

Change and Innovation in European LIS Education

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Background and Context

- A follow-up of the study by Virkus & Wood (2004).
- The contribution of LIS institutions to innovation in Europe was examined through three case studies
 - the Manchester Metropolitan University (MMU),
 - the Robert Gordon University (RGU) and
 - the Tallinn Pedagogical University (now Tallinn University).
- A total of 12 interviews were carried out in spring 2003.



Changing Context

- **Societal needs** (increasing expectations for HE, to build globally 4 conventional universities with 30,000 students each every week for the next 12 years, 650 million youths are neither working nor studying, skilling & re-skilling for employability, re-education of people for highly skilled jobs)
- **Students' expectations** (flexibility, accessibility, openness, responsiveness, relevance, inclusion, employability)
- **Technological developments** (social networking, mobile technology, online learning - potential to lower the costs)
- **Alternative pedagogies** (OER, MOOCs)
- **How to achieve excellence in teaching & learning in the time of costs and cuts?** (LisbonSCOP2013).



GROWTH OVER TIME OF EUROPEAN versus NON-EUROPEAN MOOCS



Significant Challenges Impeding HE Technology Adoption

- **Solvable Challenges:** Those that we understand & know how to solve
 - Low Digital Fluency of Faculty
 - Relative Lack of Rewards for Teaching
- **Difficult Challenges:** Those we understand but for which solutions are elusive
 - Competition from New Models of Education
 - Scaling Teaching Innovations
- **Wicked Challenges:** Those that are complex to even define, much less address
 - Expanding Access
 - Keeping Education Relevant
- **Fast Trends:** Driving changes in HE (next one to two years)
 - Growing Importance of Social Media
 - Integration of Online, Hybrid, and Collaborative Learning
- **Mid-range Trends:** (three to five years)
 - Rise of Data-Driven Learning and Assessment
 - Shift from Students as Consumers to Students as Creators
- **Long-Range Trends:** (five or more years)
 - Agile Approaches to Change
 - Evolution of Online Learning

