
Case-Study 4: Universitat Oberta de Catalunya

A Sleeping Innovator

3.4.1.	Overview	205
3.4.2.	History	206
3.4.3.	Setting & Typology	208
3.4.4.	IT Setting	212
3.4.5.	Condition.....	215
3.4.6.	Knowledge Entrepreneurship.....	220
3.4.7.	Internet Use	222
3.4.8.	UOC Position (Institutional Results)	226
3.4.9.	Rival Explanations	229
3.4.10.	Unique Strange Attractors	230
3.4.11.	Analysis and Conclusion	233
	REFERENCES.....	236

3.4.1. Overview

When the Universitat Oberta de Catalunya (UOC) was created in 1995 it was the first university to offer certified university degrees exclusively through internet based distance learning. After focusing the first years on teaching only, in 2000 a research centre was opened and investigations began relating to the crosscutting theme of information and communication technology (ICT). On its foundation UOC was designed to be a lean institution, run by an experienced authoritarian leader who saw UOC's mission as one of satisfying the learning needs of as many Catalonians as possible. He hoped to achieve this service while still allowing the university to live out its semi-private semi-public institution status. Even though the university was not established with profit motives, it evolved to follow all state of the art private sector practices. Subsequently, a host of complementary and parallel business lines and companies were setup. Unfortunately, most ventures did not blossom and survive. In late 2005 the old leadership team was replaced and it was one of the new rector's first strategic decisions to transform institutional culture and practices to become more academically aligned, a closer approximation to the traditional idea of a university.

There can be no doubt that when UOC started, it was a true pioneer in the application of technology and a knowledge entrepreneur, as the opportunity to develop a new knowledge service was initially realized. In fact, constant technological innovation was the only way forward, as there were neither precedent, nor peers from which to learn. However, once the technological beast had been tamed, the technology backbone turned increasingly into a black box. The complexity of the soft- and hardware infrastructure became so high that around 2000 further development became more and more difficult due to the volume of individually documented and highly complicated interrelations and interfaces. The beast fell asleep in 2002 when a decision was implemented to discontinue the current virtual campus software and start anew. Because of financial struggles resulting from entrepreneurial ventures into the private education business, UOC decided to form a political alliance with other regional universities to solicit local government funding for the development of a new campus. It took until 2006 before the partners agreed and the development project could finally be launched. Since the development of the virtual campus was retarded by these changes, the Educational Technologies Department was mandated to bring in beneficial innovations whenever possible.

3.4.2. History

Before the UOC, only one Catalonian distance education initiative had been noted. In the 1930's the Mancomunitat de Catalunya, a vocational correspondence education programme, was setup by the Extensio Tecnica Professional. UOC was founded in the context of a re-emergence of the political and economic autonomy of Catalunya. In 1994 Jordi Pujol, Catalunya's long term president (1980 - 2003), initiated the project to found a Catalonian distance university after the Universidad Nacional de Educación a Distancia (UNED) denied the self-organisation of its Catalonian professors and thus effectively prevented the autonomy of Catalonian's higher distance education from its central campus in Madrid (UOC faculty 1). Naturally, Pujol consulted with Gabriel Ferraté (see UPC and UOC leadership for more detailed information), who had tremendous experience in higher education politics, and the two collaborated effectively to give genesis to what would become one of the most successful distance universities. The decision to base the university's pedagogy on internet based communication was a strategic, but also very opportunistic¹ one (UOC faculty 2). Given Ferraté's background as an engineer, he was not afraid of technology. Since his vision for the new university was an entrepreneurial and efficiency driven one (De Jonghe & Van Poeck, 2005), it was based on the idea of exploiting IT based opportunities for automation and the acceleration of communication. Consequently, the institution was designed as a semi-private entity outside the established university system in order to ensure the possibility for strong leadership with the objective of responsiveness to the rapid societal development. Hence, we witness a new organization; the Fundacio per a la Universitat Oberta de Catalunya (FUOC) – a consortium of local government representatives and key leaders from instrumental Catalonian

¹ Opportunistic is used here positively, as in taking advantage of an opportunity.

companies. This consortium was founded in 1994 as a 'holding' for the higher education enterprise.

Following his vision, Ferraté contracted the manager (who a role akin to that of a CEO) and the first bootstrapping management team² from his personal network and they immediately started to implement his revolutionary plan.

The fact that UOC started to admit its first two hundred students already in the following academic year 1995-1996 indicates that Ferraté did effectively create the non-bureaucratic university he had in mind. (See the business model for an analysis of the economic- and organisational-aspects, as well as the e-learning platforms for the pedagogical and technological aspects of the UOC model).

Professors remember how in these early days of the web and of IT in Spain, students had to be taught how to use a mouse and the whole setup was highly experimental from the technological point of view. And a successful experiment it was indeed. In the following year 1500 students had already matriculated. It was thus that the first version of the virtual campus that did not require special client software was introduced. In these very early days, the pioneering atmosphere of the web was ubiquitous- but was coupled with a feeling of taming a technological monster that bucked forward in surging complexity.

In 2000 UOC's biggest strategic (joint-) venture was formed with one of the central Spanish media companies in order to enter into the Latin American market. The joint project lasted until 2004, when UOC bought up all shares of the joint venture and now maintains internationalisation activities on its own. Today, there is one established UOC subsidiary in Mexico, which is developing organically, but which faces competition from Mexico's national distance education provider. Additionally, UOC has strategic outposts in Beijing and Brussels. In early 2006, after a political power shift in Catalunya's government, Dr. Ferraté , who had created and lead the UOC for 11 years, was ousted form his own university. Dr. Ferraté , who at that point was 74 years old, did not leave under harmonious terms, but to a certain degree he did not leave the institution another choice. There was, and still is, no defined term length for the rector; Instead, the council appoints and re-elects the rector on a consensual basis.

A new era began at UOC, when in late 2005 Imma Tubella took office as the institution's second rector. Prof. Tubella, who knows the university well through her long engagement as professor and researcher, has set out to turn UOC into a '*great university*' (UOC, 2006), which she seems to contrast to the business logic driven institutional mindset promoted before. Naturally, she has replaced almost the whole management team, as well as partially restructured the organisational architecture. Nevertheless, while subtle changes in the

² Instead of an academic leadership team as in a traditional university (ibid. p.8)

collective mindset are observable, up till now (2007), the new management has not publicly presented their elaborated strategy. Nevertheless, several projects representing the new, more academic line have been initiated. For example, all UOC faculty is urged to obtain doctorate degrees, and research has been given a more central role than under the old leadership. It is still too early to sincerely evaluate the changes thus initiated, but it can be said that UOC is still a very young institution, and one that has accomplished much in its short history.

3.4.3. Setting & Typology

3.4.3.1. Members

UOC has shown an incredible student growth rate. Today it boasts an enrolment of 40,707 students, taught by 1462 online mostly external tutors and about 160 UOC professors. The student body is emotionally and strategically coached by 305 counsellors (UOC, 2005). 93% of UOC's students are working and 77% have previous university experience. Hence, UOC's courses are focused on a target group of people between 25 and 45. Almost 73% of the students come from Catalunya, 22% from the rest of Spain and 5% are foreigners (EIPais, 2005), the latter coming from 45 countries (el Mundo, 2006). Despite the foreign element, the vast majority have some relation to the Catalanian language. In fact, in 2001 60% of UOC's students were living in Barcelona (Ros Híjar, 2001). The most international part of the UOC is the doctoral program where (in its fifth edition) slightly more international than Catalanian students participate (UOC [web](#)). UOC has a slightly higher percentage of male students (56%) which is most likely due to the inequalities regarding the perception of technology as a barrier.

Even though young people also take UOC's services in their educational development, the university's official mandate is understood to be offering learning opportunities for adults interested in continuing their education. Many students are taking the chance to improve their career chances by enrolling in a UOC course after they just started working (31,6% of students are between 25-29). Hence, even though this condition does not play out in academic decisions, the UOC's students are on average much older than students at other universities.

3.4.3.2. Location

In the case of the UOC, two types of physical locations exist. First, the spatial setting of the core administration, faculty and the research centre, and finally the support centres. When the UOC was founded in 1995 it took its venue in a representative building in Barcelona, which still hosts the university management and some faculty. Over the years, several new spaces have been added following the UOC's natural growth pattern. In 2001 and 2006 a research centre in the outskirts of Barcelona and a big building in the new business district have been added, respectively. It is clear that the UOC is a highly dispersed organization by nature, even without the support centres, which are naturally spread far apart from each other.

As marketing points and to further facilitate student administration and community activities, 11 support centres in Catalonia, and eight throughout Spain, have been setup at points with high UOC student populations. Additionally, as described in the history, UOC has one subsidiary in Mexico which also hosts a support centre. As a more strategic global effort, UOC has setup support centres in Beijing and Brussels as well.

Even though physical location has to be read in a less dominant context than with the other universities (because it does not directly influence the learning experience) it remains an important aspect of inquiry. For the UOC, the fact that its administration is distributed widely across Barcelona hinders cross-departmental collaboration and a community atmosphere, even though UOC's staff is naturally very computer savvy and capable of replicating many communal aspects through online substitutes.

