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OPEN UNIVERSITY VS. CONSORZIO NETTUNO

AN INSTITUTIONAL ANALYSIS OF TWO TECHNOLOGY ENABLED HIGHER EDUCATIONAL SYSTEMS

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Abstract

Assuming a rational perspective, the adoption and development of a new organisational technology can be viewed as a way to achieve an higher level of efficiency by finding the best way to fully exploit its potential. In other words, one might sustain that since organisations do initially ignore how to best deal with an innovative technology, they engage in a trial and error learning process that finally leads to the x-efficiency frontier. Once this knowledge is achieved, it will probably be spread around by external agents (e.g. consultants) enabling an imitative process. Thus in the long run all organisations will make almost the same efficient use of a mature organisational technology.

In this paper we tried to explore how the same technology (eLearning) has been adopted by two diverse educational organisations. The patterns of development have been studied across time to verify if a progressive convergence has occurred. Results are providing some useful insights on what variables must be paid attention to when transferring a technological organisational innovation in a different setting.

Keywords: Elearning; Complex Learning; Innovation Management.

1 THEORETICAL BACKGROUND

A relevant part of modern organisational theory investigates the variation in structure and behaviour among organisations. Thus the heterogeneity of the organisational forms is assumed as a natural phenomenon and it is explained either as consequence of a deliberate managerial effort to improve the internal fit with some external contextual factors (Mintzberg 1983) or as the occurrence of a selective evolutionary process by a population ecology approach (Hannan and Freeman 1986).

In this respect, Powell's and DiMaggio's new institutionalism can be considered an unorthodox paradigm since it deals with the factors that cause homogeneity among organisational forms and practices. They argue that organisations are becoming day by day more similar and that bureaucracy remains the most common control mechanism. This happens because changes are only partially driven by the search for an higher level of efficiency, another goal being the imitation of routines which are reputed as "first class" or "best" or "taken for granted" practices (Powell and DiMaggio 1983). In this perspective, one might expect that organisations will show a considerable diversity in forms only at the initial stages of their life cycle being pushed towards homogenisation in their development. This process is known as isomorphism (Meyer and Rowan 1977) and it represents an useful tool for understanding the politics and ceremony that pervade much of the modern organisational life.

Both arguments (the progressive convergence or divergence of organisational forms) are synthesised in Meyer and Rowan's opinion that there are two diverse organisational worlds – one dominated by competition and efficiency where selection or deliberate adaptation processes operate, the other pervaded by a concern for politics and ceremony which leads to the imitation of institutional rules by symbolic isomorphism.

Drawing from this conclusion, a group of European researchers reversed the isomorphic argument highlighting how distinct patterns of technological and organisational innovation do take place in countries that show diverse institutional arrangements. For example, Richard Whitley (2002) explored how firms in countries with diverse institutional backgrounds develop distinctive innovative competences and strategies. The emerging differences are explained as a consequence of the heterogeneous pressures and possibilities which come from each environment. Path of economic change diverge across countries because of the diversity in dominant institutions (Whitley, 2003; Kieser, 1997).

We think that the European institutionalism is complementary to the American version, the perspective one should choose in an organizational analysis depending on the specific research question that has to be addressed. This issue is of particular relevance in the study of the adoption and development of organisational innovation: this process is probably affected by the isomorphic pressures towards the adoption of the acknowledged "best practices", but the convergence of organisations to the same solutions might be constrained by diversity in the institutional backgrounds.

On the bases of this reflection, we explored how the same technology of eLearning has been implemented by two higher education institutions – Open University and Consorzio Nettuno – which provide the technology enabled university offer respectively in UK and in Italy. We actually observed if and how much Consorzio Nettuno, which was a late comer in this sector, imitated the methods and techniques adopted by Open University, which has a much longer tradition and it is acknowledged as the widely spread e-University in the world.

Our aim is to point out the degree of isomorphism between two Technology Enabled Institutions. Following the Powell's and DiMaggio's (1994) perspective one should expect that the pressures toward efficiency and effectiveness would lead to a high degree of convergence and homogenisation in applications. Thus, on this theoretical basis, technology would appear as the driving force that move organisations, and Higher Education in particular, towards an ever stronger similarity.

