AN INNOVATIVE HIGHER EDUCATION INSTITUTION THROUGH A DIGITAL REVOLUTION

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Abstract

Higher education institutions are expected to reveal the methods they adopt in order to meet the social and economic requirements of society. There is no single way, but a number of approaches in which higher education institutions perform in an entrepreneurial and innovative manner. Such manners revolve around the way those institutions handle resources and construct organisational power; create and nurture synergies between teaching, research and their societal commitment; insert digital technology into their practices and the way they promote entrepreneurship through education and business start-up support. As such, this paper aims at underscoring the pivotal role digital technologies play in sustaining the development of an entrepreneurial and innovative higher education institution.

Keywords: Digital Technologies; Innovative Higher Education; Response to Challenges; Social Requirements; Traditional Educational Approaches.

Résumé

Les établissements d'enseignement supérieur devraient révéler les méthodes qu'ils adoptent pour répondre aux exigences sociales et économiques de la société. Il n'y a pas de voie unique, mais un certain nombre d'approches dans lesquelles les établissements d'enseignement supérieur fonctionnent de manière entrepreneuriale et innovante. Ces manières tournent autour de la façon dont ces institutions gèrent les ressources et construisent le pouvoir organisationnel; créer et entretenir des synergies entre l'enseignement, la recherche et leur engagement sociétal; insérer la technologie numérique dans leurs pratiques et la façon dont ils promeuvent l'entreprenariat par l'éducation et le soutien au démarrage d'entreprise. En tant que tel, cet article vise à souligner le rôle central que jouent

les technologies numériques pour soutenir le développement d'un établissement d'enseignement supérieur entrepreneurial et innovant.

Mots-clés: Approches Pédagogiques Traditionnelles; Enseignement Supérieur Innovant ; Exigences Sociales ; Réponse aux Défis ; Technologies Numériques.

ملخص

مؤسسات التعليم العالي مخولة للكشف عن الأساليب التي تعتمدها من أجل تلبية المتطلبات الاجتماعية والاقتصادية للمجتمع. لا توجد طريقة واحدة ولكن هناك عدد من الأساليب التي تعمل بها مؤسسات التعليم العالي بطريقة ريادية ومبتكرة. تدور هذه الأساليب حول الطريقة التي تتعامل بها هذه المؤسسات مع الموارد وتبني القوة التنظيمية ؛ إنشاء ورعاية أوجه التآزر بين التدريس والبحث والتزامهم المجتمعي ؛ إدراج التكنولوجيا الرقمية في ممارساتهم والطريقة التي يروجون بها لريادة الأعمال من خلال التعليم ودعم بدء الأعمال التجارية. على هذا النحو ، تهدف هذه الورقة إلى التأكيد على الدور المحوري الذي تلعبه التقنيات الرقمية في الحفاظ على تطوير مؤسسة تعليم عالي ريادية ومبتكرة.

الكلمات المفتاحية: التقنيات الرقمية ؛ تعليم عالي مبتكر؛ المتطلبات الاجتماعية ؛ مناهج تعليمية تقليدية ؛ الاستجابة للتحديات.

1. Introduction

Higher education organisations are expected to reveal the manners by which they react to the social and economic requirements of society. This crosses various fields: their activities to improve graduate employability, how they encourage social versatility and more extensive access to higher education specifically for deprived individuals, their short-and long haul commitment to national monetary development and local advancement, and the manners by which they are invigorating the setting up of new enterprises, and development in existing firms. The multifaceted nature of our reality is relentlessly adding new challenges for higher education organisations. Still, direct reactions by higher education foundations are not the absolute solution for all of them. However, in their totality, these challenges bring up issues about the present shape and constitution of the sector. Some researchers call for a "deep, radical and urgent transformation" (Barber M., K. Donnelly & S. Rizvi, 2013), questioning specifically the substance of traditional conceptual and organisational patterns of higher education establishments. Being, or turning into, an enterprising and inventive higher education foundation is a reaction to these difficulties, and one that can take a wide range of shapes.

There is a number of ways in which higher education institutions can act innovatively and creatively in their strategies and practices, and it is vital that this is viewed from an entirely renowned viewpoint. For instance, higher education foundations may exhibit entrepreneurialism and originality by the way they oversee resources and construct organisational capacity; how they include external partners in the initiative and administration of the establishment; how

they implant digital technology into their practices; how they make and sustain collaborations between teaching, research and their cultural commitment, and how they advance entrepreneurship through education and business start-up support as well as knowledge exchange to upgrade the development competence of existing firms. The difficulties and opportunities introduced to all sectors of the economy by the nonstop advancement of digital technologies also impact higher education.

