

## HIGHER EDUCATION INSTITUTIONS TOWARDS DIGITAL TRANSFORMATION – THE WUT CASE –

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### **Abstract**

*New emerging digital technologies such as artificial intelligence (AI), virtual reality (VR), augmented reality (AR), cloud computing, blockchain, robotization, Internet of Things (IoT), big data etc. have produced a powerful disruptive effect in almost all areas and have radically changed the way we live, work, learn or relax. Sometimes without seeing or intending, everyone is adapting to digital era. As nothing "escapes" from the digital transformation path, higher education is no exception. So, it is only natural to ask ourselves: what are the higher education institutions doing to keep up with this rapidly evolving digital world?*

*According to DESI report (2018), Romania is among the countries with the lowest investments in the field of digital education, compared to other European countries. Unfortunately, although different initiatives, policies and strategies have been proposed in the last years, the progresses aimed at the main challenges related to digital development in higher education (such as the digital transformation of the Romanian university space, the governance of the university in the digital age, the certification of competences and the recognition of diplomas, pedagogical innovations or digital skills training) are still slow.*

*In this paper, we present the case of West University of Timisoara (WUT) as an example of good practice on how digital transformation affects a university and its nearest academic community (teachers, students, administrative staff). The goal is to gain an understanding of what is being proposed through the institutional development strategy and what is happening in our university. Thus, we conduct an exploratory research using a quantitative approach that involves a survey applied to students from different specializations and level of study. We focus on their experience about how our university can prepare and transform in order to adopt an integrated digital approach, looking into topics like: technology enabled services, digital enrollment of students, digitization of administrative processes, digital procedures for recommendations and complains, digital curriculum, new modes of digital learning delivery like MOOCs offering with credits for completion or partnering with industry and/or other economic stakeholders to provide digital badges or certificates to enhance students' career opportunities.*

*Our finding reveals that WUT must take significant steps toward implementation of digital transformation, being also watchful and caution of its hidden implications.*

**Keywords:** digital transformation, academic community, educational environment, higher education

## 1. INTRODUCTION

We are now living and experiencing the Fourth Industrial Revolution, characterized by a not distinct line between technologies, physical, digital and biological spheres. The digital technologies are at the forefront of our everyday lives and a fusion of them are blurring our professional and personal lives (Schwab, 2016).

How prepared are the universities to embrace this industrial revolution? How prepared are the educational leaders to harness the full potential of Industry 4.0 and benefit its customers (students, faculty, staff, alumni, etc.), communities, and society in general?

Not really prepared. Traditionally universities are a space where innovation is planned, tested and implemented, therefore a continuously interdependent relation with technologies should be envisaged. If they want to be successful, higher education institutions must have a combine technology with strategy in all areas. Recent studies (Wilms et al, 2017; Bond et al, 2018, Seres et al., 2018; Curaj et al., 2018) show that universities should provide learners with the skills and knowledge they need for a very different future. Moreover, as Rampelt et al. (2019) highlight, it is necessarily to provide “a clear understanding on how digital technologies can enrich the student experience in the European Higher Education Area”.

The key element that will enable this is *digital transformation*.

What does digital transformation mean? According to Clark (2018) digital transformation is a series of shifts that enable “transforming an organization's core business to better meet customer needs by leveraging technology and data”. Beyond these things, digital transformation also implies a change in the organizational culture level, an embrace of new approaches, a permanent evolution towards modern practices, still being defined. Thus, it is not just about disruption or technology, it's about understanding that “technology and digitalisation are becoming a basic necessity for society” (Curaj et al., 2018) and involves a significant change in terms of people's skills and jobs, the type of work they do, aiming to significantly impact all aspects of human's life. This (digital) transformation of the society itself already takes place in Japan, the country that introduced the concept of Society 5.0, a more comprehensive concept than the Fourth Industrial Revolution (Keidanren, 2016; Sato and Arimoto, 2019) and who has shown that through digitization, many issues that seem insurmountable can be solved. However, as Timothy Taylor, managing editor of the Journal of Economic Perspectives describes, we have not neglect the current societal problems which Japan is facing, such as declining population and workforce and the rising of elderly population. “[This is] driving up government spending on pensions and health care, and together with attempts to stimulate its economy through government spending (much of it on infrastructure), Japan has run up an enormous government debt.” (Samuelson, 2019).