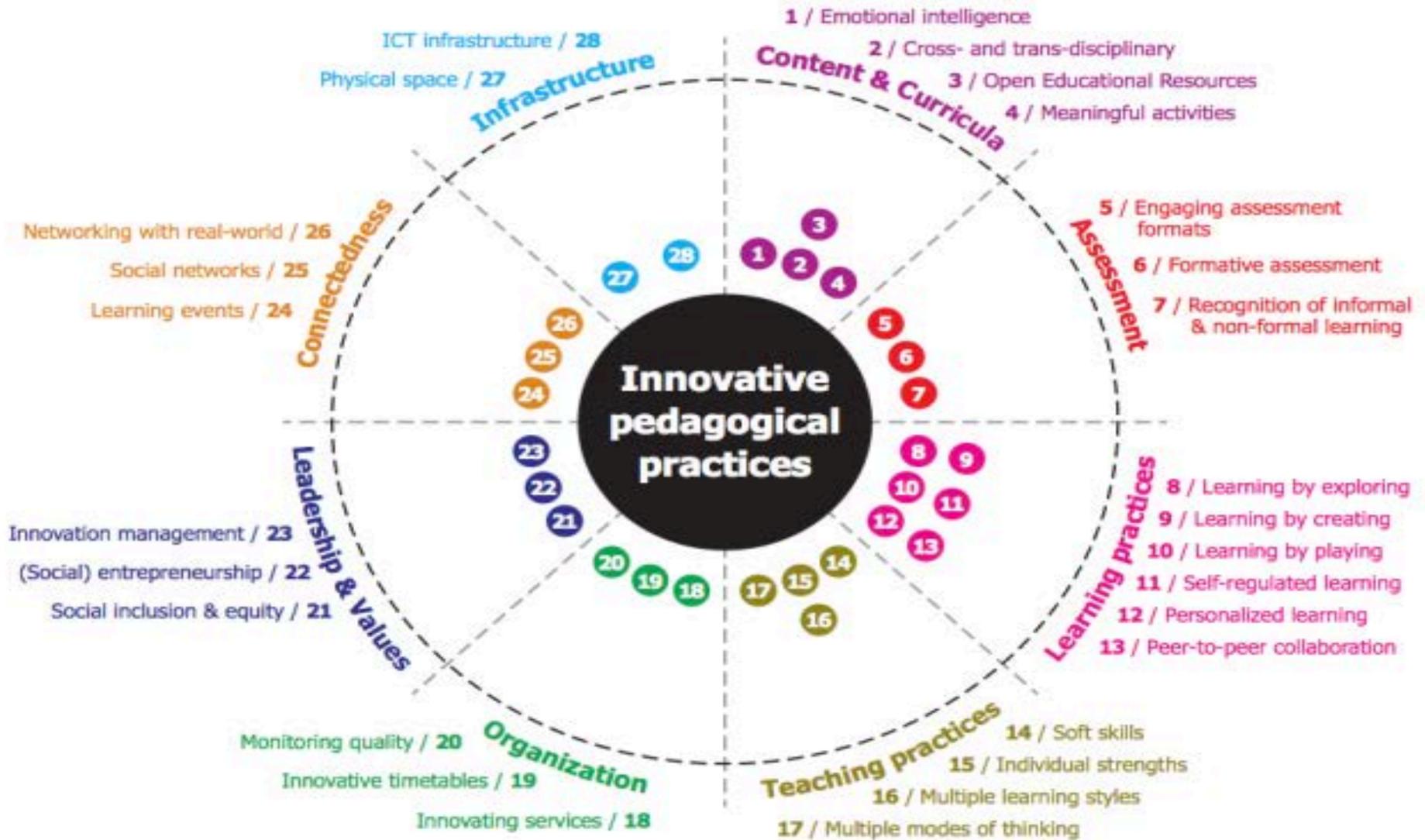


Important Developments in Educational Technology for HE

- **Time-to-Adoption Horizon: One Year or Less**
 - Flipped Classroom
 - Learning Analytics
- **Time-to-Adoption Horizon: Two to Three Years**
 - 3D Printing
 - Games and Gamification
- **Time-to-Adoption Horizon: Four to Five Years**
 - Quantified Self
 - Virtual Assistants (Horizon Report, 2014)



Elements of the Creative Classroom Research Model



(Horizon Report, 2014)

CHALLENGES

SOLVABLE

- > Blending Formal and Informal Learning
- > Improving Digital Literacy

DIFFICULT

- > Personalized Learning
- > Teaching Complex Thinking

WICKED

- > Competing Models of Education
- > Rewards for Teaching

TRENDS

SHORT-TERM

- > Increasing Use of Blended Learning
- > Redesigning Learning Spaces

1-2 years in each direction

MID-TERM

- > Growing Focus on Measuring Learning
- > Proliferation of Open Educational Resources

3-4 years in each direction

LONG-TERM

- > Advancing Cultures of Change and Innovation
- > Increasing Cross-Institution Collaboration

5+ years in each direction

2016

2017

2018

2019

2020

NEAR-TERM

1 year or less

- > Bring Your Own Device
- > Flipped Classroom

MID-TERM

2-3 years

- > Makerspaces
- > Wearable Technology

FAR-TERM

4-5 years

- > Adaptive Learning Technologies
- > The Internet of Things

TECHNOLOGIES



Key Trends Accelerating HE Technology Adoption

- **Fast Trends:** Driving changes in HE (next one to two years)
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(Horizon Report, 2014)