Indeed, digital transformation and capacities support, catalyse and uphold the improvement of an enterprising and innovative higher education organisation (OECD, 2017). The new EU agenda for higher education (European Commission, 2017) stresses the requirement for higher education establishments to address digital change, put into practice digital learning techniques and utilise the capability of technology to the advantage of their staff and students. In accordance with the 2017 correspondence, the consequent Digital Education Action Plan (2018) solidifies different continuous activities and dispatches new activities addressing three primary needs which are of high significance for comprehensive, associated, effective and efficient higher education frameworks: utilising digital innovation for teaching and learning, developing the important digital aptitudes and capabilities, improving education frameworks through better data investigation and foreknowledge.

This paper attempts to discuss the idea of a revolutionary digital and inventive higher education establishment. It will shed light on the reasons why we need entrepreneurial and innovative higher education foundations and what their main basics and their implications for institutional change are. The discussion is chiefly focused on Europe, however huge numbers of the examined difficulties are of worldwide significance.

2. An Entrepreneurial Inventive Higher Education

Entrepreneurship is a concept for which more than a hundred definitions are right now being used. The European Commission's Entrepreneurship Competence Framework characterises Entrepreneurship as a transversal key ability applicable by individuals and groups, including existing associations, over all circles of life: "Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social" (EntreComp, 2016). Two essential parts of the definition proposed are that entrepreneurship applies both to people and associations, and that it concerns the inventive, forward looking and worth making usage of assets.

Within complex associations and their networked environments, entrepreneurship as a process can advance change and improvement through upgrading the ability to perceive and follow up on circumstances. All things considered, entrepreneurship has a long-standing presence in higher education

change activities, advancing, for instance, the precise intersection of disciplinary and information limits in teaching and research and in connecting with outside partners into authority angles and the organisational capacity of higher education foundations. In an enterprising and inventive higher education foundation, teaching, research, and social commitment are interlaced. Leadership, administration and outside partner contribution make a nonstop cooperative energy and dynamic exchange between these. A valuable working conception of the enterprising and inventive higher education foundation, which is broad enough to cater for institutional diversity, is:

> Entrepreneurial higher education institutions are designed to empower staff and students to demonstrate enterprise, innovation and creativity in research, teaching and pursuit and use of knowledge across boundaries. They contribute effectively to the enhancement of learning in a societal environment characterised by high levels of uncertainty and complexity and they are dedicated to creating public value via a process of open engagement, mutual learning, discovery and exchange with all stakeholders in society - local, national and international. (Gibb, 2013)

Being an entrepreneurial and creative higher education foundation depends, to an enormous degree, upon people and inventive methods for getting things done, and a strong authoritative culture. Generally, these are not marked accordingly. Advancing the entrepreneurial higher education foundation has nothing to do with re-marking these, it is tied in with perceiving and building, in creative ways, on that already exists.

Before embarking on the discussion of why we need entrepreneurial and inventive higher education establishments, a note is made on the wide scope of various associations presently working under the higher education standard. Legitimate systems shift between, and even inside states, regardless of developing endeavours to fit and recognise scholarly qualifications and to encourage students' mobility. In some countries, public higher education is prevalent, while in others, private establishments are rapidly extending their impact. Progressive systems exist in relatively every state, regularly dependent on age and scholastic rights, yet progressively in the same way upon wants and resources. Separation additionally considers the disciplinary center with expert establishments for industry areas, professional subjects and various connections into secondary and supplementary education. Challenges, such as massification, resource accessibility, and outer partner commitment will influence higher education establishments in unmistakable manners and lead to various responses. The more established revered, regularly well-resourced, socially and locally implanted foundations will probably have the option to keep up their present position and methods for training for sometimes longer, while others will progressively wind up faced with the momentary requirement for changes. Likewise, trust in digital innovation, and the capacity to tackle and adventure it to the advantage of the establishment, its students and staff will shift crosswise over various settings and sometimes among and within similar foundations.

3. The Substantiality of a Digital Innovative Higher Education

The multifaceted nature of our reality is continually adding new challenges for higher education organisations. In their totality, they raise issues about the present shape and constitution of the higher education sector, stressing therefore the substantiality of the incorporation of a digital revolution in the sector for it brings tremendous benefits not only to the educational sphere but also to the social and economic fields.