There is no consensus regarding a common definition (or a common agreed model towards a digital transformation). Despite a possible “demonetization of the term itself” (Mirea, 2018), due to its use in almost any context, often superficially and without consistency, Ismail et al. (2017) indicate that digital transformation determine the rethinking of the role and impact of digital technologies from different perspectives: an individual, an institution/organization, a network, an industry or an entire ecosystem, society or economy, as well as the digital era. Furthermore, there is no clear recipe for adopting and implementing such strategy.

Probably the most objective and accurate definition is given by Rampelt et al. (2019). According to them, digital transformation is a “transformative process that substantially influences all activities of higher education institutions. It permeates all processes, places, formats and objectives of teaching, learning, researching and working in higher education. This digital transformation includes the development of new infrastructures and the increasing use of digital media and technologies for

teaching and learning, research, support services, administration and communication, but also the need of students and staff to develop new (digital) skills for their current and future workplaces". Therefore, a digital transformation is a complex and continuous transition where numerous education stakeholders must work closely together: learners, teachers, academic and administrative staff (including IT department), also the broader community.

In order to meet the demands of the future of work, universities must evolve, and be driven by competition (Pucciarelli & Kaplan, 2016), profit (McCowan, 2017; Sperling, 2017), customer experience and agility (Zervina & Stukalina, 2019), with a strong focus on students (Curaj, Deca & Pricopie, 2018). To achieve these imperatives, higher education institutions of tomorrow will need to adapt and embrace technology (Crittenden, Biel & Lovely, 2019), action-based models and life-long learning (Christensen & Eyring, 2011). In many ways, students have digital skills, starting from online shopping through a smartphone and going as far as remotely adjusting the home temperature. As a result, they expect that universities where they enrolled to widely adopt the new digital technologies like virtual and augmented reality, artificial intelligence, Internet of Things, etc. There are many ways to apply a digital transformation: recruiting students digitally (by using social media), enrolling and registering them digitally (i.e. via their mobile phones), providing a variety of online services and learning options (including blended and flipped courses), monitoring their learning progress as well as partnering with the industry to enhance their career opportunities.

Despite general concept and recommendations (HEA, 2019; Curaj et al., 2018; Menendez et al., 2016) every university should set up in its strategy clear and concrete steps towards a digital transformation, taking into consideration three main areas: digital infrastructure, the development of academic staff's skills to used digitally based methods in their teaching and improving student's digital skills.

The structure of the paper is as follows: after the introduction we continue with the second section which presents the digital portrait of WUT. In the third section, we describe the methodology of the study, while in the fourth part we analyze the data and present the results. The fifth section provides discussions, limitations, and suggestions for further research. In the end, we draw several conclusions.

## **2. WUT DIGITAL PORTRAIT**

West University of Timișoara (WUT) is the main higher education institution and research pole in Western Romania. Its community comprises roughly 16000 students and 700 academic staff. It is a comprehensive university in character and includes 11 faculties with their respective departments, as well as a Department of Teacher Training. The WUT's faculties offer nationally accredited study programmes at Bachelor, Master and PhD level in the areas: STEM, Humanities, Social Sciences, Performing Arts, Economics and Law. WUT is, thus, a comprehensive university fostering a multi- and inter-disciplinary approach to higher education and research, being an innovative institution that is trying to enhance in a broader way the students' experience.

The university's strong focus on quality within an increasingly international and globalized academic world is endorsed by WUT's affiliation to various regional, European and international higher education associations, as well as its' position in several rankings worldwide (i.e. recent one in Round University Ranking, 626 in 2019).

Last, but not least, the student campus is in the heart of the city (an attraction, with various opportunities for leisure) already announced as the European Cultural Capital for 2021.

With digital transformation, WUT is facing a great paradigm shift, the implementation at organizational, cultural and technological level. WUT provides complex digital services for staff, students and other educational stakeholders and visitors through several departments (IT, Continuing

Education and Distance Learning, Communication, Image and Institutional Marketing). Thus, in order to stay relevant and competitive in today's digital and connected era, WUT undergoes continuous efforts at all level: investments in IT infrastructure and advance infrastructure systems; digitalization of operations, implementing smart campus infrastructure, increasing and constantly improving digital literacy amongst academics, students and staff; changing the current working style while adding new techniques, tools and capabilities concurrently; reshaping its digital culture; strengthen trust in new technologies like cloud, AI or blockchain, investments in social media presence etc.