This assumption would make the case of e-learning coherent with the more general case of CSCW applications. Some key issues which emerged in this field as a result of the shift from a functionalist to a constructivist paradigm are group awareness, multi-user interfaces, concurrency control, shared information space and the support of an open environment which integrates existing single-user applications (Grudin, 1994; Ciborra, 1996; Sherry and Wilson, 1996; Bentley et al., 1997). As a result, the evidence of isomorphism was found, for example, in the study of Grudin and Pale (1997) on the emerging application of CSCW in major corporations.

Thus our main hypothesis might be stated as follows:

HP 1a – The development of eLearning technologies is driven by an isomorphic imitation of the emerging best practices. As a consequence, one might expect that eUniversities are progressively converging towards the same organizational and pedagogical model.

On the other hand, though, it could be assumed that technology itself, in a longer term, could be the factor determining the tendency, emerging even among similar institutions, of the arising of distinct features peculiar of the place and institutional context of reference: this to highlight the total absence of external pressure deriving from a passive usage of consolidated model.

A rival hypothesis should be formulated as follows:

HP 1b – The development of eLearning technologies is affected by a country institutional background. As a consequence, one might expect that eUniversities are developing different, country specific, organisational and pedagogical model which lead to a diverse use of technology.

2 METHODOLOGIES

To deal with our research question, we decided to perform a comparative study of two Technology Enabled Higher Education System, Open University and Consorzio Nettuno. The former represents one of the first comer in the world of e-learning, and also the most important institution in the field of long distance education, the latter is an emerging player operating in Italy and, somehow, growing into the Mediterranean area.

The analysis was aimed to depict the pattern of evolution in the adoption of this emerging technology in both cases. As a result, a trend of convergence or divergence was expected. In the first case, one should verify if a mimetic isomorphic process related to the evolution of technology occurred; in the latter, if the divergence might be explained as a result of the institutional pressures that these organisations have to face in their specific context and environment.

The cases studies were based on a multi-method approach, by collecting archival material, such as official and scientific publications and internal source documents and by performing on field interviews with organisational key actors. The analysis took into account the following factors: (i) accentuated institutional differences in reference to the cultural environment in the background, Anglo-Saxon for one and Mediterranean for the other; (ii) the temporal difference in the development of the two realities taken in analysis. Open University, it is important to say, starts its activities at the beginning of the Seventies, for its Distance Schooling Open will represent a point of reference for all the future European e-learning realities. Thus, Consorzio Nettuno, at least at its beginning, developed its activities on the basis of experiences already tested by Open, both for what concerns the entrepreneurial model and the pedagogical methodology.

To investigate if a convergence process has occurred it has emerged the necessity of organising our analysis considering three groups of variables:

- the complexity of the environmental features due to the institutional context around the two organisations. We took in account the frame of normative regulations and the national model of educational and university system, where for example, the title granted by a University might have or not a legal value;

- the analysis of the organisation models adopted distinguishing between make-oriented integrated and articulated structures, and buy-oriented models, open to the market and in the direction of a co-operative form. In many cases, the interests of an organisation are previously defined by legislative decrees and market processes, or, in some cases by institutional interests developing only gradually inside specific contexts and generated by dynamics of power and opportunities, acting in a specific place at a particular time;
- the analysis of e-learning systems in terms of utilisation of the methodology either by the institution and the users.

Our analysis, in accordance to the theoretical basis given, has the aim of demonstrating as although the driving force of the isomorphism, self-evident in the short and medium time of development, institutions are reality built by entrepreneurs who are bound by many factors, and for this reason subject to institutional pressure received in the context of reference.