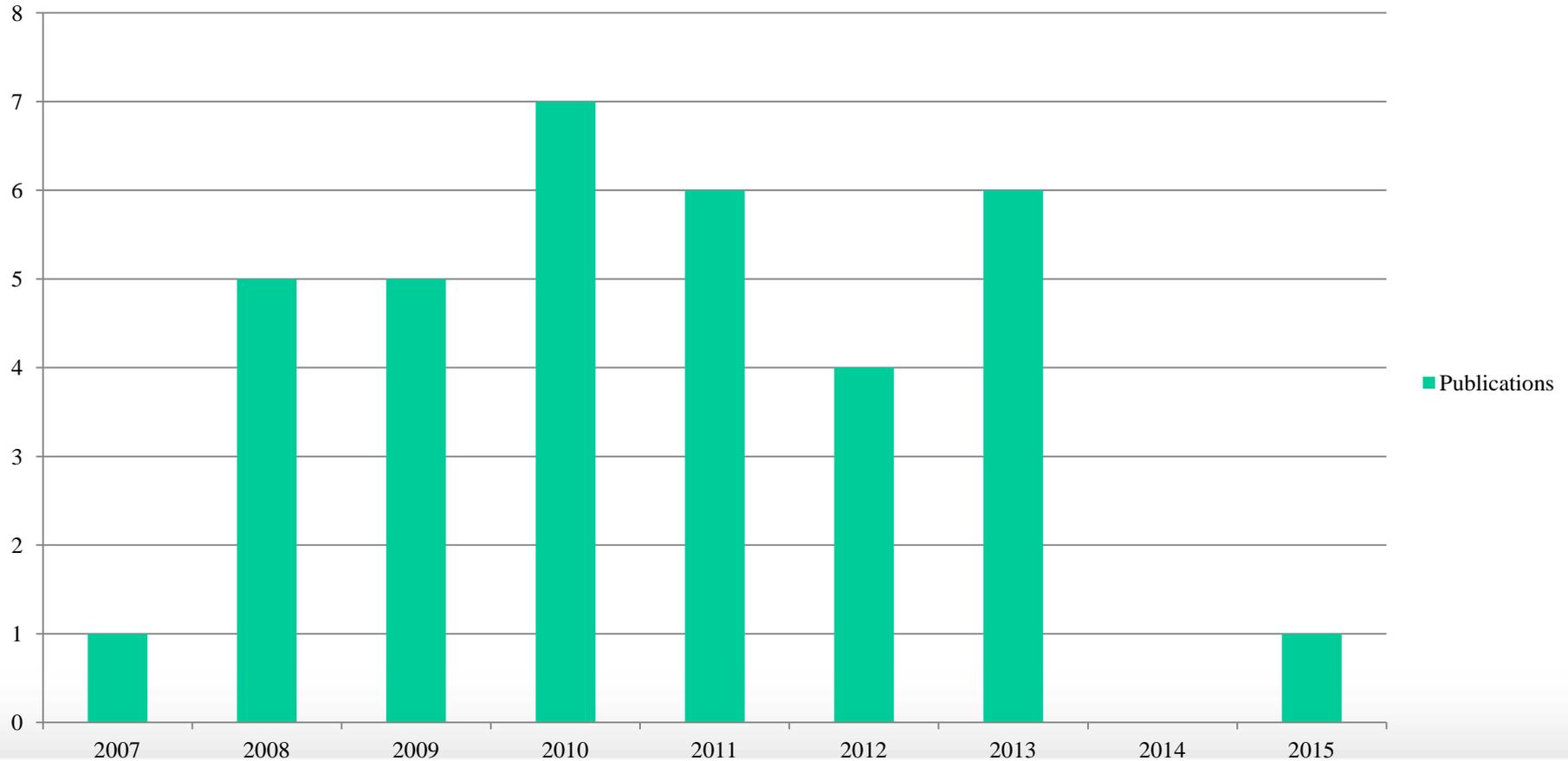
Web 2.0 and LIS education

- While Web 2.0 or SM have been theme to much discussion in the educational community generally it has received little attention in the LIS literature.
- It seems that other disciplines recognise the benefits & importance of studying/applying Web 2.0 principles (Aharony, 2008).
- Al-Daihani (2009) claims that there is little research done & a need to explore how LIS educators are responding to Web 2.0.



Web 2.0 & LIS education

Publications - 35



Web 2.0 & LIS education: Authors

Aharony 5 (Bar-Ilan University, Israel)	De Saulles 1
Al-Daihani 3 (Kuwait University, Kuwait)	Mastromatteo 1
Virkus 3 (Tallinn University, Estonia)	Virkus & Lepik 1
Webber 3 (University of Sheffield, UK)	Sarrafzadeh, Hazeri & Alavi 1
Garoufallou & Charitopoulou 2 (TEI Thessaloniki, Greece)	Terrell, Richardson & Hamilton 1
Virkus & Bamigbola 2 (Tallinn University, Estonia)	Webber & Nahl 1
Bawden et al 1	Davis et al 1
Foo and Ng 1	Sawant 1
Glass 1	Winzenried 1
Hanson-Baldauf & Hassell 1	Lihitkar, Naidu & Lihitkar 1
Srivastavam 1	Rajkoomar 1
Bamigbola 1	

Innovation and Change

- Thus, innovation and creative approaches are needed to survive in this changing environment.
- The contribution of LIS institutions to innovation and change in Europe is examined through institutional cases:
 - Institute of Information Science and Information Systems, University of Graz, Austria
 - Institute of Information Studies of Tallinn University, Estonia
 - Department of Library Science & Information Systems, Alexander Technological Educational Institute of Thessaloniki, Greece
 - Faculty of Communication of Vilnius University, Lithuania
 - The Swedish School of Library and Information Science, University of Borås, Sweden
- A total of 15 people answered to the questions in spring 2015



Innovation & Change Questionnaire

- sought to determine where the innovations & changes had originated,
- which people were instrumental in introducing & implementing change,
- main innovations and triggers
- attitudes to the changes, and
- generally looking at the impact of the changes on both the pedagogy and the departments concerned.