General speaking, for WUT digital transformation is not just a technological change, but an organizational change at the intersection between technology, business and people. It is about a digital way of thinking by adapting a new mindset. We can say that at WUT the top executives think digitally, they are open and embrace innovation in the university. On the other hand, academic community is encouraged to constantly seek active solutions in order to streamline activities with the help of digital tools, proposing new functionalities via intranet. Moreover, WUT is also actively anchored in digital life of community, every semester holding various events related to digital and emerging technologies (workshop on blockchain or open robotics, open cultural hackathon etc.).

### **3. METHODOLOGY**

For this study we resort on a series of digital transformation and strategy elements from the Europe 2020 Strategy, the Digital Education Action Plan, the EU Agenda for Higher Education and Bologna Process, the National Competitiveness Strategy 2014-2020, National Strategy of Romania 2020-2030, and Strategy regarding the modernization of the educational infrastructure.

The digital transformation conceptual journey starts with an exploratory study meant to clarify, define and identify the basic issues, problems and opportunities related to WUT digital transformation through the students' opinions. Here are some questions addressed, some still waiting for the answers:

- Is WUT creating an inspiring digital environment for students? (What are the tools, apps and technologies that help them do their work more effectively in a digital ecosystem?)
- How is WUT engage and communicate with its students in a digital way?
- Do students find easily information about courses and drill down into richer course content and communities?
- Do students have a range of options about where to learn and how to consume learning materials?
- Are teachers digitally prepared?
- Are there digital channels that support students with academic attainment and achievement?
- Do students understand their performance and potential from collated data?
- Are there possibilities to initiate a research, track their progress and collaborate with other students? Do WUT encourage digital collaboration across disciplines for research?
- Are there platforms highlighting student communities, extra-curricular activities or discounts in the local area?
- Are students prepared for a digital life after their undergraduate degree?

#### **3.1. Method**

We used as approach the COBIT Model (Control Objectives for Information and relevant Technology). COBIT is a business optimization tool, that can help academic institutions tackling the current challenges in the arena of digital transformation (Gunawan et al., 2018) by offering effective practices (Khther and Othman, 2013) throughout a framework and lays down activities in an organized and flexible structure (ISACA, 2018): What are the Drivers? Where are we now? Where do we want to be? What Needs to Be Done? How Do We Get There? Did We Get There? How Do We Keep the Momentum Going?

Based on Zahari et al. (2018) and Rampelt et al. (2019) recommendations to draft a conceptual university digital transformation design, we address just the first three steps: 1. understanding the context and strategy by emphasizing on the drivers and game changers towards digital transformation. 2. evaluating where is university now, what are the current trends towards acceptance of digital transformation and 3. defining targets for improvements, analyzing gaps and identifying potential improvements.

### 3.2. Data collection

For collecting the necessary information, we conducted an online questionnaire with 33 questions, publicized via our learning management system to bachelor and master students. Data collecting was performed between the end of October and the beginning of November 2019, with 111 respondents/answers, after validation. By level of studies 101 are Bachelor students and only 10 at Master. Most students (82) come from Sociology and Psychology, followed by Communication Studies (20). Rest of them are from different specializations. By gender 26 are male (23.42%) and 80 females (72.04%) and 5 (4.5%) do not want to specify their gender.

The results obtained, the size of the sample and the extent of the questionnaire show us that this survey can be a starting point for a large descriptive analysis and that it can be considered the initial phase of a more complex research, which we will carry out by WUT in the spring of 2020.

## 4. DATA ANALYSIS AND INTERIM RESULTS

Starting from listening to students, valuable insight can be gained and acted upon. Some of them are presented below.

The students who completed the questionnaire are savvy, better connected (especially mobile), digital sophisticated, bring their own digital world expectations to university and more vocal than ever. As 92% of students use mobile Internet for social activities, unfortunately their use of academic services is not as we expected (see Fig. 1). However, most of them (105) check their mail daily, this being the main mean of communication and/or for academic information.

