

THE DIGITAL UNIVERSITY: INFORMATION SECURITY AND TRANSPARENCY

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ABSTRACT

The digital university has today emerged from its hitherto cloistered existence and become an open, transparent and crystal-clear, where information, data, publications, classes and projects are open to society, and the great functions of teaching, researching, and training qualified professionals are no longer fundamental decisions that are overridingly linked to the university sphere. The digital university was forged in the 20th century, and it has since revolutionised all previously known information systems. It has also raised some considerable management challenges. One of the basic aspects of this transformation concerns the data and information owned or generated by the universities themselves.

The universities, in spite of the budgetary constraints to which they have been subjected – sometimes due to the crisis–, should not remain on the margins of these changes, but engage fully in training future professionals and taking the lead in achieving the goals of the Information Society. There are numerous challenges facing universities in the 21st century –they will be required to be digital, open, transparent and crystal-clear. These challenges particularly concern the treatment, transparency, creation and negotiation of data and information. The goals of the digital university must be approached from the point of view of respect for individual freedoms and for citizens' fundamental rights.

KEYWORDS: *Digital university, data security, transparency of information, information society.*

I. INTRODUCTION

The digital university has today emerged from its hitherto cloistered existence and become an open, transparent and crystal-clear, where information, data, publications, classes and projects are open to society, and the great functions of teaching, researching, and training qualified professionals are no longer fundamental decisions that are overridingly linked to the university sphere. The digital university was forged in the 20th century, and it has since revolutionised all previously known information systems. It has also raised some considerable management challenges. One of the basic aspects of this transformation concerns the data and information owned or generated by the universities themselves.

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From a historical point of view, the Napoleonic university model that prevailed in some European countries until the 20th century was based on an educational system where one of the primary missions of universities was to train professionals and graduates; that is, people accredited by a licence to practice their profession. Here it is worth noting the analysis of Giner de los Ríos, who said “the German university is above all a scientific institution; the English university is educational; and the Latin one is professional”¹.

This university model has been totally displaced by the online university, among other reasons because universities are not outside the digital market. Quite the reverse –the University as an institution is closely linked to the sweeping digital revolution and the creation of the global market that has emerged as a result of this far-reaching change. Chronologically, this process started on January 1, 1983, when the Arpanet network, created by the United States Defence Department, was divided into one military network –called Milnet– and another civil network known as Internet, which was a technology originally connecting a network of researchers and managers in the field of information access and exchange. In Europe, the interaction between the digital society and the University is evident from the very instant the Internet was created. It is significant that the first e-mail ever recorded in Spain was sent from a university, the Madrid Polytechnic University, on December 2, 1985; it came specifically from the University's Data Communications Department in the School of Telecommunications Engineering.

Universities have been on the front line in creating the Information Society. The largest projects in this social model have all emerged from universities: Yahoo and Google started in the 1990s as research projects by students at Stanford University; and Facebook, before becoming a social network for use by the public, began as an Internet-based communications space for students at Harvard University. In parallel, the creators of these great projects are now seeking to have their own university. One of the enterprises worth highlighting is the Singularity University created by Google and NASA, whose mission is to educate, inspire and train leaders to apply technologies exponentially in order to tackle some of the major challenges facing Humanity.

All these new developments in the information society, which emerged from the universities themselves, have in turn transformed the very nature of these same institutions. Today the new tools are an integral part of the university fabric.

II. SECURITY AND TRANSPARENCY IN THE DIGITAL UNIVERSITY

The digital university holds vast amounts of information and data. Managing it all is one of the great challenges facing universities in the future, as they must ensure that the information is of the utmost quality, as well as being transparent, accessible, reusable, secure, and profitable. One of the most important aspects in the analysis of the online university is thus the issue of how to manage information and databases. Universities hold the key to some of a country's most important personal information databases, and to significant volumes of quality information.

¹ GINER DE LOS RÍOS, Francisco. *Escritos sobre la Universidad española*. Edición de Teresa Rodríguez de Lecea. Madrid. Espasa Calpe-Colección Austral. 1990. p. 117.

The importance of data in today's society is analysed by Víctor Mayer-Schönberger, who notes that "data is to the information society what fuel was to the industrial economy: the critical resource powering the innovations that people rely on. Without a rich, vibrant supply of data and a robust market for services, the creativity and productivity that are possible may be stifled"¹.

The importance of data in our society, as underlined by Víctor Mayer, can be seen in the important business of managing massive amounts of information –or "Big Data"–, which in some sectors has only just begun.