Selected Results



Definitions of Innovation

- The introduction or initiation of something that is **new and original**, something that did not exist before and a person introduces this new and innovative idea or method
- I believe that something **new, something different** from traditional ways is in place. That new could be an idea, a new process of dealing with something, a technological advancement, a new approach etc.
- **Technological novelty mainly**
- To innovate is to introduce
- Implementation of **something new** (it may be philosophical ideas, methodologies, scientific research results, best practices, new technologies etc) in your everyday life
- Innovation springs from the freedom to connect ideas in **new ways**
- In a social system: Finding new solutions for a given problem

something new



Definitions of Innovation

- Innovation is the introduction of a **novelty or a novel aspect** (can be a product, a service, or a process) which brings some kind of improvement (in quality, functionality, cost, productivity, ...).
- Innovation would be **a new way of doing something** or **a new instrument** for accomplishing some task. Innovation for me always comes with a positive improvement connotation: gives some benefit or pleasure, is easier, and helps to save time or space, or money.



Need to Innovate

- Innovation and experimentation with new educational methods is a **key element in education**
- Yes I do believe that there is a need to innovate
 - a) because **innovative thinking is what makes humans go forward and achieve things**
- In particular in **competitive environments** I see a strong need. In public administration I see such a need if budgets are shortened.
- Yes, there is the need to innovate in order **to be a coherent member of the society** (be it a professional community or private life).
- Yes, innovation **supports the development**, to achieve the vision of organization and at personal level to act to achieve the realization of ideas.
- The connotation of an improvement makes it necessary to innovate all the time as there is always room for perfecting something.



The Main Innovations

The main innovations that have been introduced in the last five years included **structural changes** at departmental/institute or university level,

- Changes in the **departmental structuring** in terms of human resources (old guard left and due to financial cuts departments had to merge and operate as one
- Recently, it was involved in an innovative re-organization, resulting in it being part of a 'faculty'.
- Structural changes at the **university level** – changing the classical structure of the university – from institutes to focus fields - influence change at departmental level
- the main one being **university-wide restructuring**



Structural Changes

- University have defined five interdisciplinary focus fields and tries to connect all 21 institutes around these interdisciplinary focus fields
- The focus fields are:
 - 1) educational innovation,
 - 2) cultural competencies,
 - 3) digital and media culture,
 - 4) healthy and sustainable lifestyle and
 - 5) open society and governance



The Main Innovations

Changes where **ICT** was introduced to assist teaching/learning.

- In general the department is making an effort to introduce the **new technologies in the program** of studies either with the form of new courses that are strongly linked with the new technologies, or by introducing new **educational methods based on the new technologies**.
- The main innovation, in my opinion, being introduced in the last five years was the introduction of the open source **learning management system of Moodle**
- The main innovations have been connected with **ICT development**: ICT-based learning objects, open educational resources & MOOCs, a blended course model and a social media integration into learning & teaching, considering the use of learning analytics, etc.
- Using cross-country teaching & learning **with the help of ICT**.
- Transfer of the DILL MA programme to the blended & online mode
- Telconf system
- **e-books** available from the library (university wide innovation)

The Main Innovations

The third main area where innovation is common is in the **development of new programmes, courses & teaching methods.**

- **the form of new courses** that are strongly linked with the new technologies
- We added lectures in English language to our (german) curriculum.
- We increased case studies in teaching.
- The department introduced a new online programme in digital library management
- During the last five years the main innovations have taken place **in the development of curricula & in research directions**
- Development & design curricula in a new way (inter-disciplinarity, integration)
- Introduction of the joint master degree program “Global Studies on Management & Information Science”



The Main Innovations

The process of **internationalisation & forming new partnerships & collaboration** were perceived as innovations.

- Cooperation with the Greek Librarians Association for organising manifestations with various subjects (since May 2014)
- Cooperation with Organising Committee of Library Reinforcement
- Internationalization
- Initiation of **interdisciplinary collaboration projects** with Film and Media School, Institute of Informatics, Institute of Psychology and Institute of Education



The Main Triggers of Innovation

- Main Triggers:
 - The economic crisis
 - Technology push
 - need to follow the changes in the field
 - pressure to change Greek HE
 - competition from other players from other countries
- More international students.
- Introduction of innovation was connected with **changes in the discipline**, with **changes in teaching & learning approaches**, anticipated changes in **student patterns of study** and recognition that continuous development for librarians depends upon them.
- A need to reach to the **new target groups** & offer possibilities for **LLL**.
- Inadequate **financial** resources
- New technology in information & communication
- The rector's desire for change

The Main Triggers of Innovation

- The return of **prestige & authority** to the department, the effort to trigger **more students** and the creation of contacts with those who already are professionals.
- **Analysis of the market** and a belief that the programme would attract students.
- There is always **the danger that our institute is not re-continued one day.**
- There were several pressures; first of all the rapid development of the **digital environment** that brought along the need to modernize not only the content of curricula but offered also new approaches in teaching methods & learning process. The changed environment offers **new jobs** and also requires from the employees **new skills**. The **demographic situation** had also to be taken into account.



