Suggested Softwares And Platforms For Digitalisation In Higher Education

Manpreet Kaur Madan

Faculty, Sri Guru Gobind Singh Indraprastha University.

Abstract: The new age education system is incomplete without the inclusiveness of digital educational resources. These resources can be termed as 'educational software'. The learning process is facilitated by the use of software for education at all levels of imparting knowledge. Universities need the high-impact digitization for enhancing the learning experience by employing multiple learning management systems and platforms. The present paper focuses on dealing with universities' digital employees and students, surrounded with digital technologies.

Index Terms: **Educational Softwares, Digital Technology, Digitisation in University, Digital Teaching, Higher Education.**

I. INTRODUCTION

Modern organizations need a digital strategy if it wants to achieve its objectives and universities are no exception. Due to the digital revolution, not only new professions are arising, existing jobs are also going through modification in skill sets. There is a need to re-shape education policies to narrow the widening skills gap. In this light, the importance of technology-advanced universities and cost-efficient education becomes extremely relevant as it remains responsible for fostering innovative skills and knowledge transfer. Investment in knowledge and research are fundamental for activating the circle of innovation, productivity, competitiveness and employment. (Masera, 2018)

With the Government implementing the National Mission on Education through Information and Communication Technology (NMEICT) to leverage the potential of ICT, in teaching and learning process for the benefit of all learners in Higher Education Institutions in any time-any where mode, more than 800 courses in various disciplines are available online under National Programme on Technology Enhanced Learning (NPTEL). E-content has also been generated by the Consortium of Educational Communication (CEC) in collaboration wit its Media Centers. Various virtual labs for experiments are currently in use. (Press Information Bureau, Government of India, 2015) The reason behind the adoption of this approach by the Government is the realisation of huge, effective and efficient benefits of digital technology to deliver services in new and differentiated ways.

As mentioned by Allen (2018), the student learning experience requires developing multiple teaching methods that includes the ability to navigate diverse forms of technology. The power of communication channels including the social media platforms can be a significant differentiator for Universities in the space of digitization. Every channel is a touchpoint for potential and existing students.

Appropriate guidance and support has to be provided to academic staff about the use of social media for the benefit of the University. The best practice policies and behaviours have to adopted with the approach of not indulging in overly bureaucratic process. Furthermore, the security aspects of data cannot be overlooked in the name of digitization. Academicians that use digital technology should not face 'shut down' by IT department which brings fear and concerns about risk and compliance.

II. LITERATURE REVIEW

The central intention of the research is to strengthen the motivational aspects associated with digitalization of the University systems and improving the educational practice by making use of new technologies and educational software in way of providing innovative teaching. Milena, Maŕia and Andrés (2018) suggested the incorporation of online and offline educational software as

well as the adjustment of classroom practices mediated by technological resources. Software tools such as Google Drive, YouTube and Facebook and also the didactic games can be used as platform educational software for teachers.

Constant interaction between teachers and students (digital teaching and learning), also through virtual campuses permit and require real time improvement and update of lessons (Breslow et al. 2013). Innovative and transformative learning management system technology creates a new way to teach and learn online (Blackboard, 2017).

Correnti (2018) correctly states that every day of life of people is radically changing. This change is represented by Internet of Thing concept, the system of interrelated computing devices, mechanical/ digital machines, objects that are provided by unique identifiers and the ability to transfer data over a network without requiring human-to-human interaction.

The real time communication services of WhatsApp, Skype and Facebook are popular social tools in the era of digitization. The new waves of ICT and telecommunication have emerged. Digital Technology comprises of the usage of fresh and innovative Internet-based parameters such as video, social media, mobility, data analytics and embedded sensor devices that have the potential of transforming people's lives. The definition of Digital Technology encompasses an extreme rich set of IT infrastructure, applications and collaboration services.

According to Masera (2018), "continuous innovation requires lifelong learning with corresponding changes in teaching techniques and skills. The fundamental difference between knowledge and information societies lies in the capacity to select, transform and enact information into true knowledge and effective action. In turn, this requires adapting and networking all key infrastructures of the system." Human, physical and computational elements give rise to architecture like Cyber-Physical Systems (CPS), the Internet of Things (IoT), and the Internet of Services (IoS). He also brings to focus that internet has transformed the way people interact with information.