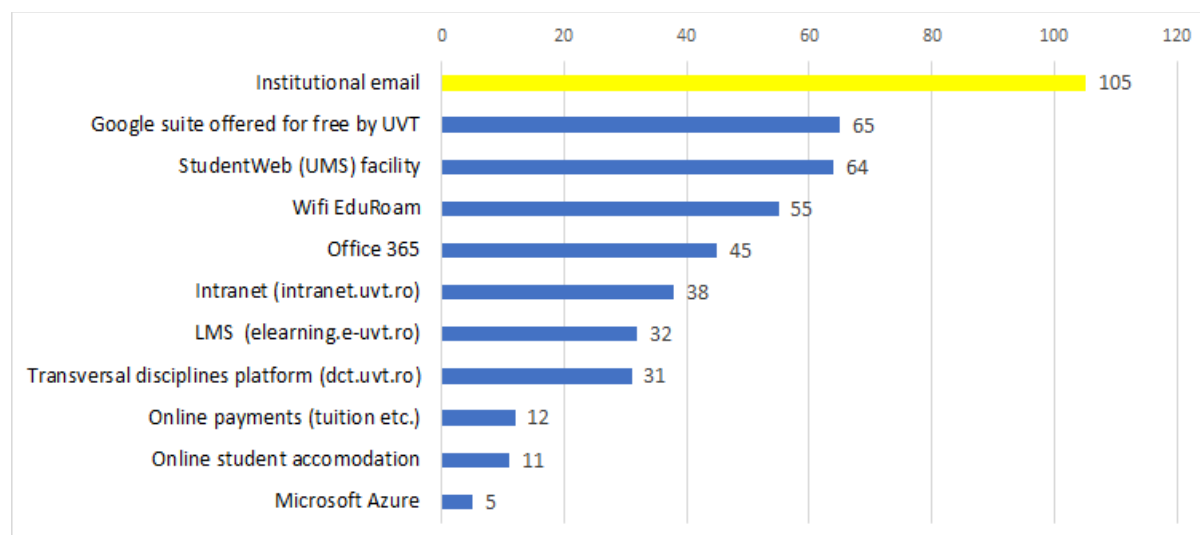


Fig. 1. Use of institutional IT services by students

*The progress made in introducing technology into education is still low.* Although WUT keeps up with new technologies (see the digital portrait), students find that the use of technology for educational

purposes does not keep up with technological developments. A small percentage of teachers integrate digital applications and tools into their pedagogical practices (see Fig. 2). On the other hand, students feel that not all teachers have the skills and confidence to use digital tools in their teaching activity. Thus, a major concern becomes how these technologies will be implemented effectively in the organization, so students and staff make the best use out of them.

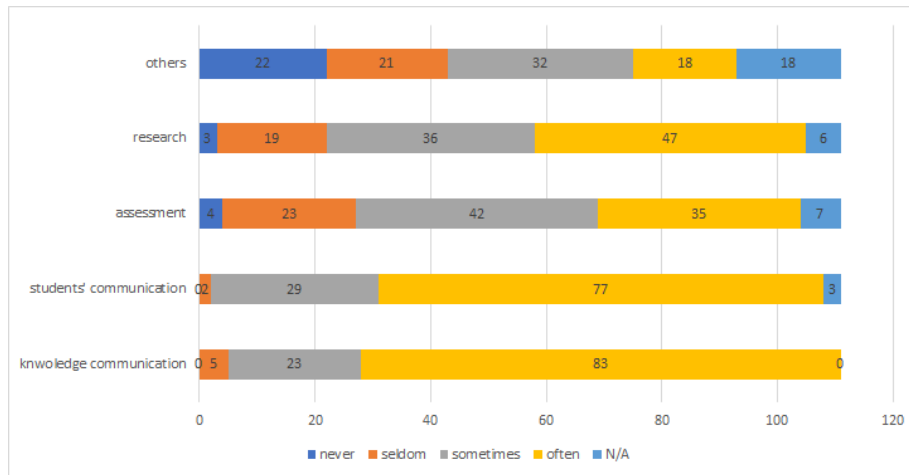


Fig. 2 shows the distribution of the responses to the question “How effectively are your teachers integrating digital technologies in their pedagogical practices to enhance student experience?”

*Better use of digital technologies in teaching, learning and assessment activities.* For this purpose, students want to have digital media, including interactive digital textbooks, they want the use of Augmented, Virtual and Mixed Reality, 3D technologies and experiences, holograms and even drones (Fig. 3). Students are no longer interested in PowerPoint presentations or YouTube videos. If digital transformation proposes the use of AR and VR then why not introduce it into WUT with direct benefits for students from geography or history for virtual tours in China, those from physics for an astronomy course in VR or a course in anatomy 3D for students from psychology or physiotherapy?