For the students, the availability of the support centres makes the learning experience less virtual, which can improve learning and motivation for some students. However the exploitation of the support centres as a collaborative learning space is generally not fostered as conditions are meant to be equal for everybody (UOC student 21).

3.4.3.3. Specialization

The UOC is offering the equivalent of bachelors and master degrees in eight academic disciplines. While most of the disciplines are selected for their suitability for distance education, there are also some studies, like psychology or languages, where the limits of online pedagogy is a great challenge to the professors. Nevertheless, UOC's specialization can be clearly stated as Social Sciences and Computer Sciences. In fact, of UOC's 40 thousand students: nearly 20 thousand are doing Business Studies, 11 thousand are in Computer Sciences and Multi-Media, 8 thousand are in psychology and Educational Sciences, 6 thousand are in Law and Political Sciences, 4 thousand are in Humanities and Languages, while the rest are enrolled in rather small faculties (UOC, 2005).

In research, the UOC has decided to focus on one theme – information society. Research was added to UOC's practices in 2000 when the internationally eminent sociologist Manuel Castells was chosen to guide the efforts of the university in this gambit. The university's thematic research centre, the Internet Interdisciplinary Institute (IN3), was founded with the aid from the Catalanian and Spanish government and the European Union³, and the UOC began its work on a large-scale multi-sector research project (PIC) to investigate the conditions of the Catalanian region in regards to the "information society." The IN3 also houses the virtual PhD programme on the information and knowledge society that accommodates and frames this present research project.

³ Who subsidized the building

3.4.3.4. Business-Model

Probably the most unique aspect of UOC as an institution is its juridical form. The university itself is not a juridical person (BOE, 1995). As seen in figure 3.4.4 it is a line of operations or 'brand' of the UOC Foundation. The Foundation is a non-profit entity with the mandate to provide life-long-learning opportunities and related knowledge services and products. It is founded and led in equal parts by the local government and private enterprises. This has most interesting implications for UOC's status and subsequent *modus operandi*. Because the Foundation is half private half public UOC can manoeuvre and argue on a by case basis whether to apply public or private status. This has far reaching practical business consequences. For example like a private university it has more far reaching freedoms in determining most aspects of its price structure but on the other hand it can participate in state funded joint public university projects.

Exploiting this hybrid condition, UOC's business model stands on four legs. As a semi-private educational institution it receives governmental funding, which used to make up about half of UOC's income (Sangra, 2003) but this subvention is lately declining to about 36%. Next, it charges student fees, which are dependent on the national origin of the student as well as on the type of program in which they are enrolled. In fact here is where its hybrid status has the most significant effect, UOC practically functions as a public university for Catalanian students - and as a private university for Spanish and foreign students, who pay about three times the price of the subsidized locals (*ibid*). In 2003, fees made up about 44% of the university's budget (In 2006 about 60%). Furthermore, the university is quite successful at winning funding from regional, national and supra-national bodies. Such success facilitated many of its research facilities and conduct projects. Finally, there are UOC's private companies, which are known as UOC Group, as well as business of UOC 'like' a private e-learning provider.

As alluded to in the history section, UOC was, from the beginning, set upon a rather business oriented trajectory. Even as the intention of the leadership was to limit the growth of tenured faculty and researchers in order to guarantee agility and effective leadership, emerging business opportunities were realized with determination. Hence, UOC setup a host of for-profit companies, operating under the UOC 'Paramount Foundation,' each meant to allow for further expansion of the not-for-profit core entity – the university (figure 3.4.1).

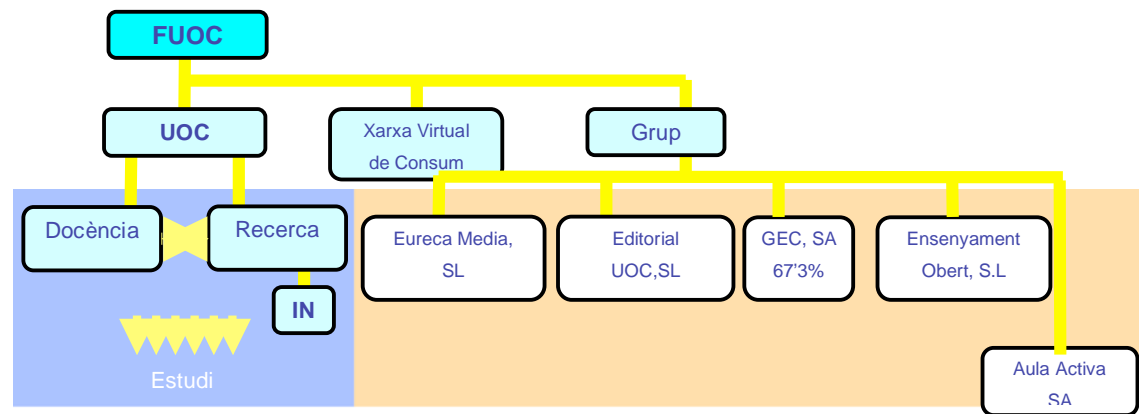


Figure 3.4.1 - Organigram of organizations of the UOC Foundation

According to ex-vice-manager Carles Esquerre, “this network of companies develops from an entrepreneurial spirit to offer UOC generated services to the society and at the same time generates a cash-flow that nurtures the university financially” (De Jonghe & Van Poeck, 2005, p. 10). Generally, this part of the business model is reported to have delivered mediocre results. While some of the companies have been able to evolve to a self-sustaining level, various others went out of business, or had to be maintained through interventions made by the university. This situation extended into 2005 but strategic management decisions were fruitful and in 2006 almost all enterprises were profitable (UOC, 2007b). In 2006 UOC’s ‘private business’ activities (including delivering ‘corporate training’, e.g. for the local police) has brought in ca. 4% of the funds.

As mentioned in the history, UOC always had very close relations and partnerships with both local and national companies. At present, it is offering corporate e-learning solutions through the ‘g e c’ company. This strategic service bears much resemblance with the LSE Enterprise.

3.4.3.5. Finance

Despite the fact that UOC is a private foundation, its finances are controlled by the Catalan Government (Sangra, 2003). UOC’s overall budget in 2005 was 46,741,145 €, and in this year alone it made investments of more than 5 million Euros. These figures only reflect the finances of the university⁴. In general, UOC has a rather high standard working conditions in the office space it provides, and the fixed staff report to being satisfied with the payments. The ‘external staff’ of hired teachers are less satisfied, reporting medium-to-low satisfaction due to low salaries.

In liberal fashion, UOC is donating 0.7% of its budget to direct international cooperation activities (Sangra, 2005).

⁴ Statements for the businesses of the UOC group could not be obtained.

3.4.4. IT Setting

3.4.4.1. History & Approach

The UOC was born with the promise of efficiency gains made possible through internet technology. The venture was started with an internet connection based on a rack of 30 modems in 1995. For the first years, the virtual campus was a stand-alone software platform. The internet connection was increased to 2Mb the following year. Generally, the system grew rapidly to serve the exploding user base. UOC started in 1995 with 200 students and in 1996/97 it already had 1500 students connecting themselves to the interface through Telefonicas Infovia service. Over the years, the architecture of the core application – the virtual campus – has evolved from a ‘closed non-standard solution,’ to a monolithic, but more standardized solution using mostly CGI scripts (1996,) to its third generation version utilizing mainly Java (2002). Development of the virtual campus was basically frozen from thereon-- due mainly to financial constraints, and because since 2004 a complete new version was planned. Today, that project is now taking shape in the form of a UOC led project to develop an free software based campus for all Catalanian universities. The project is substantially financed by the Catalanian government, which was formative in its long political anamnesis.

In spite of the important role technology has played in the functioning of the UOC, the organization has always stressed that the student’s learning itself, and not the medium of its transmission, was deservedly at the centre of its pedagogic attention.

From the very beginning, UOC opted to outsource most of its technological development (UOC faculty 3). Nevertheless, they maintained a reasonably small team of computer specialists who monitored, and tweaked the system as per necessary. This solution proved less expensive than spending high amounts of money on continuous in-house development.

One of the leading IT consultancies had been entrusted to review the architecture in 2003, and again in 2006, and their advice continues to serve as a blueprint for strategic technological decisions regarding model and process development.

The appropriation of innovations meant to enhance UOC’s knowledge services is entrusted to the Educational Technology Department. Here, eight fulltime staff and 16 freelance specialists dedicate their efforts to scan the market for innovations. The department is receiving only basic funding from the university (480,000 € in 2007) and has managed to secure 1.5 million € (in 2007) The UOC has achieved these numbers by pursuing opportunities at the regional and national level, in partnership with other companies and universities. Recently, they have also begun to address both foundational and European Union funding (UOC administration 35).