Involvement of staff members

- In most institutions almost **all staff members have been involved in change and innovation process** – some staff more significant in shaping the curriculum, some in developing ICT-based teaching & learning, some in ICT use and internationalisation processes as well as research activities.
- Some staff members have been more influential.
- All staff, to some degree, given the radical transformation of the organization



How was the innovation communicated to the staff

- It was introduced through **seminars & emails**.
- Usually in an official way, Ministry to the Institution, President of Institution to Head of Department
- **By emails**, announcements to the department & personal invitations
- In regular **meetings**
- Information was just put on the site & communicated through main staff mailing list
- The need for innovation was discussed at **meetings & workgroups** organised first to get an overview about the **developments worldwide &** afterwards in preparing the main principles for innovation of curricula
- **There is a huge gap how the innovative structural changes in university are seen from to the top management and from the academics point of view whom it directly influences**

Attitude of Staff

It was pointed out that the staff generally have been remarkably **positive and supportive** – they seem to understand the need for continuous change

- They were all very excited and **positive** but very few of them actively participated in organising the events.
- I'd say it was **positive** and colleagues were interested to participate in the process
- **Blended**
- **Business as usual**
- **Neutral**. Staff saw both positive & negative consequences.
- **Stage & situation dependent** – some unhappy periods along the way for all through the confusion and misunderstandings, but mainly regarding the whole process as necessary and alleviating the work, owning the process and understanding that glitches are of our own doing.



Type of Innovation

- **Radical** (completely new, implying training for staff)
- I would describe them both as **radical** as well as **architectural** (involving restructuring of staff responsibilities) as some aspects were complete uncharted territory thus radical where as some others involved restructuring
- **Incremental** (done in stages)
- **Architectural**
- I'd consider the changes more **incremental** than architectural
- Small improvements and extensions to existing processes (**some radical** changes)
- I believe that the structural change have an impact on all the university and staff and therefore we can talk about **radical innovation**.
- All three, depending on innovation



Impact of Innovation

- A totally new approach in dealing with bureaucracy & administrative issues which now involves a typical process that needs to be followed.
- Various day to day issues are tackled quicker, efficiently and terminally
- Upgraded curricula
- The number of students increased
- Learning objects & OER helped to make learning more flexible & to rethink teaching and learning process.
- Staff was strongly encouraged to create online courses. As a result there are 54 online courses today.
- The programme was successful & continues to run



Impact of Innovation

- Increased cultural competence of scholars from the partner universities
- Increased cultural competence of students from the partner universities
- Two more information science courses are offered in English
- E-books – very good for distance students.
- System of business travel – diminishes freedom, but gives financial advantage for the staff.
- Coordinating & harmonizing teaching – big impact on teachers time saving, though it is eaten by other administrative tasks.



Ideas for Further Innovation

- **Collaboration with other LIS departments** either from Greece or abroad by having teachers from other department to teach in our department & provide us with fresh new ideas and methods of teaching.
- I would suggest the creation of a **Master's Degree** that is much in need for the Greek LIS students
- we plan to find sponsors from the private companies in the future. This would also strengthen the relations of our institute with private enterprises.
- At the moment we have ahead further innovations grounded from **the merge of structural units of informatics, information science and mathematics.** It gives different possibilities for innovations both in academic and organisational field.
- Digital Science



Conclusions

- Compared to the 2003 study the academic staff was more critical and self-critical towards innovation.
- The staff perceived the innovation sometimes differently (staff involvement, type of innovation)
- The main innovation was connected with structural changes at departmental & university level, course& programme development, ICT developments, internationalization, and collaboration & partnership.
- Academics believed that there is a need to innovate
- The main pressures or triggers that led to the introduction of innovation were connected with the need for continuous **improvement** and to **maintain efficiency, effectiveness and economy.**



Conclusions

Compared to the trends, challenges & technology developments of the Horizon Reports (2014, 2015):

- **Challenges:**

- Expanding Access (W)
- Keeping Education Relevant (W)
- Personalized Learning (D)

- **Trends:**

- Growing Importance of Social Media (F)
- Integration of Online, Hybrid, and Collaborative Learning (F)
- Evolution of Online Learning (L)
- Proliferation of OER (M)
- Increasing cross-institutional collaboration (L)

- **Technology developments:**

- Learning Analytics
- BOYD



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