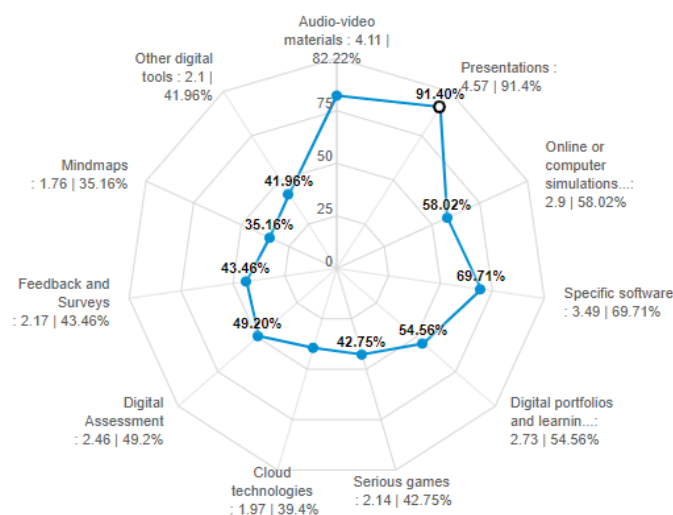


Fig. 3 shows the distribution of the responses to the question “Which of the following digital tools and applications are used in teaching activities?”

They also claim (36.97%) that there is a lack of online resources in Romanian language and that there is no system for curating the proposed educational content as bibliographic references, which can be



downloaded and shared. How to encourage sharing of Open Education Resources and Open Educational Practices is a future aspect that need to be addressed.

Also, a concern is given by the degree of adoption of digital instruments by students from various social and economic backgrounds. They are especially interested in how they can have certain learning paths while studying remotely, having more flexibility when it comes to their study times (Fig. 4). This can make WUT more inclusive and appealing to those students who need to work or to support their family whilst studying, but also to mature and international students.

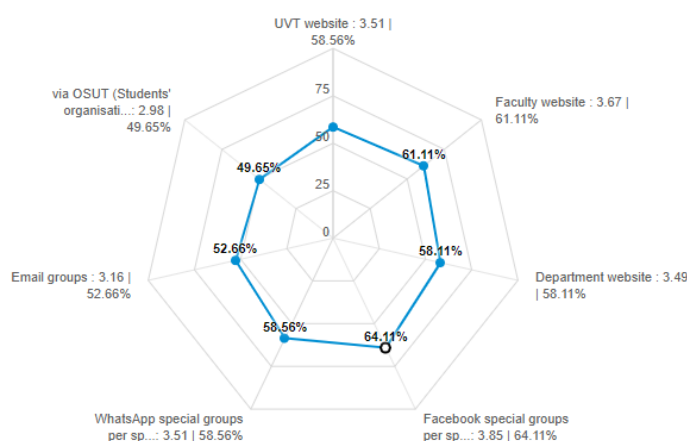


Fig. 4 shows the distribution of the responses to the question “My information on the requirements of the student activity is available ...” (on a scale from 1 to 5: not at all, slightly, moderately, very, extremely)

Students want to *explore new methods of teaching, hybrid teaching models* such as flipped classroom or blended learning and expect to have *innovative teaching techniques, personalized learning*, and digital experiences that they usually take for granted. Thus, 82% of the students declare that they fail to take digital notes during the courses because they lack the opportunity to help themselves in the classrooms with laptops or other portable devices. The main impediment is that teachers do not accept such methods in the classrooms.

*Applying relevant experiences in the educational process.* Students follow and adapt to global trends much easier than teachers or administration staff. Relevant experiences have a relatively simple formula:  $XPr = (P+GT)*CE$ , where  $XPr$  = relevant experience,  $P$  = passion,  $GT$  - global trends, and  $CE$  = constant experience. Basically, we refer to the value of assimilated skills important for students, and constant expertise constitutes the monitoring of all changes and innovations in their areas of interest.

*Increasing digital literacy* (knowledge, skills and confidence to use new technologies). Students perceived both academic and staff to lack confidence and nervous when it comes to use new digital technologies and to engage in digital spaces next to them. On the other hand, students too, don't use technology effectively for learning or educational contexts. Equally important they point out to the adaptation of the IT department team's competences, 71.17% of students saying that it is necessary to open them to the needs of the academic community and to support digital initiatives more willingly.