3.4.4.2. IT Infrastructure

In 2007, UOC spent around 11% (5,532,040 €) of its overall budget on IT services and hardware (UOC management 29). Considering that there are only 37 employees to be paid from this budget, there is sufficient room for development. However, this was not always the case, stakeholder reports show that IT investments were not sufficient for several years during the final phase of the first management team (UOC management 24). This perspective seems relatively true⁵ when reviewing the concrete receipts of money spent (see table 1).

	2004	2005	2006	2007
Cost	1.834.178,43	1.958.507,44	2.061.911,58	2.670.732,91
Investment	1.225.746,25	1.504.654,38	2.175.873,74	2.861.307,66
Total	3.059.924,68	3.463.161,82	4.237.785,32	5.532.040,57

Table 3.4.1 - UOC's IT budget development

UOC installed and still maintains the servers for the virtual campus which serves about 70,000 logins per day, or-- 24 and a half million logins per year (UPC management 25).

All of UOC's work stations come with an internet enabled PC and employees have the option to connect to their workplace from home over the internet. The intention of the IT department is to have the workstations replaced every three years (UOC management 30).

At the time this research was being conducted, UOC had undergone a profound reassessment of its IT infrastructure⁶. The result of this self-reflection was a genuine evaluation that asserted several problems. Specifically, out of the 19 elements considered essential for UOC's IT landscape, only three were without issues, while four were singled out as having big issues, and 11 were cited as having 'some' issues (Gartner, 2006). A fundamental reorganization of the systemic architecture, which will end the monolithic composition of functionalities (outlined in illustration 1), has been thusly recommended.

⁵ The budget nearly doubled since 2004 but the increasing trend was already present during the last years of the anterior management.

⁶ implemented by one of the top five technology consultancy firms

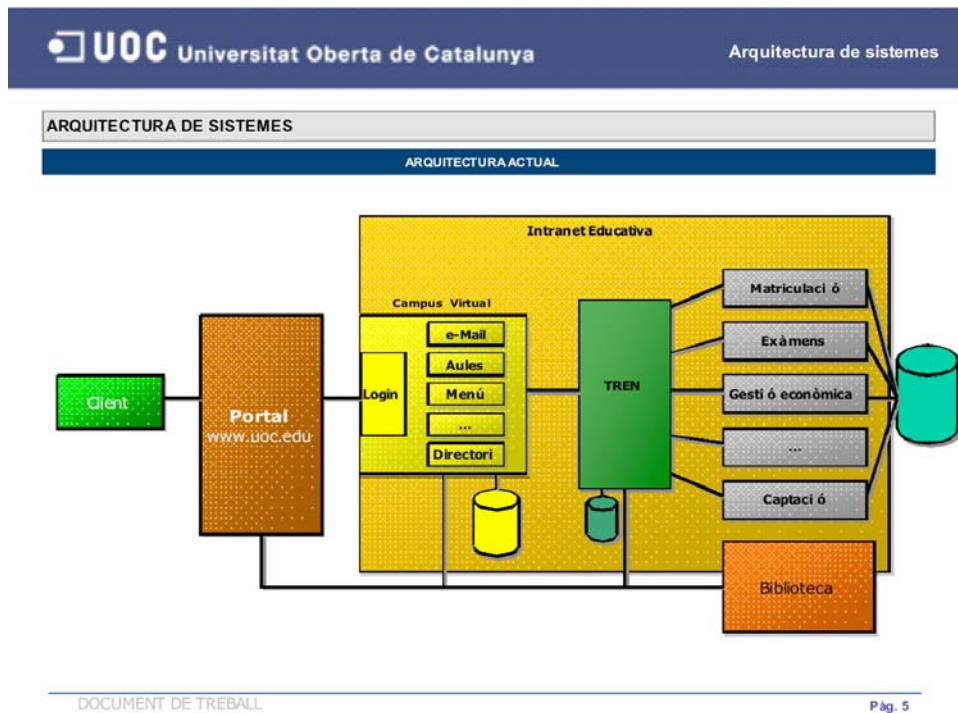
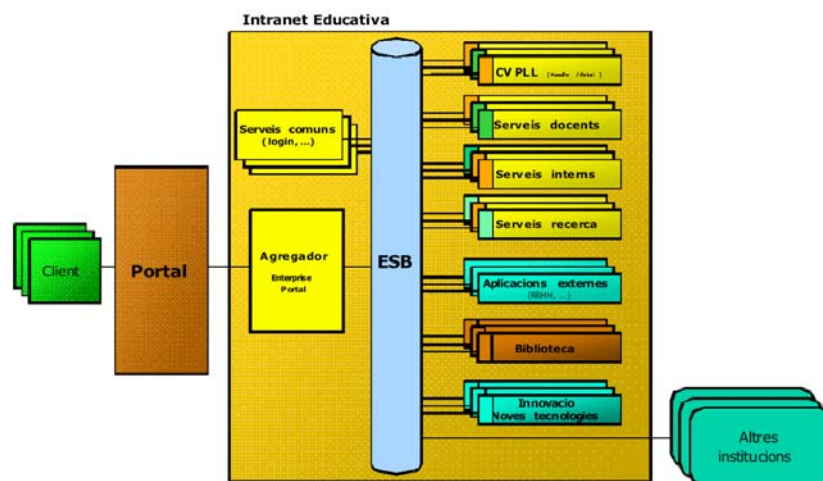


Figure 3.4.2 - UOC current IT Infrastructure

In the current system, there is a very high degree of complexity and abundant interfaces because, as can be seen in the diagram, there is one central authentication function (TREN). Contrast these between a host of back-end services and front-end services that were gradually developed, making the TREN function a highly complex non-standard piece of software.

The external consultants, in close collaboration with several UOC specialists, have developed a proposition for an IT strategy that is meant to give UOC an IT landscape using global standard based enterprise architecture (namely Service Oriented Architecture). The suggested plan has been presented to the 'techie' community and, after having been debated among the internal stakeholders, its implementation is set to begin (see figure 3.4.3).

ARQUITECTURA DE SISTEMES



DOCUMENT DE TREBALL

Pàg. 31

Figure 3.4.3 – UOC future IT Infrastructure

3.4.5. Condition

3.4.5.1. Leadership

As with the LSE, the historic and the current leadership teams are portrayed in order to grasp a full view of both the past and current leadership conditions. The historic condition has been aptly described by the UOC's former Director for Continuous Education: "*Gabriel Ferraté is the leader with a view for the future, the one who always searches for new ways to improve the organization. Xavier Aragay is the 'receiving' leader, who clearly sets and defines the objectives to put the ideas of the rector in place*" (De Jonghe & Van Poeck, 2005). So, similar to the FU, today the UOC had a visionary rector and a swift implementing right hand administrator. Also similar to the FU, this historic leadership of the UOC had a rather patriarchal and authoritative style. Resulting from his experience with the political university system and internal university practices, Ferraté first created a "list of things that were to be avoided," which contained the following point: "*In traditional universities I needed three years to reach something due to all the obstacles which one encounters*" (ibid. p.2). In fact, while the university was given the paradigm of the client centred organisation under their rule, internally employees joked that it was actually a solar system with the rector at the centre (UOC 6). The university was set up and managed like a business wherein the organisational functions were perceived to be of more importance than an academic need for special treatment. One indication of this condition was the long struggle that transpired before a worker's council had been organized. The initiative had to be implemented using an external union party to request

its creation because the employees were anxious about upsetting the management. Decisions were made by the lead entrepreneur following the understanding that the university was his creation. While Ferraté officially included the right to such 'errors' in an informal house rules document, the authoritarian style resulted in a situation where university staff was not integrated in the decision making process and the rapid expansion of UOC's spin-off companies was only one result of the personal vision of the leadership team.

This era ended on the 12th of December 2005, when Imma Tubella was named the new rector of the UOC by the board of the UOC Foundation. Mrs. Tubella holds a doctorate in social sciences and had previously been UOC's vice-rector for research from 1999-2003 and, since its inauguration in 2000, she has also been co-directing UOC's research centre IN3. During her distinguished career Mrs. Tubella has developed a clear profile as an expert on the 'information society,' and especially the Catalanian identity in this ICT-centric age. It comes hence as no surprise that she immediately stressed research and a general 'academization' of UOC's teaching staff. Under her leadership, several new research lines have been started and staffed with young researchers. Also, all UOC faculty is strongly encouraged to engage in, or quickly finish a PhD project.

UOC's constitution states that the vice-rector posts are self-selected by the rector; Consequently, Mrs. Tubella has chosen her new management team. The new management team held several strategy sessions and has since shared with the UOC community their strategic principles and objectives. The program stresses the following development: "*to move from a great project to become a great university*" (UOC, 2006) which allows insights into the leadership's core value set. This point is further elaborated by the UOC's desire to maintain its founding principles whilst evolving into a proud benchmark of academic quality, stellar education and cutting-edge research. Furthermore, the team plans to anchor and integrate the university deeply into the European higher education schema, while at the same time stressing and expanding its growing regional importance as a Catalanian institution. Also, the central objectives reveal the team's assessment of the current situation and their central emphasis; the first point of which is a change in organizational culture. What Mrs. Tubella and her team are looking for is participation and co-responsibility. Another point stresses the technological relaunch of the virtual campus by using free software and incorporating recent innovations such as blogs and other multi-media services. Despite these goals, institutionalized organizational culture and ingrained decision-making channels prove to be challenging bodies to change. Mrs. Tubella has struck a decidedly different leadership chord, but it still seems that it will take a while for the trickle down effects to have adequately reached all parts of the organization. As a leader, she is reported to be more of a team player and a person willing to delegate responsibility.