3 OPEN UNIVERSITY

Open University counts about 160.000 students all over the world. The courses offered are 178, which about half on-line (offering learning activities, testing and tutoring). Open University has been founded in 1971 in the town of Milton Keynes, in Buckingham Shire. Already at that time, Open was an institution of higher education quite different in comparison to the academic environment of university. Its mission was, thus, that of offering an university degree to a broader part of the population. Open University was born, indeed, in the context of the Welfare State brought into being by the English Labour party, with the aim of giving a chance to all those did not have the opportunity to carry out an higher education. This aim takes form in the offering of a lifelong learning system to the working class. For this reason the courses offered give the opportunity of reaching any kind of degree, till a Higher Degree. Concerning institutional aspects, Open University is characterised by offering admittance to the courses also to those who are not in possess of the title necessary for universities studies. This peculiarity can be explained with the fact that in the UK, school title does not have legal value. The normative condition here mentioned is essential to comprehend how Open University could have developed till the present addressing to a large amount of student spread all over the world apparently without having to dial with any obstacles of institutional nature. If the context can partly explain how this education institution, alternative to the those of the traditional university system, has been able to develop so largely, other factors are at the basis of its success obtained in UK, at UK first, and at an international level, afterward. These factors are: coursed delivered in English language, and an innovative usage of communication and learning technology. Offering education content in English language permitted Open University to address to a market spread all over the world, even though perhaps this was not the original intentional aim. Moreover, the innovative utilisation of communication technologies, those of mass media at the beginning (Distance Learning) and digital in recent time (e-Learning), together with the international status of the English language, made Open University a potential global player in the world of education.

The particular partnership existing between Open University and the British university system is due to the original organisational pattern based on distance learning. The structure was in the past, and is now, strictly linked with the social and political mission of giving and education to the working class, keeping in mind the consequent limitations of time and space of a working person. The innovative usage of communication technology for education gives the opportunity to overcome these restraints offering a suitable university education. For reaching this aim, initially the courses centrally developed by the different departments were delivered in a multimedia approach and with the use of analogue technology (television).

The agreement reached during the Seventies with BBC presents as main objective shared by the two counterparts the offering of specific programmes to the same range of users. At this stage, the partnership had a relevant importance because, as consequence of that, Open University developed complex methodologies based on a television mediated learning system. This model integrates

different approaches, such as text reading (text sent by mail), continuous and scheduled vision and listening of radio-television programmes together with the opportunity of borrowing audio materials as well as, the continuous contact with tutors either in the 13 Open University regional branches, and by mail or telephone.

The so-called "Distance Learning" standard is shaped, thus, putting together the attention to the pedagogical model proposed and the organisation model consisting in a central unit for the development of the learning contents and collaboration with external actors for the distribution. For this reason the Open University represents a pioneer experience which gained a world-wide leadership status in this specific field of distance learning education. This competitive advantage has been replicated and amplified with the advent of digital communication and learning technology through the constant adoption of "cutting edge" applications, as points Laurillard, the e-learning manager of the Open University (Laurillard, 2001). Thus, the evolution of the e-learning systems at Open University constantly anticipated the emerging pattern in technology of education (Koschmann 1996). Indeed, the first CBT device was adopted in the 80's; the first WTB system (based on a stand alone "autistic" interaction between contents and learners) at the first 90's; a new tool for a Computer-Supported Cooperative Learning (CSCL) is in use today. This system is based on a "social centred learner" approach since it is aimed to technologically assist cooperative processes among learners to enable a "co-constructed contents" oriented learning strategy. In fact, according to Ayala and Jano, CSCL is "the use of the computer as a mediational device that helps the learners to communicate and collaborate in joint activities through a network, providing assistance in their coordination and application of knowledge in a certain domain"(Ayala and Jano 1998).

The attention directed to the design of education content and personalisation of the offer (tutoring, personalised valuation tests, assistance by phone) is successful in predicting the tendency towards the personalisation of the learning experience, generated by the advent of the molecular digital media (Lévy 1994; 1995), because all these factors enable to enforce the original project of valorisation of the social capital (Senn 1984; 1999). Moreover, with the affirmation of the World Wide Web, the technological and educational innovation is even more accelerated.