In order that WUT embrace the digital world and ensure students are getting the most from new technologies, students propose the establishment of an e-learning center that offers the possibility of adding new skills in the use of computing devices (e.g. not all specializations have included in the curriculum computer science or ICT disciplines), of software applications and skills of analyzing and

solving some problems with the help of digital technologies; the extension of the Transversal Competencies Program offer, the recognition by credits of the MOOC courses, etc.

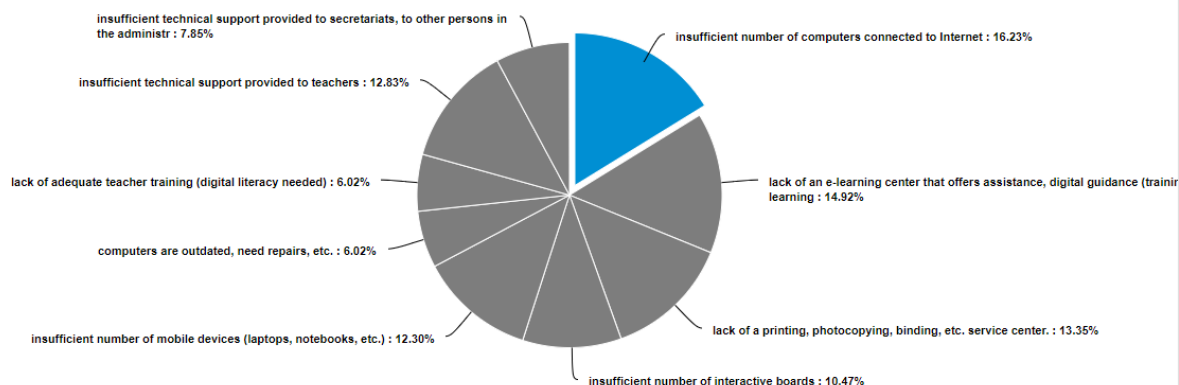


Fig. 5 shows the distribution of the responses to the question “In your opinion, what are the obstacles hindering the digital transformation of WUT?”

*Adaptability to change by teachers.* In order to introduce innovation and technology into their activities, teachers need the right environment, infrastructure, devices and support from the WUT. A recent measure initiated by the decision-makers at WUT is the “One laptop for each teacher” program. Thus, the purchase of 540 laptops was finalized (the status can be tracked on <https://achizitii.uvt.ro/dashboard> — which proves a transparent date of the institution's decision-making process). But this is not enough. As noted by the 78% of the students, an approach is needed that combines teacher training, educational programs and appropriate educational materials for teaching models with digital support.

*A vibrant campus with appropriate digital facilities.* 34.12% of students say that embracing I4.0 technologies such as IoT, VR or AR can help not only the teachers in processing a large volume of data but also the distribution of test results to students and other departments. Thus, alerting about potential difficulties encountered (to prevent school dropout), collecting data on the duration and timing of projects or other activities would be done in real time. Another interesting aspect suggested by 29.19% of students is that these technologies can also be used during WUT Open Days, when prospective students come to university and have the chance to explore in depth the academic environment.

*Different study spaces, redesigning learning spaces.* Students are tired of the typical classrooms, banks lined up etc. 62.52% want alternative furniture that encourages creativity and digital collaboration, proper ventilation of classrooms (especially large ones, such as amphitheatres), adequate sound of rooms through modern audio systems, the possibility of darkening the rooms for film / video clips, while 73.39% indicate the need for comfortable seats. Also 64.46% require mobility (good wireless connectivity especially on amphitheatres), more electric plugs on seminar classrooms and Smart tables.

*Use of digital technologies to support administrative activities and mobility in education.* Most students identify improving services addressed to them as the main benefit of implementing new technologies in university. Overall, students want electronic cards and a “paperless WUT” (a sustainable university):

- to provide ease of access to the information systems available in the WUT, other than those offered by the faculty from which they come (13,25%);
- integration with industry 4.0, collaboration and partnership with international organizations and industries (preparing students for the job market);



- to have an online admission (12,84%);
- to simplify the enrolment (15,79%): the students underline that the enrolment process must be clear, and the progress to be easily tracked online;
- soft-skills practices within the curriculum, digital assessment (16%);
- dedicated apps (17,6%): mobile orientation applications in WUT physical spaces, establishing online consultations with teachers, sending requests to secretaries, contactless and mobile payments etc.;
- to allow secure exchange of student data and academic results (14,74%) (in this sense, WUT has completed the acquisition for an IT monitoring service for the attendance at the courses and for the electronic catalog);
- to reduce administrative procedures (18,84%);
- ERASMUS students want access to the services to which the Romanian students are entitled (6%);
- a platform on which all kinds of documents can be accessed (various requests, etc.) (18,01%);
- other online students' services (20,63%): cultural passports, city orientation etc.