She is also the only rector in this research sample, and is in fact one of the first university rectors world wide who is pioneering the use of a personal blog as a legitimate communication

medium. This blog has been celebrated by stakeholders as a great communication channel and a means to learn about the personal perceptions of the institution's leader. Dr. Tubella uses her blog primarily to share interesting information, but sometimes she also reflects and shares her first-person understanding of UOC related matters.

3.4.5.2. Governance

As already alluded to in the history and the leadership sections, the UOC was setup to have an effective top-down double-headed leadership structure, implemented by the rector in concert with the manager. They, in turn, are supervised by the Governance Board for University Matters, and the Board of Trustees, in questions regarding UOC's group enterprise activities.

In contrast to the other universities, UOC is a non-profit private foundation, with the Catalanian government as its main trustee. The UOC Foundation (FUOC) is the 'paramount holding entity' under which all UOC related activities take place. It consists of the university and a host of up-and-down-stream enterprises, which e.g. produce multi-media content for UOC or publish books and other products sold through the university. FUOC's chief executive is UOC's manager who reports to a group of representatives of the founding companies and the government. This board of trustees have oversight power to dismiss and appoint the rector and the manager, and authority to approve or request changes to the constitutive and strategic organizational matters. The board is assisted in its functions by a parallel FUOC committee; The committee consists of members of the Catalanian government and a broader stakeholder group, both bodies represented in an advisory role. The daily business of the FUOC is conducted by the permanent commission (See Figure 3.4.2).

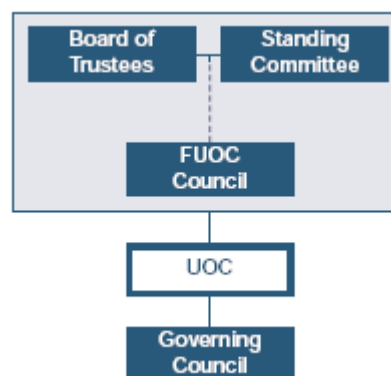


Figure 3.4.4 – UOC Governance Structure

The business of the university itself is steered by UOC's Governance Council, which plans and decides the UOC's organizational development. The council is constituted of the management team (the rector, the vice-rectors and the manager), who themselves also preside over the strategy and coordination commission. Furthermore, the strategic commission is made up of the leaders of the academic departments, the functional leaders and the leaders of the

companies. The 25 people participating in the strategic commission meet once per month to debate strategic matters.

After realizing that the faculty, as well as administrative staff, do have the intention to express and contribute their views to the organization, the Academic Commission and the Management Commission have been created to give them such a space for debate.

There is no democratic element in the governance structure, instead, all selections and decisions are based on merit and/or leadership criteria; even the rector is appointed by the Catalanian government on the basis of a proposal made by the trustees.

3.4.5.3. Culture

Catalonian

The commitment to the Catalanian region and culture is surely the most obvious and celebrated feature of UOC's organizational culture. Catalonians are a nation that is still recovering from the atrocities of the Franco dictatorship and in consequence, all stakeholders promote the UOC internally and externally as a hotbed for the creation of a vibrant Catalanian information society. Hence, the university is constructively contributing to the creation of a new Catalanian identity based in research and education but also through dissemination and discursive events.

The Catalanian cultural factor is so strong that as late as 2001 Híjar reports that there were doubts about offering courses in Spanish (Ros Híjar, 2001). Today, internationalisation and multilingualism have become part of the new leadership team's strategy (UOC, 2006, , 2007a).

Business Venture

The UOC has been a hybrid between a public and a private for-profit university since its beginning. It is the grand project of the new leadership team to transform the institution into what academics understand under the ever evolving idea of the 'university.' The most conspicuous proof of UOC's business culture is the language used to describe its practices and institutions (e.g. Product Management System (Sangra, 2003, , 2005)). Híjar (Ros Híjar, 2001) describes this development to have entered in UOC's culture beginning in 1997 when, according to her, the university developed a new language and a new direction. She lists a number of terms, like 'client', 'cost-effective', etc., that were introduced and, in the beginning, caused problems with the professors and the e-learning consultants. She states also that it did not take long before the students got the image that the UOC "*is a money making machine*" (ibid).. Another indication for the lack of academic culture is the low rate of faculty without a PhD (70%) while 35% do not even have a masters degree (Sangra, 2003).

As outlined above (section 1.4.1 on Leadership) the new rector has explicitly set the objective to create a more academic culture. Nevertheless, the traditional culture has been well established since its foundation, and transformations will take time and effort to self-realize.

Oxymoron

The UOC is, even more so than other institutions, something different to each stakeholder, and especially to the students. Several conditions cause this perception, but mainly it's the university's virtuality, which allows for a greater emotional distance, and secondly it is the exceptionally wide variety of students settings. The UOC is perceived as having many paradoxical characteristics at the same time: Some students, mainly those who live in the countryside, enjoy the internet based services as a great technological improvement, and see it as a vanguard educational platform (UOC student 26) while others, who might be more technologically savvy and follow the impressive internet evolution, perceive it as lacking (UOC 27). Some students experience the community elements as very attractive and develop social networks and friendships (UOC student 31), while others do not participate in the community life at all (UOC student 32). A third and maybe the most relevant and difficult aspect concerns the learning. Some students are de facto experts on their subjects, they take the courses to certify their knowledge and add some theoretical augmentation. Others simply want to improve their career chances but are not interested in the intellectual challenges involved. Still others are sincerely interested in their subjects but they pose a severe workload and challenge to certain students.

Of course there are always perceptual discrepancies like the ones described, however, because of the more extensive variety of student backgrounds and expectations, and because the UOC experience is less immersive, it is more difficult to find one generic 'student' identity.

3.4.5.4. Organizational Learning

While research and teaching on knowledge management is implemented by UOC experts, no specifically defined organizational learning or knowledge management program could be identified. Knowledge sharing happens on a collegial basis and in social networks. The UOC website and especially the intranet serve as an organizational memory, a place where institutional documents, policies, etc. are stored. This unregulated and organic system is used rather than a codified communication or collaboration platform. Hence, there is no culture to critique, nor an adequate way to discuss the institutional texts among the UOCian public, much less offer contributions to their pedagogic development. A suggestion mail box, similar to the 'bright idea institution' at the LSE, is hardly ever used (UOC management 30) due to lack of institutional incentives and culture. There is an application that serves as an internal phonebook and it also offers some yellow page functionality as it allows for functional browsing

through the organizational charts. UOC does not offer any informal spaces besides the canteen, but maintains a rather informal style in general by mostly providing shared office space and a casual dress code.

3.4.6. Knowledge Entrepreneurship

3.4.6.1. Environmental Awareness

UOC stakeholders naturally report to an extensive use of the internet for keeping themselves up to date on their respective fields of interest. They are generally members of mailing lists, and habitually read articles in the magazines and journals that deal with their subjects. Like their peers in the other university faculties which were investigated for this thesis, UOC staff also participate in conferences and interact freely with their peers. The linguistic group of Catalan scholars witnesses above average levels of exchange. The local administration offers media for the professors to share didactic materials through the libraries. Even though virtually all of the interview partners understand English, there is a certain language barrier which made Spanish or Catalan idioms more dominant. There are also institutionalized information services in the form of mail bulletins which share information about the academic congresses and other scientific opportunities.

When it comes to internet based innovations, word of mouth is the general way relevant technologies are communicated. For the IT professionals, there is a community of practice that holds meetings and has a “virtual workshop” where discourse and sharing is allowed to happen. In practice, information is exchanged in private networks.

3.4.6.2. Entrepreneurship (Strategy & Vision)

The university has founding documents, which outline a rather holistic vision for the university to serve and facilitate society's improvement in its transformation towards an information society (Generalitat, 1995; , 2003; UOC, 1996). On the practical side, the university's leadership develops a mid-term strategy every three years. They hold thematic workshops and each area is developing its objectives and priorities. In a separate process, employees are asked to define their individual goals, which are naturally somehow connected with an overall strategy.

As in the case of the FU and the UPC, no ICT strategy or vision is developed. Rather, technological values and objectives form part of the larger institutional strategy and are given room to emerge organically. In general, UOC is in its current moment, describing itself as an ‘integrator not innovator’ of emerging technologies (UOC management 22). Given the scale of its operations and the Spanish location, it is nevertheless on the forefront of this virtual pedagogic environment.

As described in the section on the technology approach, it is also worth mentioning that UOC has chosen to outsource a substantial part of its technology development; while the final decisions are implemented by the vice-rector and his confidants. Meanwhile, for the long-term assessment of macro technological evolution, (including the development of scenarios and recommendations) the UOC has successfully contracted one of the leading technology consultancy firms.