Thoring, Rudolph and Vogl (2017), studied how students of Universities use and benefit from an increasingly digitized study environment. The participants strongly agreed that all literature should be made available online to avoid facing scarce book resources and other literature for preparing seminar papers. Moreover, a convenient and seamless integration of services including storage, collaborative work, e-mail, chat, Office applications plays an important role in the University systems. To be specific, they mentioned in their study that the students expect a portal in form of a website or an app, which requires only one login and merges the most important messages, information and a transcript of records. The study focused on the students' personalised requirements that match their specific subject of study and their study objective (examination regulations, schedule, information about lecture rooms).

III. RESEARCH METHODOLOGY

The paper discusses the educational platforms to accelerate the process of digitalisation by using Information and Communication Technology along with other teaching and learning softwares in Universities and respected Colleges. The research paper is conceptual in nature and provides suggestions for digital transformation in higher education and focuses on . To ensure credible results, a relative comparison has been made with the system of Universities worldwide.

IV. DISCUSSION

Suggested Platforms and Programs

Need of the hour is to examine to what extent the student and the faculty lifecycle is already digitized and which areas require advancement. Taking help of career counselor and softwares, Universities and Colleges can display their suitable course modules based on regulations and previously obtained qualification of the students. Likewise, a University Application for Android can serve the purpose of providing general information for a personalised solution that simplifies learning and teaching organisation.

An educational model should focus on innovative and learning-centred pedagogical approaches which provides access to Open Educational Resources (OER). This can help the students to build their personal brand in the job market by enhancing the required skills, which can be an important part of career development, and also be beneficial for the professors to equip them with the needed competencies to design e-content for students. A project can be designed for trainers and teachers as well as educational Institutions that want to create their own online course or educational content.

For example, Management Learning Aids provides virtual one-stop platform that ensures best learning and teaching experience. The content is developed by highly qualified subject matter experts that is comprised of presentations, subject bibliography, lecture notes, updated case studies, sample practise papers, preparation of question papers and assignments, practical tips to excel and career counselling. Repository of information and resources is customised according to the academicians and students' need. The team works with Colleges and Institutions to build a platform for online courses focusing on practical knowledge, hybrid evaluations and thereby improving the relevant skill sets. Management Learning Aids provides self-assessment e-tests and playful quizzes to indicate the progress. Pre-tests are also provided to evaluate skills and knowledge levels which help in selecting appropriate career.

This online platform uses basic techniques for the production of digital educational content and transmedia design for Open Online Courses to improve the engagement of students and teachers. The ongoing activities are focused on learning and teaching technology. Cutting-edge methodologies and tools utilised by Management Learning Aids provides coordinated use of multiple media for communication and basic educational kit including charts and diagrams for better understanding. Quick remediation for queries, mentor support, personalized feedback and performance analytics are other services provided by this online education portal. The results have revealed a higher conceptual knowledge and a higher retention on part of the students.

For the purpose of digitalizing education, universities have an absolute requirement of providing group coaching to be educators. A troubleshoot guide can be made available on the personalize section of faculty application and website. Constant motivation to use the digital platforms remain relevant and marketable in the field of higher education.

The basic benefits associated with digital learning management system are the ability to assess the information on any electronic device at any time; innovative and interesting learning experience; increased involvement of students in online user-friendly environment and simultaneous interaction that occurs in real-time. Technology-driven educational climate proves advantageous for the efficient use of time for participating in online activities and discussion, managing projects and assignments and searching the resources in a simple format for distant students and faculty. The attempt meet the needs of diverse population. It can be supplemented with the traditional classroom experiences.

Aids can be taken from YouTube and Wikipedia and other software like Google Apps which is a suite of programs that use cloud technology that allow students to create spreadsheets, documents, PowerPoint Presentations and other programs require for their respective courses. The digital system provides the ability to think beyond text-only resources. The attendance can be received on a software connecting the faces and names to the students. The major events and academic calendar of the University and Colleges can be displayed on the University Application.

To validate the process, a dedicated education team (or business partners) can be employed in the University or College Campus, which is in a better position to understand the needs of higher education, to examine the opportunities and threats brought by digital technology. The companies collaborating with the Universities or Colleges possess a wealth of knowledge and expertise in higher education and delivering technology solutions. This team shapes the digital strategy and fully utilize the benefits of IT infrastructure, IT-enabled back office and education applications and services to build brand and academic excellence. IT Service Delivery Platform provide network connectivity, mobility and security for all services across the campus.