*Data protection, security and confidentiality are major concerns.* 42.34% of students say they know what GDPR is, 17.2% don't know and 40.54% say they have an idea but don't know exactly what it is. On the other hand, students don't know what kind of data is collected by WUT (there is no clear reference on this matter) and what are the subsequent operations and activities required to process this data (including evaluation). In addition, the vast majority expressed their concern that at WUT level there is no online code of conduct, nor the possibility of reporting abuse or harassment in the online environment. Although there is an online service that gather complaints, suggestions or recommendations – but on a general basis (<https://www.uvt.ro/ro/sps-uvt/>).

*Social media presence.* One positive thing found by students is that WUT has a "voice" on social media platforms. There are Facebook pages of the WUT and faculties, even of departments, Instagram accounts, livestreaming events, etc., administered either by Students' Union (OSUT) or by the Image and Communication Department, updated and with direct impact on potential and current students and graduates (alumni).

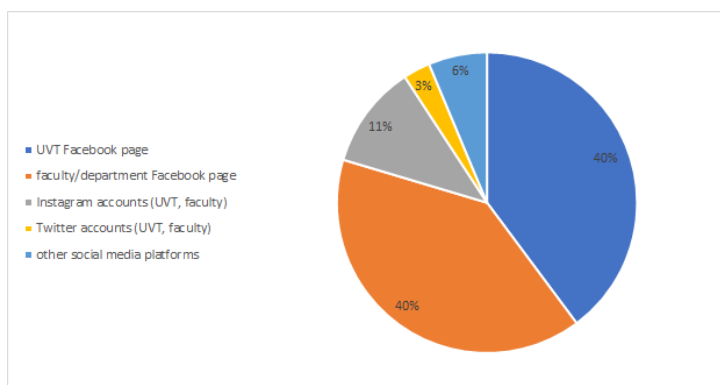


Fig. 6 shows the distribution of responses to the question "Do you follow the social media accounts of the university?"

On the other hand, if students want teachers to have blogs or informal spaces of expression, to interact with them through digital media, not all teachers feel comfortable in being involved in students' social media communities (Facebook or WhatsApp groups). Some are afraid of negative reactions or criticisms posted as comments. And too much involvement it can be also harmful (for example, if the content of the courses is intensely debated, the students may consider that attending the courses becomes unnecessary).

## 5. LESSONS LEARNED AND DISCUSSIONS

As far as possible barriers to going digital we prefer to refer them as digital transformation *action priorities*. In her way to a digital transformation there are some drivers of change in order to **develop a digital strategy**, more precisely, a business strategy that fit to digital age. Below are listed some of the current opportunities we identified so far, which can be easily implemented at WUT.