3.4.6.3. New Project Support

As in most other universities⁷ no defined process for the initiation of a new project exists. Instead knowledge technology innovation has a home in the Educational Technology Department. Due to the pedagogic approach and the business model, and in contrast to the other universities, the academic freedom of the professors is constrained, because the material has to be first developed and then the course is later implemented by contracted consultants. For each new 'teaching project' to be started, the educational viability and the business potential has to be established. The decision usually lies with the dean of the program but it is a joint political decision in actual practice.

As said, new projects in the area of internet based tools are institutionalized in the Educational Technology Department. Here, new functionalities for the virtual campus are test driven and then gradually added to the 'life space.' The department has an existing budget for testing and running experimental projects.

3.4.6.4. Risk Tolerance

As in the UPC, risk is perceived as something incompatible with university practice (UOC management 33). Naturally, risk minimization has been stressed by decision makers, possibly because UOC had engaged in several entrepreneurial ventures that were not particularly successful. These included small start up's as well as bigger efforts like the cooperative alliance with a media company to expand into the Latin American market.

The constant evolution of internet based technologies makes it impossible to enter into a new sector without taking a risk, and UOC's stakeholders are aware of that. The IT professionals are continuously assessing new tools but are rather cautious in introducing new functionalities to the virtual campus. Two reasons have been stated: Security is a constant concern of system administrators, the second is associated with familiarity. The UOC hopes that the users are comfortable with the system the way it is, any changes have to be of proven benefit before they are implemented (UOC management 34). According to the vice-rector of technology, risk is still not accepted as a necessary part of 'campus life' (UOC management 40), but the leadership is facilitating the necessary techno-cultural changes.

⁷ except the UPCnet

3.4.6.5. Communication

UOC has the most developed internet based communication practice of the universities investigated. It provides a host of communication channels. In fact, there are so many in existence, that it is difficult, if not impossible, to be aware of them, let alone to speak about them or to scan them all. The latter is made more difficult by the fact that the contributions cannot be read through RSS⁸ or UOC external mail, but are available exclusively within the circuitry of the virtual campus⁹.

On the one hand, UOC stakeholders are well connected, but these connections are developing almost exclusively around the individual employee's network. As stated, various public and special community channels exist but these are used to a much lesser degree¹⁰.

With respect to the communication about new internet based innovations, communication is happening in social network channels.

3.4.7. Internet Use

3.4.7.1. E-Learning

Tools Integration (Technology)

As touched upon in the section on UOC's IT history and approach, the university has a lean model of technology development and planning. The identification and exploration of software tools that might be beneficial to the learning practice of the students has been institutionalized in the Educational Technology Department. Once a technological opportunity has been assessed positively, it is next implemented in a test environment where further evaluation and testing is underway. Innovations tested in this way undergo a fomenting process until a certain positive threshold is reached, a suitable 'live' test can be arranged and the political climate is assessed to be adequately suitable. New technology like wikis and blogs are then deployed in some courses- on a voluntary basis at the professor's discretion.

Special mention has to be made of UOC's own e-learning developments. Despite its general approach of utilizing available technology whenever possible, UOC has a long tradition – starting with the campus itself - in developing innovative software to solve problems where no standard solutions have yet been developed. One example of such a tool is the MyWay application¹¹ which allows the transformation of content into different formats. MyWay uses the XML formats feature of separating and structuring content and presenting information in order

⁸ Real Simple Syndication – a information exchange format

⁹ There is the possibility to have the messages forwarded to an external mail account.

¹⁰ The internal forum has had 86 postings and the notice board 39 in 6 months (18.12.06-16.5.07)

¹¹ <http://www.uoc.edu/in3/myway/>

to enable the same textual content to be favourably displayed: on paper, on a website, accessed through web-interfaces for the impaired, having the content recorded to be played on a DVD-player, or transformed into an audio-book.

Current Practices (Use Cases)

The following paragraphs outline the organization of the e-learning platform imparted by the UOC. Each field of study is managed by a director who reports to the governance council and participates in the strategic committee. All careers within one field are managed by a program director who is the overall manager of the educational conduct within the line of study. The actual e-learning, is delivered through a highly distributed collaboration of subject specialists. The e-learning material is developed by the course author, whose work is then put into a multi-media format and home study packages (consisting of text-book-style reading material and sometimes books and CD with video or software) by one of UOC's sister companies. Once the course is produced, one of UOC's teaching staff is made responsible for the academic supervision. He/she takes care of managing the course tutors, who are the ones who actually lead the courses and deal with students, etc. Additionally, each student has an assigned counsellor, who consults and advises on whatever questions the student might have. Last but not least, there are support functions implemented by the technical program manager. This individual ensures correct compliance within the administrative/bureaucratic flow of the activities being implemented by the students and professors.

UOC's pedagogy has been developing since the first years of operation and is now constantly being refined through the application of insights from UOC's own research into, and reflections upon, its own practices. UOC's initial e-learning approach has been laid out extensively by a volume developed by UOC stakeholders and edited by Sangrà i Morer & Duart Montoliu (2001). The approach and tools developed in the first years have proven to be effective, and they have therefore been only partially amended over the last years¹². Up till now, UOC's pedagogy has been purposefully, and exclusively asynchronous (Ferrate Pascual, Alsina, & Pedro, 1997). Basically, each course has at its core, a virtual classroom with a calendar, a forum, and a digital learning resource library, and printed textbook style material. The students engage in text-book work and, if adequate, complete the exercises and send them to their teacher via the virtual campus. The second important element, which makes the online medium superior to traditional print or video based distance education, is that the learning community engages in debate and poses questions dynamically, which are then answered by the teacher or peers. Depending on the type of course, an assessment and final examination is either based on

¹² Please excuse the very brief outline of UOC's pedagogy given herein. To treat and discuss the finesse of UOC's reflections and variations of this institutionally, both obviously such important themes, simply exceeds the possibilities of this research. The interested reader is referred to the publications cited as well as e.g. (Godoy, 2003; Ros Híjar, 2001).

participation and the online delivery of learning products (such as conducted exercises, or free homework papers) or conducted at a final physical examination location.

3.4.7.2. E-Research

Tools Integration (Technology)

On an institutional level UOC's is primarily utilizing four e-research instruments. The hub for presenting UOC's investigation efforts is the website of the IN3 research centre. Here, information about the research groups, publications and the flagship Project Internet Catalunya are available.

Next, there is the Researchers Portal (GIR) which serves as an information hub and internal curriculum/portfolio builder for individuals and research groups. More concretely, the GIR offers the following functionalities: An agenda is used for publishing information about relevant conferences. Under the title 'Convocatories,' the editors publish funding opportunities. The Curriculum Builder is one of the core features of the GIR. It allows the UOC to build one central database that contains all of the personal data (like education, professional and research experience) of its researchers. Furthermore, the GIR provides access to some of UOC's research applications (an online bibliography builder, and the survey tool described below)¹³.

Third UOC is publishing eight e-journals¹⁴ and thematic publishing spaces. This printing platform serves to build up institutional reputation but also represents a publishing opportunity for UOC's researchers as the thematic focus is naturally matched very well with the interests of its own scholars. The journals are all accessible via UOC's website and are therefore a primary dissemination instrument for UOC's research work.

Lastly, UOC has – in line with its outsourcing approach - a close collaboration with a local online survey service provider. Small as well as large scale questionnaires can be created and managed completely in an online space. This practice immensely facilitates data collection since all input is directly computable, which also leads to the elimination of transcription errors.

Current Practices (Use Cases)

Almost all research done at the UOC has some e-research component. The common research practice has been summarized quite nicely by one faculty member who stated that UOC is

¹³ There are several functions of the GIR dealing with research group management, intellectual and industrial property (also a website building tool is listed in the manual section) that were not functioning when evaluating the GIR.

¹⁴ It has to be pointed out that only some of the journals can be considered scientific as some lack peer-review processes etc.

offering all possibilities for developing research themes, as long as they are accessible through the internet for negligible costs (UOC faculty 28). UOC's researchers are pursuing e-research, deploying a host of methodologies and subjects, from cyber-ethnography to e-business and open-source programming. While there are many individual or small team collaborations, especially from the 473 doctoral researchers (2005), the large scale Project Internet Catalunya Study serves as a springboard for many such related research efforts. The IN3 is also maintaining an email bulletin service which provides information about relevant funding opportunities on an ad hoc basis.

Overall, it is assessed that even though UOC's researchers do use the internet extensively as a subject for their research, there are no particularly advanced uses of internet based innovations (such as research on virtual worlds, or publishing methods like Dspace or even PLSone¹⁵)

3.4.7.3. Website & Intranet

Tools Integration (Technology)

UOC has always run its own servers and is therefore responsible for a much wider scale of technology than an institution like the LSE. Since its early days, UOC's technology has undergone an enormous evolution to what is now a highly differentiated system with the capacity to organize and enable the learning and work of more than 40,000 students, 1500 tutors, 160 professors and 503 administrative staff. UOC's internet connection is setup as an autonomous system¹⁶ which ensures availability and an aggregated bandwidth of 50 MBit through its various ISPs (UOC management 36).