Open University courses are, thus, today designed and offered (2003) with the intention of a synergetic mixing combination of media and methodologies, each of those selected for the specific contribution to the learning experience. As consequence of this approach it is essential to provide an appropriated balancing among the different media: text, audio, video, interactive simulation, thematic database, on-line and off-line resources. Also considerable plan of investment (30 millions Pounds) for the design and realization of "complex learning" systems and the improvement of the interactive platforms and the use of the broad band has been put in act. As well as the Open Libr@ry web project, this includes 172 on line courses and virtual classes related. Today, thanks to the experience accumulated, Open University is one of the main British and world wide institution in the field of digital learning technology and of integrated methodologies for complex learning (Nacamulli, 2003), that is to say a collaborative and socially interactive utilisation of new media.

Open University is therefore acknowledged as the global leader, strategically operating on two levels.

Founded for giving an answer to social and political demands for an alternative institution in education, Open University was forced to build up an organisational and pedagogical model radically innovative; with the informational globalization (Castells 1996; 1997; 2000; 2001) a progressive isomorphism on both levels is increasing, in the national context with universities such as those of Cambridge and Oxford, and internationally, in the global market of learning content providing, in which great academic institutions, both public and private (Maryland, Lund, MIT, Harvard), research centres (CERN), corporate universities (XEROX) and cultural industry actors (Britannica; Barnes&Nobles) are employing digital technology for their strategic development.

4 CONSORZIO NETTUNO

Consorzio Nettuno offers, throughout Italy, education with the modality of distance learning to working students who cannot attend university courses. The final aim is the gaining of a graduation degree, “laurea” (during the academic year 2002/03, 24 degrees have been available). The foundation of Consorzio Nettuno has been sanctioned by law n. 341 of 19/11/1990 which enables universities of disposing of “a new learning model” involving a first degree certification employing “technologically and pedagogically innovative” modalities of supply. The link existing between new regulations and the foundation of Nettuno is not casual, and it is due to the fact that in Italy only a legislative measure could have given the chance for a new university institution, or for better saying in this case, an education institution able to grant a first university degree. These binding regulations are due to the Italian law which recognises legal value to educational qualifications and therefore any entity which has intention to deliver education at university level must follow the regulations set by the Government. For this reason, to have access to the courses offered by Consorzio Nettuno, like any other Italian university it is necessary to hold a school-leaving certificate. In relation with this legislative context, Consorzio Nettuno, as first aim, focused on the expanding the number of graduates in Italy (percentage which has been for long time lower than the average in Europe), addressing to those who have only marginal formative necessities and to the lower middle class with ambition of emancipation. The project does not develop in the direction of the constitution of a new University but of a consortium of Universities, with ethic and institutional finalities in the Italian tradition of the social Catholicism and humanistic Marxism. This not with the aim of creating an alternative to the Italian universities: but, at the contrary, only a supporting structure to them. The courses are in Italian language, with the intention of expanding the market of reference to those countries of the Mediterranean in which Italian is spoken as a second language.

Nettuno is a network composed by several units: the Centro Nazionale (National Centre) in Rome coordinates the learning and management activities of each university providing long distance learning and checks the production of educational videos and interactive multimedia materials; the Poli Tecnologici Universitari (University Technological Poles, PTU) are educational units nested into the structures of the universities partners; the Centri Tecnologici Universitari (University Technological Centres) instead, are units starting with the idea of making to converge digital technology with university education and provide multimedia laboratories for learning activities and video recording; the Polo Tecnologico a Domicilio (Home Delivery Technological Pole) which give students at home the opportunity of managing their time with autonomy and flexibility; the Universities Partners which is to say those academic institutions handling students registrations, the lessons and examinations calendar besides the granting of the degree certificates; the Centri d'ascolto (Meeting Centres) and the Poli tecnologici aziendali (Corporate Technological Poles) which represent structures external to the University partners, situated in enterprises, public or private bodies, related with the PTU, carrying out, functions of learning assistance to the students. The consortium model which brings together universities and enterprises allows the constitution of a “distance learning” system linked to realities of different natures, such as research and business. The partnership network supports the widening of the range of the educational offer, in order to be able to dial with a large number of students. In 1990, at the dawning “distance learning”, the only medium available to reach a great number of students with ease seemed to be television. Nevertheless, at the same time other technologies integrating television are developing: Teletext (first text only electronic bulletin board, 1993) and the video-recorder as support for the students that had to put on tape the video-lessons broadcasted late at night for a learning in an asynchrony communication. Other already mature technologies such as mail, telephone and facsimile, supported the long distance exchange among students and tutors/lecturers. At this stage the model of reference is that of Open University, and the partnership with Rai, the national television, is very similar to the one a between Open and BBC.