3.1. Catching up with Essential Transformations in Information Production

During the last fifty years, information production has basically changed. What we today allude to as Mode 2 knowledge may be "socially distributed, application-oriented, trans-disciplinary, and subject to multiple accountabilities" (Nowotny, H., P. Scott, & M. Gibbons, 2003: 179). It expands on principally various conditions, moving from the exacting division of disciplines and the ivory tower of science. Accordingly, higher education foundations are presented to a "'tectonic shift' in the relationship between science and the economy", carrying with it numerous difficulties, yet new possibilities to make and diffuse new technologies (Etzkowitz, H., M. Ranga & J. Dzisah, 2012).

"Borderless education", one of the upshots of the globalisation and digital transformation, has been a key empowering agent for the change in outlook in information creation. No single university, and in fact the higher education area overall, can any longer claim to be the vital vault of, and revelation operator for, knowledge (Kwiek, 2012). While physical correspondence and travel limits have been separated and changed among states and continents, the worldwide development of the sources of data and knowledge has enormously outperformed this. The scholarly world has not completely kept up speed with these improvements. Independence of scholastic discovery and teaching forms are still broadly present alongside with the idea that higher education foundations are supported by a method of thought which is shared by the entirety of its individuals; yet supported by a unit of their individuals' motivations from the objectives and functions of the association. Such autonomy has in many countries customarily been bolstered by government financing that is moulded by the quality and degree of research and productions. Excellence has been seen through the viewpoint of peer review forms and especially through the prism of publication in high-impact journals.

Universities and higher education establishments overall, are progressively induced to upgrade their ability to center upon "useful" problem-centred sources of knowledge, make more extensive associations for learning, cross disciplinary boundaries and advance trans-disciplinarity, and to find, exploit and offer knowledge in new ways. There is a developing cultural interest for

universities to take up the job of making an interpretation of and conveying information to more extensive audiences. Remarking about the circumstance in the UK, "we need public intellectuals ... [and] institutions that are not ashamed of the idea that sometimes it is worthwhile developing ideas because it is exciting" (Furedi, 2001).

3.2. Reinventing Teaching and Learning Strategies through Digital Technology

Governments, parents, students and employers progressively regard higher education establishments to have a basic strategy to motivate and encourage learning that outcomes in graduates with cutting-edge, discipline-specific knowledge and wide social and transversal abilities _ presently usually referred to as T-shaped professionals.

Simultaneously, the ongoing digital transformation brings significant changes to teaching and learning in higher education. Teachers and students need to adapt to the sheer volume of data which is openly accessible on the Internet, consolidated and displayed interestingly to students, enabling them to effectively go past the prescribed readings. Scholastic sites, YouTube, Facebook, Twitter, and different types of online networking gained increasing substantiality in teacher-student communication. Acting as new channels of learning, they question conventional ways to approach teaching. One response to this are flipped classrooms: students are approached to "discover" more of their learning and to utilise regular lecturing, formerly conveyed personally, from online sources. Students are tested to become aware of and to utilise a more extensive scope of information sources and to discover novel arrangements, while the instructor turns into a facilitator of learning.

The potential for more extensive student learning has been additionally improved by the development of Massive Open Online Courses (MOOC), pulling in a huge number of students around the world. A significant part of the wide-ranged study offer is through private companies and consortia in the United States and Europe, regularly set up by university staff, be that as it may, progressively with formal institutional sponsorship. In spite of the fact that for most of courses, there are no generally acknowledged certificates, and completion rates are by and large low, MOOC present a challenge to the individual member of staff in a less prestigious university, whose students might have the option to listen to lecturers on a similar subject conveyed by world-renowned professors. Improvements in and utilisation of digital technologies give chances to inventive curriculum design and conveyance, and it additionally enables better approaches for following and evaluating progress. Furthermore, field of studies, for example, learning analytics greatly affect the estimation, assortment, analysis and reporting of data about the advancement of students, and the context in which learning occurs.

Reacting to these difficulties and opportunities involves an alternate way to deal with teaching. It requires a "rethinking of the education mode" (Etzkowitz et al., 2012), and a noteworthy organisational innovation exertion. Tying various sources of data and knowledge together into a dynamic and open learning condition, where instructors and learners interface, reflect and create information, requires likewise interdisciplinary and adaptable study programmes. These advancements are stimulating the spread of "virtual" scholarly establishments, reviving, thus, the requirement for part-time study arrangements, adaptable methods of credit collection and versatility between organisations.

3.3 Making Research Significant and Accessible

The amount and importance of new information and technology rising in research practising assign higher education establishments with a unique job in upgrading improvement, prosperity and economic and social maintainability. Following up on this potential is, in any case, not a given result, but requires enterprising individuals and an environment that permits transfer application and exchange of information and technology with the outside world.