UOC's website and large parts of the campus used static websites until quite recently. Since 2006 the website has been based on a content management system which highly facilitates the distribution of work between technical and editorial staff. The new website also offers new features such as RSS news feeds.

Current Practices (Use Cases)

The main pages of the website are offered in Catalanian, Spanish, and English. The website serves, as mentioned above, mainly two purposes: On the one hand, it provides access to marketing information such as the program of degrees and courses offered, on the other, it allows interested parties to read and print UOC's thematic online journals and other publications.

¹⁵ www.plsone.org

¹⁶ Which means that it manages its subsystem of IPs and their routing to the internet.

UOC's intranet – the virtual campus – provides access to community forums, news (including UOC's approach and endeavours regarding the Bologna process), UOC's self-developed email system, administrative services, access to the library, and of course to the virtual classrooms. One element that is perceived very positively is the presence of a photograph besides all messages that are sent and received within the campus. The intranet is also the space for student participation in governance, but the usage statistics speak for themselves (see table 2). Generally there is not much activity except for the Law and Political Science forum which proves that the structure can work if it is promoted and utilized appropriately.

Department	No. of Posts	Period
Law and Political Science Commission	952	(19.6.06 – 16.5.07)
Information & Communication Science	42	(18.6.06-16.5.07)
Business	96	(20/06/06--16.5.07)
Language and Cultural Studies:	90	(30/06/06-16.5.07)
Computer Science	196	(19/06/06-16.5.07)
Humanities	47	(19/06/06 -16.5.07)
Psychology and Educational Sciences	326	(30/06/06 – 16.5.07)

Table 3.4.2 - UOC Student Commission Communication Statistics

Additionally, there is a 'corporate' intranet, which contains information about internal university affairs, internal forums, as well as personalised services such as salary statements etc.. Most forums are rather inactive, but what is really in constant use is the UOC internal e-market, especially the housing (1002 messages in 16.5.07-17.11.06) as well as sports and IT equipment.

3.4.8. UOC Position (Institutional Results)

Because of its status as a semi-private virtual university, UOC is not included in many evaluations. However, as is described in the paragraphs dealing with teaching and learning, UOC was quite successful in the rankings it did enter into. In 2004, it received a certification with the Gold Seal of European Excellence from the European Foundation on Quality Management (EFQM) in recognition of its governance model.

Overall, the UOC has been extensively celebrated on all levels as a modern education institution.

Economic Autonomy

As explained before, UOC is a semi-private enterprise and therefore it depends on the instructions and leads it receives from its board, while also having considerable freedom to develop its own strategy and practices and markets. UOC's relative autonomy results from two

conditions: on the one hand, most stakeholders are no experts in internet technology and hence the possibilities of an internet based university are hard to judge resulting in a post-hoc controlling functionality rather than a steering function of the board. Even more fundamental is the overall innovative mission of the institutional model, which persists at being recognized as an experiment and ‘testing ground.’ Once fully realized, this platform will give UOC considerable leeway to explore and experiment with new possibilities¹⁷.

Website

The UOC was considered in the university ranking of university websites conducted by InternetLab (Webometrics, 2006). There it received the 41st rank of 100 institutions evaluated in Spain and the 1007th place on the global ranking. According to this ranking, UOC provides extensive scholarly and rich media material. Ultimately, its relatively low global ranking suggests that usability and other factors have been assessed more negatively. The website offers good information for interested students (marketing material) and news about UOC’s activities. Also, some more in depth information about the university’s structure is presented, but strategic documents are published only retrospectively in the form of the Annual Reports.

3.4.8.1. Teaching and Learning

Especially in the years between 1997 and 2001, UOC received several prizes for its innovative institutionalization of the e-learning model. In 1997 it received the Bangemann Challenge Prize of the European Commission due to its innovative use of the Internet for distance education. In 2000, UOC’s model and practice platform were recognized internationally through the World Information Technology and Services Alliance (WITSA) prize, and the Digital Opportunity Award. In 2001, UOC reached the preliminary climax of its reputational development; the International Council for Open and Distance Education (ICDE) selected UOC for the Award of Excellence for the World’s Best Virtual and Distance Education University. It has to be noted here that, as has been described in the section on UOC’s culture, the learning and social opportunities offered by UOC are perceived and exploited very heterogeneously. In fact the EUA expert review reports students “*having the impression of being in the ‘third division’*” of academic institutions; it states further that students are aware that their “*degrees are not well recognized*” (EUA, 2007). It depends primarily on the mindset of the student (and to a lesser degree on the motivational skills of the tutor) what quality the learning experience has cumulatively. In fact UOC needs a knowledge entrepreneurial mindset to identify, evaluate and realize the opportunities to learn. UOC’s continuously high student satisfaction ratings imply that it is offering what the students want – on the one hand interesting learning opportunities, and for the one’s who are only interested in the certificate, a defined process to reach the degree.

¹⁷ Presumably following the logic that in case of success these can be applied to other Catalan institutions

3.4.8.2. Research Results

The UOC was originally thought of as a pure teaching university and it added research capacities around 2000 when the Internet Interdisciplinary Institute (IN3) was founded. Before that, in the first five years, only a few individual research efforts and limited participation in European Union projects took place. Since the inauguration of the IN3, UOC has developed a considerable research infrastructure. In 2006, efforts have been systematized through the recognition of 30 thematic research groups each run by at least one senior UOC researcher, and supervised by a member of the scientific board. The scientific board is a group of 'high calibre' researchers from around the world who serve as consultants and figure heads, delivering cutting edge practice, topics and credibility (see more detailed elaboration in the Unique Strange Attractor section).

Table 3.4.3 give a good overview of UOC's scientific production in 2006-mid 2007.

	scientific Articles	Books	Book chapters	Conference contributions	Other activities	TOTAL
Computer Science and Networking Technologies	18	2	23	29	28	100
Communities and activism	18	6	15	40	79	158
Digital Culture	17	4	19	44	73	157
Law and ICT	25	8	57	52	37	179
eGovernance	7	8	13	20	31	79
eLearning	13	4	15	50	34	116
Information Systems	1	1	0	23	14	39
New Economy	20	5	3	28	66	122
Technology and the education system	9	1	1	18	20	49
Research Program on Gender and the Information Society	1	0	3	5	3	12
Research Program on Immigration and the Information Society	0	0	1	2	2	5
Research Program on Risk Negotiation	0	0	0	4	11	15
Research Program on Technology and Health	8	3	1	5	10	27
TOTAL	137	42	151	320	408	1058

Table 3.4.3 - UOC's Scientific Production 2006-mid 2007 (internal document)

When reviewing table 3.4.2, which outlines the production of UOC's thirteen research fields, the following observations can be made: Under the new leadership team UOC has increased its research lines to now 13 different themes. The most active discipline, according to the data

presented in table 3.4.2, is in Law and ICT, closely followed by Communities and Activism as well as Digital Culture. With slight distance New Economy as well as Computer Science and Networking Technologies scholars can be considered core contributors to UOC's research production. As mentioned in 2006 a number of strategic research programs have been setup (the last four in the table). These small research teams were still in the incubation phase and are expected to start to produce publications etc. in the months to come. During the same period as presented in the table seven PhD thesis were defended and 39 in supervision. Hence the PhD program is beginning to deliver results and it can be expected that UOC's research potential will increase over the years with more and more of its constituents holding a doctorate.

3.4.9. Rival Explanations

UOC shares both of these aspects with the UPC so this section is developed in more detail in the UPC case study (3.3.11.) as it comes first chronologically.

3.4.9.1. National Context

For the latter part of the 20th century Spain and Spanish universities have played a catch-up role within the European community (WorldFactBook, 2007). In 2006 the economic growth had slowed down to a 3,6% GDP. This figure is still quite high in contrast to the other two countries (UK and Germany) investigated in this study. In general, the Spanish context is assessed to be rather positive, but less and less important as the centralized powers of Madrid are relinquished in exchange for a more federated system. Catalonia as a region is definitely one of the political powers leading this process (as is the Basque Country etc).

3.4.9.2. Local & Regional Context

The Spanish province of Catalonia is a nation without a country that is striving for political autonomy from Madrid. The nation¹⁸ is mainly held together by its language – Catalanian (Castells, 2004) and since the Spanish dictatorship, that mercilessly crushed all dissenters under its political doctrine of one egalitarian Spanish nation, ended in 1978¹⁹. Catalonians have enthusiastically revived their distinct traditions, especially the cultivation of their language. Utilizing its strong industrialization, the Barcelonan region especially was eager to increase its influence on education, and subsidized local universities as much as it could.

It was decided that by 2010 3% of the GDP will be invested in research and development²⁰.

The UOC is the only distance university that teaches in the Catalanian language; this distinction naturally makes it the first choice amongst Catalonians world wide. Nevertheless,

¹⁸ Catalonia is the mainland of a society that consists of various additional 'Catalonian enclaves' that all formerly belonged together.