At a following stage also Consorzio Nettuno starts the employment of digital technology to learning activities. Even though, the educational offer remains standardised. There are the first multimedia

experiments for long distance learning making use of hypertextual documents, extended and divided in learning units, accessible on CdRom and presenting databases and test of valuation and self valuation. In the meanwhile Internet is doing its first steps and the Consorzio, in '96, begin to design innovative project with the aiming of providing services to students, but undervaluing the opportunities given by the WWW to modify its own learning methodology and organisational model. The investment on learning technology remains limited and the assimilation of the digital culture is belated. Only in '99 there is a partial transformation of the courses in order of making use of the web. Here the students follow the lessons through television: buying or borrowing videotapes, following the lessons broadcasted or attending classes, generally on Saturdays. Since the moment of his/her enrolment the student is supported by the lecturers/tutors of his/her own Technological Unit, and on the Nettuno website he/she will find learning and testing materials. However this approach is far from the cutting edge CSCCL technology adopted by Open University.

Until today the amount of hours of video lessons available are about 18.000. Nettuno makes use, therefore, of a blended model of pedagogical methodology which does not have the intention of replacing the traditional system but proceeds in the direction of an integration (figure 1).

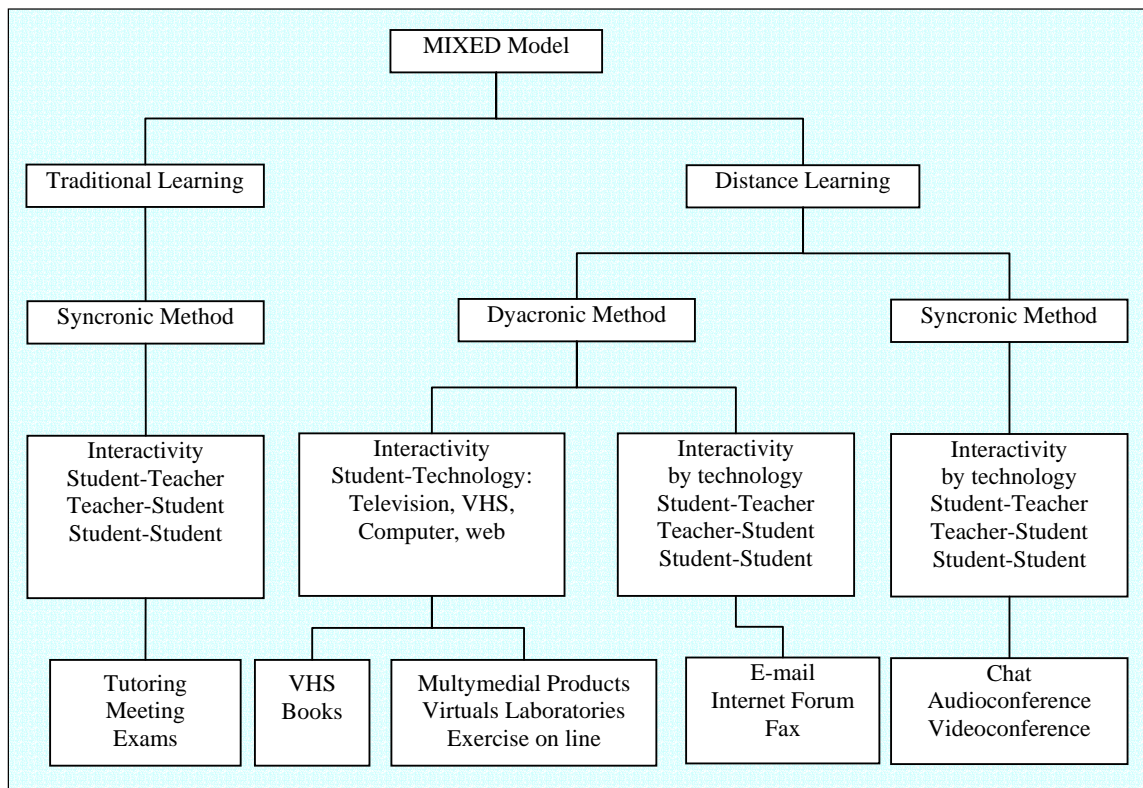


Figure 1. Consorzio Nettuno Learning Model

Nettuno's choice of continuing to offer a learning product centred on the television medium, does not allow a gaining of competitive advantage on a market every day more linked to the technology innovation, privileging instead a cooperative methodology/technology driven. The disadvantage, in terms of innovation investment therefore accumulated is determining the position of follower behind the university world.

Nettuno strategic aim is that of becoming a macro-regional long distance learning pole in the Mediterranean area, in order to extend its range of action without any substantial change of its own structure and learning methodology.

5 DISCUSSION AND CONCLUSIONS

The comparative analysis of the eLearning applications in the Open University and Nettuno case histories revealed a progressive divergence of both the organizational forms and the pedagogical models. By means of an institutional framework of analysis we could find a reason for this divergence. The diverse context where the two institutions do operate are leading them into diverse directions. Contrary to the predictions of the American institutional theory, in the start-up stage of Nettuno many pedagogical features of the most legitimate reference model at time, i.e. the Open University, have been imitated. This convergence was initially achieved as a way to be acknowledged and to obtain support from other institutions (e.g. State grants). However, the organisational form was conceived differently since the very beginning to take in account the specificities of the external institutional environment. Some contextual aspects (the language, the diffusion of internet services and mostly the normative regulations regarding the higher educational degrees in Italy) lead toward the strategic decision to adopt a network model enhancing a partnership approach with the traditional universities system.

