clip is available on [YouTube](#).

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