- **Creating a new team structure** consisting of both teaching and administrative staff from various departments, as well as external consultants and experts, from fields such as learning and knowledge, research in leading areas such as AI, blockchain, etc., marketing and communication and, of course, business digital transformation, software architects and User Experience Design specialists. Its mission must focus on assessing the digitalization needs, the digital maturity level of the institution, understanding their causes and designing functional and viable digitalization solutions:
  - *Development of top strategies and practices aimed at introducing and applying digital technologies in education* (but not only), which meet the curricular standards in Romania but also at world level.
  - *Testing how the university's brand is perceived on educational market* (applying surveys, monitoring social channels, etc.).
  - *Support ongoing development of digital literacy skills* for the entire academic community.
  - *Adjusting, modernizing educational forms and practices to take advantage of new digital technologies*. Establishing a training portal for digital tools and apps, support content and access to all WUT e-learning platforms, creation of a hub of interactive open educational resources, to become a place where students' educational projects have their own space for dissemination (and obtaining funding).
  - *Development of career guidance methodologies focused on the needs of students* and correlated with the skills needed in the IR4.0 era but also respecting the age and individual characteristics of each student.
  - *Optimization of study offers in support of employability* (i.e. since this academic year WUT launched the first Digital Media program at bachelor level).
- **Improvement of existing digital platforms**. The Moodle e-learning platform needs to become more user-friendly. In addition, it is necessary to create and implement integrated digital educational tools to enable innovative management at the institutional level and leadership.
- **Working with industry partners**. For example, the partnership with Google can be extended, not only to provide GAFE to students and educators, but to offer different programs, projects and resources to develop applied skills for the future.
- **Using advanced (learning) analytics** the university can support and improve the academic performance, the employability rates, student journey and student retention. Currently Moodle is used more as a repository of lecture notes from where the student downloads materials. This it is found little benefit both for the student and the provision of data for use in analytics. On the other hand, students' analytics are a great ally for university IT leaders to improve their experience. Regarding the learning environment, it is necessary to have *informal learning and functional research spaces digital fully equipped* (functional Wi-Fi in each room, projector and laptop, etc.).
- **Exploiting innovations in the field of mobile technology** in order to better change the educational process (for i.e. there is eduroam, but mobile applications are needed - orientation, communication, etc.).
- **Reinforcing cyber security** by adopting appropriate safety measures and accreditations. For e.g. WUT can make use of IoT for assuring physical security in campus by using drones for surveillance.
- **Developing a digital policy** that clearly and relevantly reflects the support for high quality education, the development of the digital skills of the academic community, the stimulation

of innovation within the institution, the provision of a framework for the issuance of digital certified qualifications and for the validation of the digital acquired skills (e.g. MOOC courses) that are reliable, multilingual and can be stored in professional profiles (e.g. CV EuroPass). In addition, there should be a clear policy for social media use.

- **Launch of pilot projects using artificial intelligence.** For the admissions process an AI conversational interface, or for online consultations with the teacher the existence of a chat bot to answer queries via web or phone or other virtual assistant technology which can allow students to be engaged in constructive and helpful dialogues.
- **Leverage cloud technologies** to drive innovation. Although WUT currently has this possibility isn't enough embraced, there is a lack of trust or concerns in terms of reliability, security or resilience.
- **Increase financial allocations** (significant fundraising and development) for programs that support the digitization of education but also for those academics concerned with continually developing their digital skills and developing new innovative teaching techniques.
- **Continuing to strengthen a climate of digital culture** across a range of social channels, web sites and apps.

All these results emphasize the struggle of WUT in becoming a good example among Romanian universities. This digital journey is a complex process, which isn't complete yet. Certainly, it is clear that changing teaching methods is becoming a necessity. Thus, in order to be able to align with the rapid pace with which the world is changing, the traditional methods of teaching in WUT must be changed with new ones that promote the students' digital skills and abilities, their flexibility of thinking.

Although the data we analyzed provided interesting insights on WUT digital transformation, there are some limitations that should be acknowledged. First, our study is an exploratory one. Secondly, it is based on a small set of respondents, leaving out the potential students (how they see digital initiatives of WUT), postgraduate students, alumni and their relationship with economic field and international framework (for e.g. WUT can use digital channels as social media to help international students to have better sense of the university environment). On the other hand the respondents came mainly from one subject group (sociology and psychology) which limits our analysis since these might see the world differently than students of other areas.

Overall, more than half of the students surveyed expect a change, a disruption in university model within the next 2-3 years. This students' optimism regarding such a narrow time horizon of disruption will be interesting to track in the future research we intend to carry on in the Spring of 2020. However, these limitations can be seen as challenges that are opening new avenues for future research.

## 6. WHERE NEXT?

This analysis is only a small part of a larger study that will be conducted at WUT next spring. The future approach should address digital transformation for a variety of stakeholders not only the entire academic community (board members, teachers and researchers, undergraduates, postgraduates, alumni, potential students, administrative staff), but also government and public bodies, civil society, partners and industry market.

Despite all the results of research carried out until now, there is still a long journey ahead, but for the moment, WUT can be considered a university that transform itself into an agile and vibrant institution with its own digital personality.

The current and future digital transformation solutions of WUT can be the basis of a national strategy for digital transformation of all HE institutions in Romania and can be relevant to European Higher Education Area (creating new learning experiences, new learning path, new way for research collaboration, developing policies to better connect OERs, open science and innovation etc.).

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