¹⁹ With the new Spanish constitution.

²⁰ <http://www.upc.es/catala/recerca/plardi2010/plardi2010.pdf> p.3

since 2000 it has also offered a growing number of degrees and courses in Spanish, consequently it is in direct competition with the Madrid based UNED. Instead of forming an alliance with this peer institution, the UOC has, at least on an institutional level, refrained from developing strategic contacts. Within UOC's strategic priorities is the goal to increase the efforts for national, and European expansion. Also, an intensification of its international efforts, especially in Latin America, but also in China and Brussels (targeting the Spanish expatriate community therein) has the UOC facing some very interesting opportunities for national and international expansion. In conclusion it is also interesting to note that the UOC, which was initially thought to be a complement to the existing universities, is now, after being criticized by its peers for exploiting the lucrative market only, taking up more universitarian duties, contributing to the Catalanian university system.

A comprehensive overview of the Catalanian higher education environment can be found in the relevant part of the UPC case study – chapter 3.3. section

Again, UOC naturally faces very similar conditions to the UPC, however there are some differences worth pointing out. Even though the vast majority of Catalonians live in grand cities which all offer university education, the region also contains a large hinterland with small villages in remote valleys. Another 'strange attractor' is the student population from the Catalanian speaking country of Andorra, Valencia and the Balearic Islands who do realize the UOC opportunities to enrol in subjects not offered e.g. by the specialized Andorranian Higher Education Institutions²¹.

3.4.10. Unique Strange Attractors

3.4.10.1. Virtuality Pioneer

UOC is the youngest of the institutions investigated and therefore in many aspects it is still in its formation phase, especially since it lacks role models to emulate. As a sui generis, the UOC (Bates, 2000) continues to be one of the very few exclusively virtual organizations. Most organizational design need first be pioneered, and UOC's virtuality has been suitably assessed to accommodate many characteristics of a complex system (Salas i Beltran, 2002). In fact, Salas' paper utilizes (coincidentally) the very organizational paradigm of complexity science and Deleuze's 'becoming' theorem that is framing this research approach. This indicates that the organization²² is internally aware of the continuously emergent character it embodies. Given that the UOC is condemned to constantly evaluate and continuously adapt to the vibrant evolution and paradigm shifts happening in cyberspace, observers need to be indulgent as institutions follow cyclical versioning bio-rhythms. The UOC 2.0 is an evolving and plastic

²¹ Which are also not offering e-learning/distance education programs.

²² Or at least parts of it.

pedagogic experiment, as such and it will continue to serve as a pioneering landmark for virtual organizations everywhere.

3.4.10.2. The Virtual Campus

The virtual campus is the real home of the institution. Most communication and information processed are handled over this platform. The virtual campus has been developed from scratch, and is in consequence, an enormous innovative accomplishment. Over the years many features have been added, today it is a highly complex learning and communication platform. Unfortunately, development was largely discontinued after the last official release in 2002. The internet as a whole has evolved immensely since then, especially with regards to enabling collaboration (e.g. wikis) and more sophisticated tools for information and communication (e.g. RSS and blogs). The virtual campus does not foster the dynamic formation of UOC initiatives based on (knowledge) opportunities because authoring is happening mostly through institutional channels²³.

In general, the *technological legacy* (Ciborra, 2002) that the UOC is forging in the form of the virtual campus is possibly the most serious hindrance to internet based innovation. The campus is a complex of hundreds of functional components, which have grown together over the last 10 years. The situation is further complicated by the fact that there is no holistic documentation system, and knowledge is thus spread broadly across the organization.

As mentioned above, a team comprised of experts from almost all public Catalanian universities, and under the leadership of UOC's IT managers, is working on the development of an free software based virtual CAMPUS platform since mid 2006. The "*project is part of the Digital University program promoted by STSI [the local governments]. The goal of the program is to facilitate the transmission and sharing of knowledge via the information and communication technologies*" ([web](#)) The project team has, after a period of deliberation and debate, identified and positively assessed the opportunity to realize the Campus deploying the emerging standard called the Open Knowledge Interface ([OKI](#)). OKI is a series of software specifications defining the interface environment for all sorts of e-learning services as well as the connection to the enterprise software environment. With this project, which is the first of its kind and scale UOC is planning to 'wake up' and become the innovator it was in the beginning. The potential is very high, the Campus is meant to scale up to perform with 10 000 simultaneous users, and realize a host of innovative opportunities like the Shibboleth ([Web](#)) authentication scheme. Furthermore, the architecture (see figure 5) is meant to facilitated interoperability²⁴ and evolutionary continuous development allowing UOC (and the other

²³ Which is naturally not the case for the forums, which allow for interaction but with limited success.

²⁴ in fact one of the aims of the project is to provide 'adaptors' to be able to exploit the best functionalities of the two leading free software e-learning platforms Moodle and Sakai (See figure 5)

universities) to enter in the constant change and innovation mode characteristic for cyber-frontier. The CAMPUS project is due to be finished by the end of January 2008.

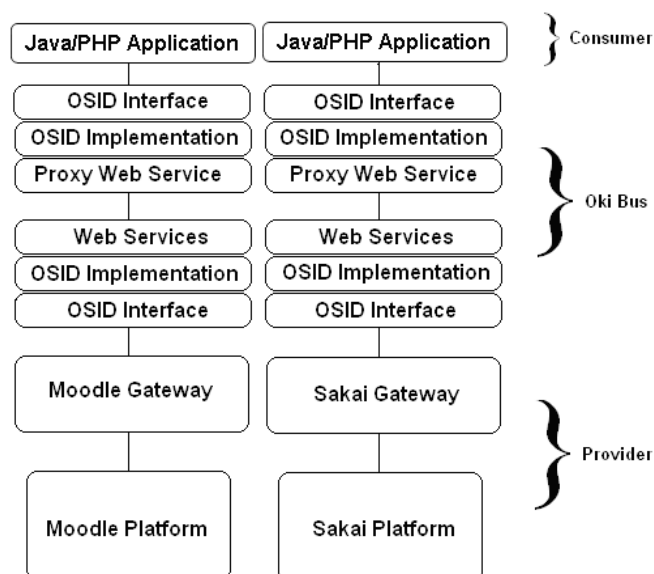


Figure 3.4.5 - CAMPUS Project Architecture ([web](#))

3.4.10.3. Scientific Board

UOC has developed a very unique way to strive for research excellence by setting up a board of eminent researchers meant to supervise and consult UOC's research groups and investigators. The board consists of first-class subject specialists who meet to consider UOC's research activities in general, and more concretely to monitor the individual groups, reviewing their work and coaching their members. Unfortunately, under the anterior management, the scientific board seems not to have had the positive impact it might have had. The board met only a few times and has had very little opportunity to collaborate with the researchers (EUA, 2007). The new vice-rector for research has concrete plans to augment and better exploit the knowledge capital of the scientific board.

The Scientific Board is chaired by Manuel Castells, an eminent sociologist who's work on the 'network society' has given him a world-wide reputation as a specialist on societal development, especially regarding the positive and negative effects which networked technology has on private and professional lives. He has been asked by the former rector to work with the UOC in early 2000 and has been a central figure in political and research related questions. His role as a stakeholder and influencer has been evident since his very first day. He has directed both of UOC's major research projects dealing with the use of the internet in Catalonia ([PIC](#)) and has been a great support resource in setting up UOC's research facilities in general and – because of his excellent contacts with the academic world - the institution of the scientific board in particular.

3.4.10.4. UOC Students - Knowledge Entrepreneurs & their Second Life

In general UOC's students are adults; and most of them are professionals who have finished their education and have a fully established career. These students generally decided to realize the mature student knowledge opportunity UOC has to offer. Most of these students are already engaged in work and many in domestic family affairs, they build and pursue their continuing education as something like a second life. This is especially true because of the virtuality of the environment and the fact that most students develop a 'virtual identity' for the first time. Consequently, this newfound anonymity can make it a new and emancipatory experience. The entrepreneurial spirit is also confirmed by the 2007 PIC study in which UOC's students come out as some of the most entrepreneurial, especially amongst the slightly older student population (Duart, Gil, Pujol, & Senges, 2007).

3.4.11. Analysis and Conclusion

There can be no doubt that the UOC is a truly successful knowledge venture that has helped thousands of people who otherwise would have had difficulties in achieving a university degree. UOC embodies a knowledge opportunity that gives a second chance to many prospective students. It is a highly adequate instrument to elevate the educational level of society. Having said that, it is not the objective of this research to assess the impact UOC has on society, but rather- to investigate what enables it and its stakeholders to engage in effective knowledge entrepreneurship. This analysis and conclusion reflects UOC's current condition, while the specific phenomena found to enable knowledge entrepreneurship are further developed in the following chapter Cross-Case Analysis. Also, it is important to state that UOC was during the period of this research still in its first epochal leadership transition, and that "*the change process is still underway and most of the consequences are not yet consolidated nor fully implemented*" (EUA, 2007). This reality made it obviously difficult to assess the condition and all analysis included herein must be understood as a newly emerging atmosphere culture and practice.