The European Data Protection Supervisor in its decision of November 19, 2015, states as follows:

"Big data, if done responsibly, can deliver significant benefits. (...) But there are serious concerns about the actual and potential impact of processing of huge amounts of data on the rights and freedoms of individuals, including their right to privacy. The challenges and risks of big data therefore call for more effective data protection"².

The concern of the European Data Protection Supervisor about the privacy of data has been analysed in the past by leading legal minds such as the American Supreme Court judge William O. Douglas, who decades earlier succinctly declared that "the right to be let alone is indeed the beginning of all freedom"³.

Universities should be highly sensitive to their databases and the quality information they contain, including the publications and research in their possession. Today, almost all universities have a *Google Analytics* service, a space where statistical data can be obtained. This service involves the use of data by people outside the universities themselves. The challenge is now for the universities that actually possess the data and information to tap into the potential of these products in their own benefit. Data mining is one of the big businesses of the future. Today, for example, thanks to data analysis it is possible to recall medication after analysing mass searches of adverse effects, estimate the map of contagion for a disease, and understand upcoming electoral results.

Another similar aspect worth noting in terms of data management is the permission for their re-utilisation for commercial purposes by the private sector. The opinion of the European Union Open Data Portal on this subject is that it has created a "single point of access to a growing range of data from the institutions and other bodies of the European Union". It goes on to say "data are free for you to use and reuse for commercial or non-commercial purposes. By providing easy and free access to data, the portal aims to promote their innovative use and unleash their economic potential. It also aims to help foster the transparency and the accountability of the institutions"⁴.

¹ MAYER-SCHÖNBERGER KENNETH CUKIE, Víctor. *Big data: La revolución de los datos masivos*. Turner Publicaciones S.L. 2013. p. 224.

² Executive Summary of the Opinion of the European Data Protection Supervisor on "Meeting the challenges of big data: a call for transparency, user control, data protection by design and accountability". *The full text of this opinion can be found in English, French and German on the EDPS website www.edps.europa.eu*, 2016/C 67/05) Official Journal of the European Union 20-02 2016.

³ Public Utilities Commission v. Pollak, 343 U.S. 451, 467 (1952) (William O. Douglas, dissenting opinion).

⁴ <https://open-data.europa.eu/en/data/>

According to a study by the European Commission in 2002, public bodies' data and information “is a potentially rich raw material for new information products and services”, and has an economic value which was estimated at that time to be 68.000 trillion euros.

The Spanish legislation on the re-utilisation of public sector information was approved in 2007, and follows the same line as the European Union Open Data Portal. The preface to this regulation sets forth the re-utilisation of public sector documents for commercial and non-commercial purposes.

Another largescale European project implemented in Spain was the transparent management of on information and data management in the public sector. The preface to Act 19/2013 of December 9 on transparency states that “transparency, access to public information and standards of good governance should be the cornerstones of all political action. Only when the actions of the public authorities are submitted to scrutiny, when citizens can see how the decisions that affect them are made, how public funds are handled, or the criteria used as the basis for the actions of our institutions, will we see the start of a process in which public institutions are called to respond to a society that is critical, demanding and which requires the participation of (sic) the public authorities”¹.

This law represents a further significant development in managing information in universities. Transparency is another of the mantras of the online university. In traditional universities in the pre-digital age, secrecy served to define their identity and drive their management, as the best way of ensuring the survival of the institution. Secrecy is one of the keys to power, which is why a large number of important jobs such as the faculty secretary, the general secretary and secretaries have this designation, as they are the depositories of the secrets of their post. The word “secretary” comes from the Latin verb *cernere*, meaning to remove or separate. A secret is something isolated, protected. In the age of transparency, the first to cast off the name of secretary in Spain were the legal secretaries, who on October 1, 2015, became known by the term of legal administration lawyers, as ordained in Constitutional Law 7/2015 of July 21, which amends Constitutional Law 6/1985, of July 1, of the Judiciary².

Transparency helps ensure control over public activity and dispels what eastern philosophy would call the “thundering silence”. However, there is a certain doctrinal sector which holds that behind the facade of transparency lies an attack on the public sector and on politics in its broadest sense. Contemporary philosophers such as Byung-Chul Han claim that politics is a strategic action, and therefore requires the existence of a secret sphere. According to this author, the online market requires things to be exposed and on display, and sees the value of secrecy –of separation– as negative. If the society of transparency is linked to politics, it will gradually bring about what this philosopher calls a “depoliticised space”.

¹ Act 19/2013 of December 9, on transparency, access to public information and good governance. Official State Gazette (December 10, 2013). Preface, paragraph 1. <http://www.boe.es/buscar/act.php?id=BOE-A-2013-12887>.