Further steps in the development of Consorzio Nettuno required a progressive adaptation to the emerging local needs and institutional pressures and determined in increasing divergence in the way CMC technologies has been applied to pedagogical issues. We demonstrated that at Open University technologies triggered the process of innovation in the pedagogical model and have been conceived since the very beginning as a source of competitive advantage, while in the Consorzio Nettuno case they became a determinant of strategic inertia.

On a more theoretical perspective, our analysis shows that technology determines initially an isomorphic mimetic pressure since organizations try to face a very high degree of uncertainty by adopting solutions that have been already implemented by other legitimate institutions. However, an increasing maturity and experience encourage the users to look for a progressive customisation to face their specific need coming to unique imaginative solutions. This results are consistent with the prediction that an effect of diverging globalisation will took over the trend to an higher degree of homogeneity which emerged initially (Appadurai 1996).

Our study might be conditioned by an important limitation. We considered two educational institutions, and one might argue that our conclusions about a divergent trend might be due to the strong role that institutional factors do play in this specific setting. Thus, some developments in our research should be pursued by studying the adoption of CMC technologies in multinational business organisations, for example by comparing how the eLearning systems are used in every local subsidiary of the same corporation. One might expect that, since companies are directed toward efficiency and effectiveness results, if a best solution is available and acknowledged probably it will be adopted widespread as a best legitimate practice. In other words, in this settings an adaptation to external institutional factors could be a second or even third order goal and a progressive converging process might occur.

Another interesting theoretical intersection might be pursued in the stream of research about the influence of management fads and fashion on the adoption of new organisational practices. The identification of salient and adverse salient factors might increase our understanding of the organisational life cycle of a new technology, e.g. eLearning (Abrahamson 1991; 1996).

Finally, a refinement of our results might be obtained by increasing the number of countries included in the comparison. Infact, it will be possible in future time to compare countries that have a different institutional background as France and Germany vs. Grece and Portugall and at last time Finlandia and Ireland.

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