3.4.11.1. UOC the Shy Adolescent Organisation

UOC is the organisation that publishes the least information about itself and its members on the internet. The professors have no personal space to present themselves and their qualities, neither do the individual departments²⁵. UOC seems to be following a traditional marketing approach to present only positive public relations copy to the public. This is a logical attempt to control its image by controlling what comes out of the organisation. This has resulted in a climate where UOC's faculty and researchers feel controlled rather than empowered (UOC faculty 39) by the institution.

²⁵ Besides the 'marketing' information put as information for potential students.

But also internally there is not much transparent discourse (see 3.4.5.3). In fact a good indicator for the fair public debating culture is the non existence of information and debate during the transition between the two leadership teams. While there were reports and discussion about the happenings in the external press, internally there was no official statement nor debate until the decision processes was over.

Since the beginning of the new leadership epoch there have been plans to introduce a blogosphere and similarly participative and collaborative innovations. This might be the right remedy to create an open organisational discourse where innovative ideas are allowed to fall on fertile ground. Such a constructive critique is best based through informed discourse; eventually and ideally, transparent decision making become the norm.

3.4.11.2. Still Emerging Organisational (Infra-)Structure

UOC is a new kind of organization and therefore it is facing problems that have a distinctly different character than other universities. Because of the technical nature of the university, it is logical that the IT professionals have some influence in almost all aspects of university life. The same trend applies for the vice-rector of innovation.. The fields of marketing and community outreach are also broadly influential cross-cutting themes; the approval of these two departments is often solicited in order to move an initiative forward. These multi-stakeholder scenarios are found all over the UOC. It is largely the absence of defined procedures for decision criteria combined with an un-clear responsibility distribution schema that has been observed to foster the necessity for political negotiation processes. In the absence of clear rules, one's relative position in the complex hierarchy determines who is going to have the last word. This condition is a legacy from the foundational institutional design, one which was meant to create an agile institution that could efficiently be led from the top. It was their leadership style and they succeeded in pioneering a new kind of university. It is the new leadership's challenge to develop a transparent and evolving structure, (policy architecture) and impregnate the organization with the governance practices they represent.

3.4.11.3. Student = Client = King = Lower Academic Standards

The UOC is a client centred organization. It has the obvious objective of giving the student the best service possible. However, as Hijar assessed some 6 years ago, there seems to be a *“real “obsession” with the level of satisfaction of the students, that sometimes negatively influences the quality of the education”* (Ros Hijar, 2001). This is when the student's corrupt the idea of 'best service' to be understood as a degree that is easy to earn. As one tutor complains, in the first years *“students were motivated and hard working, but later, they turned into people who simply wanted to obtain a university title the easiest way possible”* (UOC faculty 23). The problem he writes about occurs when the course managers at UOC placed the satisfaction of their students as the principal priority, even loftier than maintaining the academic rigor which made the pursuit of such studies noble in the first place. This means, according to this academic, that students can, and do, complain and ask for failing exams to

be marked as passed.. The natural, and unfortunate result of this corrupt calculus is that the program manager pushes the professor to change the mark rather than having to pass the complaint to the next institutional level (ibid).

3.4.11.4. Internet Based Innovation Appropriation

Like at the LSE and the FU, a specialized institution has been mandated to identify and appropriate internet based innovations meant to improve teaching and learning. The team is quite well supplied and has managed to attract substantive funding from third parties. Due to the officially 'frozen development' of the virtual campus, and while 'waiting' for the new free software campus, the team is in limbo with regards to realizing future opportunities. No concrete procedures or other institutions have been found that would allow the team to receive input from other stakeholders. Instead, the team maintains trust in its environmental awareness and its natural social network. Transparent and inclusive communication channels have been suggested to improve this situation (UOC management 37). Also, the fact that there is no explicit IT strategy makes it more difficult to determine the priorities at hand, as well as whether or not individual innovations are relevant. Here, the historic approach towards lean management and less fortified in-house IT knowledge, has led to a dependence on outside experts. These experts analyze and propose the most adequate state of the art solutions, with UOC's IT managers working in concert to implement the recommended strategic changes and maintain the system. The new vice-rector for technology has identified and stressed the importance of an IT strategy and the first document is being developed.

Like in the other university, e-research has not been recognized as a defined field. Thus, we witness the opportunities therein to improve research practices whilst positioning the university as an entrepreneurial leader in the emerging field.

REFERENCES

- Bates, T. (2000). *Managing technological change : strategies for college and university leaders* (1st ed.). San Francisco: Jossey-Bass.
- BOE. (1995). Ley 3/1995 de 6 Abril, de reconocimiento de la Universitat Oberta de Catalunya [Electronic Version]. *BOE*.
- Castells, M. (Ed.). (2004). *The network society : a cross-cultural perspective*. Cheltenham, UK ; Northampton, MA: Edward Elgar Pub.
- Ciborra, C. (2002). *The labyrinths of Information : challenging the wisdom of systems*. Oxford ; New York, NY: Oxford University Press.
- De Jonghe, M., & Van Poeck, E. (2005). *Estrategia e implementacion del e-learning en la universidad*. Paper presented at the Conference Name]. Retrieved Access Date]. from URL].
- Duart, J.-M., Gil, M., Pujol, M., & Senegés, M. (2007). Project Internet Catalonia: Universities in the knowledge society [Electronic Version].
- el Mundo. (2006). El 'ranking' de las privadas [Electronic Version]. *el Mundo* from <http://aula.elmundo.es/aula/especiales/2006/50carreras/privadas.html>.
- EIPais. (2005). La UOC elige rectora a Imma Tubella por unanimidad [Electronic Version]. *el Pais*, 13/12/2005. Retrieved 14.May.2007 from http://www.elpais.com/articulo/cataluna/UOC/elige/rectora/Imma/Tubella/unanimidad/elpepuespcat/20051213elpecat_24/Tes.
- EUA. (2007). *UOC - EUA evaluation report*.
- Ferrate Pascual, G., Alsina, C., & Pedro, F. (1997). Prologo y Epilogo. Internet como entorno para la enseñanza a distancia. In J. Tiffin & L. Ragasingham (Eds.), *En busca de la clase virtual : la educación en la sociedad de la información* (1a ed., pp. 14-16, & 231-255). Barcelona [etc.]: Paidós.
- Gartner. (2006). Defining the IT strategy – Presentation to Consell de Govern [Electronic Version]. *Internal document*.
- Generalitat. (1995). Llei de reconeixement de la UOC *Diari Oficial de la Generalitat de Catalunya*, 2040, 3158-3160
- Generalitat. (2003). Decret 273/2003 - Normes d'organizacio i funcionament de la Universitat Oberta de Catalunya. *Diari Oficial de la Generalitat de Catalunya*, 4013, 22626-22631
- Godoy, R. C. (2003). El Campus Virtual de la Universitat Oberta de Catalunya [Electronic Version]. Retrieved 17.May.2007 from www.ucv.ve/edutec/Ponencias/2.doc.
- Ros Híjar, A. (2001). Riesgos y oportunidades de la enseñanza virtual: la experiencia de la UOC [Electronic Version]. *Digithum* 3 from <http://www.uoc.edu/humfil/articles/esp/ros/ros.html>.
- Salas i Beltran, I. (2002). Porque la UOC puede concebirse como una organizacion fractal? [Electronic Version]. *Capital Humano*. Retrieved 18.may.2007 from <http://www.uoc.edu/web/esp/art/uoc/isalas0902/isalas0902.html>.
- Sangra, A. (2003). Universitat Oberta de Catalunya (UOC), Spain. In S. S'Antoni (Ed.), *The virtual university - Models and messages; Lessons from case studies*.

- Sangra, A. (2005). Update - Universitat Oberta de Catalunya (UOC), Spain. In S. S'Antoni (Ed.), *The virtual university - Models and messages; Lessons from case studies*.
- Sangrà i Morer, A., & Duart Montoliu, J. M. (2001). *Aprender en la virtualidad*.
- UOC. (1996). Missió i principis inspiradors [Electronic Version]. *Internal online document*.
- UOC. (2005). Academic Year 2004-2005 Annual Report [Electronic Version]. Retrieved 7.June.2007 from <http://www.uoc.edu/web/esp/universidad/memoria0405/index.html>.
- UOC. (2006). Objectius generals i específics UOC 2006 [Electronic Version]. *internal document*.
- UOC. (2007a). Presentació dels objectius anuals [Electronic Version]. *Internal document*.
- UOC. (2007b). PRESSUPOST 2007 (ESBORRANY SUBJECTE A CANVIS) [Electronic Version]. *Internal document*.
- Webometrics. (2006). Ranking de universidades en la web. Retrieved 17. Apr., 2007, from www.webometrics.info
- WorldFactBook. (2007). Spain [Electronic Version]. Retrieved 1.June.2007 from <https://www.cia.gov/library/publications/the-world-factbook/geos/sp.html>.