² Constitutional Law 7/2015, of July 21, which amends Constitutional Law 6/1985, of July 1 of the Judiciary. Official State Gazette (July 22 2015). Art. 440, p. 61618. <https://www.boe.es/boe/dias/2015/07/22/pdfs/BOE-A-2015-8167.pdf>

Byung-Chul expresses this idea as follows:

"Transparency is inherently positive. It does not harbour negativity that might radically question the political-economic system as it stands. It is blind to what lies outside the system. It confirms and optimises only what already exists. For this reason the society of positivity goes hand in hand with the post-political. Only depoliticised space proves wholly transparent. Without reference, politics deteriorates into a matter of referendum. The general consensus of the society of positivity is "Like". It is telling that Facebook has consistently refused to introduce a "Dislike" button. The society of positivity avoids negativity in all forms because negativity makes communications stall"¹.

In this order of things, Bentham, in his work *Panopticon*, designed a prison architecture to control individuals. Today the physical panopticon has declined in importance, as the digital society has absolute and unprecedented control over individuals without the need for this prisonlike institution, which the author describes as follows:

"A penitentiary house according to the plan I propose should be a circular building, or rather two buildings set one inside the other. (...) The whole of this building is like a beehive, whose cells can all be seen from a central point. Invisible, the inspector prevails –spirit-like– over all, but in case of need, this spirit may immediately make manifest its real presence. This penitentiary house could be called a Panopticon, which expresses its fundamental utility in a single word, namely the faculty of seeing at a single glance everything that occurs within"².

Along the same lines, Foucault studies Bentham's writings and states as follows:

"There are two images, then, of discipline. At one extreme, the discipline-blockade, in the enclosed institution, established on the edges of society, turned inwards towards negative functions: arresting evil, breaking communications, suspending time. At the other extreme, with panopticism, is the discipline-mechanism: a functional mechanism that must improve the exercise of power by making it lighter, more rapid, more effective, a design of subtle coercion for a society to come. The movement from one project to the other, from a schema of exceptional discipline to one of generalised surveillance..."³.

The digital panopticon of today's society is reinforced by laws regulating information transparency in the public sector. Universities have become a part of this panopticon, as they are indeed exposed so they can be observed and controlled, and take their place on the "longest main street in the world", as Bill Gates defines the Internet.

Universities cannot hide from the glare of the Internet, the searches, bids and virtual visits from Google, the social networks, with all the advantages in terms of publicity, and its drawbacks in the shape of possible damages and violations (damage to corporate image, identity theft, false claims, scams, online harassment and so on). On this point it is worth looking more closely at the details of the contracts for signing up to the social networks. If we take the example of Facebook, we learn that after accepting their contract, the maximum amount that can be claimed in the case of litigation is \$100, or –if greater– the sum we have paid in the last 12 months; and that in all cases, to achieve satisfaction we

¹ BYUNG-CHUL, Han. *La sociedad de la transparencia*. Barcelona. Herder Editorial, S.L. 2013. pp. 22 y 23.

² BENTHAM, Jeremy. *El Panóptico*. Ediciones la Piqueta. 1989. pp. 36 y 37.

³ FOUCAULT, Michel. *Vigilar y castigar*. 15ª edición. Madrid. Siglo XXI Editores, S.A. 1988. p. 212.

would need to go to the Courts in the District of Northern California or to a state court in San Mateo County. When we sign up with the social network we supposedly agree that these courts should have the authority to resolve any possible lawsuits. The contract for signing up to Facebook specifically states the following:

“Your privacy is very important to us. We designed our [Data Policy](#) to make important disclosures about how you can use Facebook to share with others and how we collect and can use your content and information. We encourage you to read the [Data Policy](#), and to use it to help you make informed decisions. (...)

You will resolve any claim, cause of action or dispute (claim) you have with us arising out of or relating to this Statement or Facebook exclusively in the U.S. District Court for the Northern District of California or a state court located in San Mateo County, and you agree to submit to the personal jurisdiction of such courts for the purpose of litigating all such claims. The laws of the State of California will govern this Statement, as well as any claim that might arise between you and us, without regard to conflict of law provisions”.

Then, in the third section they highlight, in capital letters, that they are not “**LIABLE TO YOU FOR ANY LOST PROFITS OR OTHER CONSEQUENTIAL, SPECIAL, INDIRECT, OR INCIDENTAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS STATEMENT OR FACEBOOK, EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES**”¹.