Many economies in Europe face the challenge of how to make academic research into significant and available for society. Transforming research results into items and services requires higher education establishments to be open and responsive to genuine issues, to enable analysts and students to (mutually) create inventive arrangements, and to have the option to diffuse these broadly. This summarises the entrepreneurial and innovative capacity of a higher education institution. Learning alongside and with external stakeholders is essential to build up this capacity. This suggests a move away from the hitherto tight concentration upon "knowledge transfer" to a system based methodology of information exchange.

Not only does digital transformation challenge teaching and learning, but it also challenges the manner in which that scholarly world conventionally reaches its audience and increases reputation. Both open and private funders of research pressure higher education establishments to make research into discoveries all the more promptly and rapidly accessible, for instance, through free-access on the Internet. There is an eminent considerable momentous increase in on-line academic journals and a development in some countries to put the onus and cost of a person's publication with her/his scholarly home organisation. Moreover, the number of individual academics who publish their own work on the Internet is developing. Digital transformation is triggering innovations within each progression of the research and insightful correspondence process, as well as the scholarly publishing business sector, and this subject has seen developing interest and consideration (Ponte, D., B.I. Mierzejewska, & S. Klein, 2017). For instance, digital change manages more potential outcomes for citizen science, with the capacity to open access to datasets, and to make stages for reporting. As far as publishing is concerned, online administrations, such as, Google Scholar and

ResearchGate, as well as open access, have re-moulded information creation, assessment and dissemination (Ponte et al., 2017).

3.4. Improving Graduate Employability and Forming "Enterprising" Individuals

The requirements of the work advertise are quickly developing. Employers look for people with a proficiency in business and client mindfulness, critical thinking, cooperation, correspondence and education. In the same way, they look for those who are experts in using of numeracy and data technology, and who exhibit a "can-do" approach as well as receptiveness to new thoughts and the drive to make an incentive from these. "Employability requirements" cover with the capabilities and aptitudes related with entrepreneurship, both in a more extensive feeling of being "enterprising" and also in terms of starting-up and operating a business. Accomplishing these learning results require learning situations and teaching techniques that offer students opportunities to understanding and exploit tacit knowledge and that urge them to take responsibility for learning process.

Unemployment and underemployment of graduates are at present high in numerous states. This raises, again, the inquiry with respect to whether higher education establishments, all alone, are equipped for building up the basic and intelligent capacities that enable and improve graduates to discover remunerating employment and to endure and develop in a dynamic and progressively worldwide work advertise. Improving graduate employability requires more cooperative energies between education, research and practice and more system structures between higher education establishments and their business settings, which could possibly be local. The greater part of all, in any case, it requires educational reactions to graduates, who are probably going to be less risk-averse than their predecessors, progressively open to investigating new professions and new ventures, and who are better universally associated (Etzkowitz et al., 2012).

3.5. Making the most out of the Digital Technology

Digital transformation offers numerous opportunities to innovative higher education institutions (OECD, 2017); yet, it makes new challenges. Digital capacities, characterised as the capacity to coordinate, upgrade and change computerised technologies in all possible processes and exercises is turning into a key component cultivating development in higher education foundations.

The entry point for digital transformation in higher education institutions was associated with internet instructing and learning, yet digitalisation covers substantially more than the online conveyance of substance. Like the idea of the concept of entrepreneurship, digital transformation is a wide space, and there are numerous areas that higher education foundations should consider. There has been considerable amount of prominent work over the recent five years that

analysed the standards of digital transformation within higher education institutions across the world. The work has principally centered around two primary measurements:

• The need to think about how digital abilities of higher education foundations can be best utilised to help the establishments' various missions in new and inventive manners.

• The utilisation or take-up of digital technologies in higher education establishments and the various methods of implementation.

The uptake of digital technologies should not be founded on a "tick-box" approach to deal with implementation, however should be founded on an all encompassing, well-designed and integrated strategy that considers technologies as a key empowering agent and addresses specific, pertinent institutional issues and necessities. It is in this context, the idea of *digital-first thinking* has been created to demonstrate a move in organisational culture, which embraces the opportunities offered by digital technologies, and forming exercises and working practices accordingly.

4. Conclusion

Digital transformation and capacity cut over all parts of modern higher education foundations. It is progressively significant that those foundations make the most out of the opportunities afforded by digital technologies, which are a key empowering agent of development and entrepreneurship. Guaranteeing that higher education organisations can do so involves cultivating a positive computerised digital culture, creating and sustaining a fit-for-reason and exceptional digital foundation that serves the system and the missions of the higher education establishment, and creating digital abilities among staff and students to completely make use of the opportunities given by digital technology and instruments.

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