Recently this clause accepting the submission of lawsuits to the US courts has been called into question. A French teacher, an art lover and painting enthusiast, published a photo of Courbet’s painting “*The origin of the world*”. Facebook judged the image to be pornographic and cancelled his account. In response he took the case to the High Court in Paris as he considered the clause to be abusive, and they agreed with him. Subsequently, on February 12 this year, the Court of Appeal confirmed the competence of the French legal system to judge the American giant Facebook. The claimant is also suing for payment of €20,000 in damages, arguing that Facebook's action constituted an act of censorship that violated his freedom of expression.

Another important aspect of the information and data held in universities is their security. Computerised attacks on institutions and the leakage of documents can cause significant damage. Notable examples include the data published in the press by Wikileaks, the international media organisation that releases leaked documents containing secret and sensitive material of public interest; Snowden's leaked documents and information from the US National Security Agency; the so-called Panama papers; and Vatileaks, the publication of secret Vatican documents concerning cases of bribery and corruption. The leaks in this latest scandal include the Pope's private correspondence and its subsequent publication. All these incidents have rocked the Vatican and its power structure, and affected even the upper echelons. A reflection of the pressure deriving from this situation is the fact that never before have there been two popes, one emeritus and the other in active service.

Universities have also been subjected to multiple attacks on their servers, users, passwords and websites, which underlines the critical function of data and information

¹ <https://es-es.facebook.com/legal/terms/update>

protection and its impact on the very existence of the institution. Security is an asset and a fundamental principle of university management.

Another aspect of the digital market that is certain to have a significant effect on universities is the fact that the information produced in the university sphere will lose some of its impact and supremacy within important research groups. What is known as collective intelligence will move in to occupy the vacuum left by universities. Collective intelligence refers to a system where people learn, think and act in important projects outside formal institutions. Examples of this new line of action include Wikipedia, and the recent classification of the galaxies –a work which before was the domain of the universities, but is now done with the collaboration of around 100,000 volunteers. This phenomenon is occurring simultaneously with the current crisis in the process of creating contents. The emergence of non-creative writing theorists or –what amounts to the same thing– converting appropriation into a creative act is an issue that is currently being studied in one of the leading universities in the world, the University of Pennsylvania. The writings and website of Professor Kenneth Goldsmith are particularly interesting on this point, as they look at the processes of creation, appropriation and transformation of the material available on Internet.

Another interesting issue for the online university is the practice of what is known as cyberdemocracy in the institution. This democratic system will enable direct contact with the whole community through vertical relations, thus allowing greater participation and legitimacy for power. This increased participation may also have the drawback of destroying all the intermediate fabric over time. For this reason, some authors such as Pérez Luño are now analysing cyberdemocracy as a political system in which control over the individual takes precedence over democratic participation. This author states the following:

“There is a suspicion that teledemocracy promotes the vertical structuring of socio-political relationships. From this standpoint, the theory is that teledemocracy (or democracy at a distance) may be a vehicle for the progressive depersonalisation and political alienation of the citizens. It has been observed that instant and permanent referendum or voting would reinforce a system of «vertical communication» between citizens and their governors, instead of favouring channels for «horizontal communication». The tele-democratic system would lead to the depletion of the content – and ultimately to the abolition– of the intermediate structures and associative relationships between the State and the individual, in which human beings, as the social animals they are, become realised. Intermediate groups would thus be eroded and dissolved (political parties, unions, associations or collective civic movements), which are precisely the elements that reinforce and unite civil society and the fabric of community relationships that conform it”¹.

Following along the same lines, another point worth mentioning is that frequent use of the technological media may transform the individual into “a glass man”, as described in the

¹ PÉREZ LUÑO, Antonio-Enrique. *¿Ciberciudadaní@ o ciudadaní@.com?* Editorial Genisa. January 2004. p. 85.

decision of the German Constitutional Court in the case concerning the opposition to the population Census Law in 1983¹.

III. CONCLUSION

Universities must adapt to the information society in order to continue spearheading some of the quality information that is produced in these institutions. Another important function of universities is to participate and collaborate in training the million of new professionals that will be required in the information technology sector in 2020, according to data from Eurostat.

Finally, it is worth noting that universities, in spite of the budgetary constraints to which they have been subjected –sometimes due to the crisis–, should not remain on the margins of these changes, but engage fully in training future professionals and taking the lead in achieving the goals of the Information Society. There are numerous challenges facing universities in the 21st century –they will be required to be digital, open, transparent and crystal-clear. These challenges particularly concern the treatment, transparency, creation and negotiation of data and information. The goals of the digital university must be approached from the point of view of respect for individual freedoms and for citizens' fundamental rights.

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