For any modern University or Digital Institution for the present case, the entire staff employed and the students enrolled must confidently use the digital technology on a regular basis to gain the real benefits of communications and collaborative services for academic excellence. These services include on-demand access to a suite of voice and contact center, unified communications, web conferencing, video conferencing and information sharing.

Educators and students should also have access to a smart, well-designed, incorporating digital technology and connected work-style environment which is called as a Digital Campus. This Campus recognises the resourcefulness of the facilities provided by its physical campus, thereby enhancing the experience and the right systems for teaching, learning and research.

It's first prerequisite is the support of senior management to build a firm foundation of digital teaching, learning and research and for creating effective digital stakeholder communities. Using digital technology can reduce operational costs, provide quick information tools for staff, educators, students and researchers, improve safety and security, thereby enhancing the overall experience.

The digital strategy formulated for the University/College should not overlook the value of digital technology in creating a unique brand identity, financial stability and improvement in academic excellence. It should also indicate digital offer for students, researchers, and the administrative and teaching staff.

A platform created in the University or College, centrally, need to monitor and act as supporting structure to every student's individual career path. The student-specific data provides a comprehensive overview and a deep understanding of each individual student. By selecting the courses from e-commerce platform for higher education like edx.com and betterU, students are able to browse, compare, ask questions, receive suggestions and enroll comfortably, at any time, from any device.

University's digital program should incorporate a host of benefits based on real-time data analysis for all phases of the students journey, right from the course selection and admission to alumni status. This portfolio should be flexible to implement each module on an individual basis. Few modules can be started initially and additions can be made to fit the individual needs of the student lifecycle. For reference, portfolio prepared by Berk (YEAR) can be studied thoroughly:
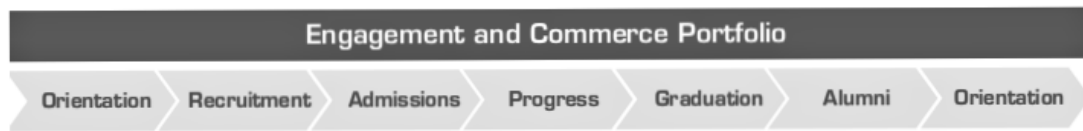
The Customer Engagement and Commerce portfolio covers all processes of the student lifecycle. The SAP Customer Engagement and Commerce package contains five core elements, as illustrated in the figure below:
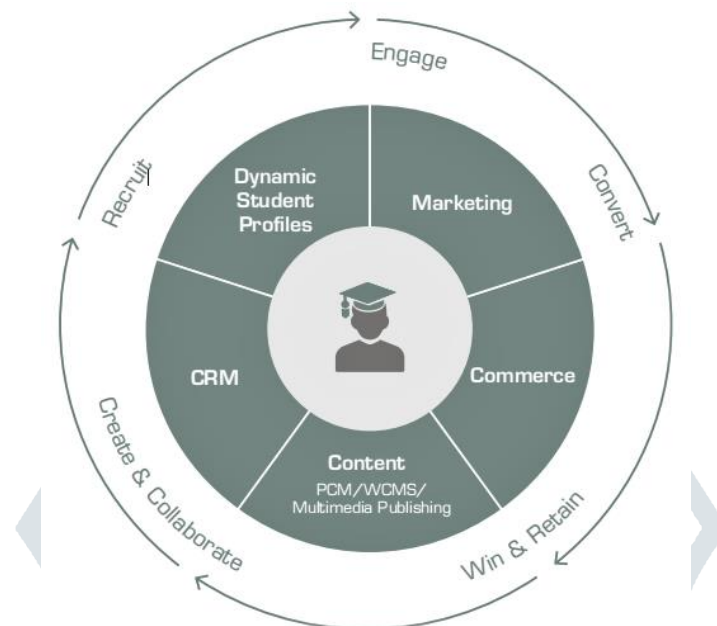
Suggested References from Various Universities

In order to provide flexibility on a high-performance software platform, University of Phoenix lets students try courses even before enrolling. The enrollment and attendance processes run seamlessly on the platform. The system is convenient, obstacle-free and transparent to retain the students. It is imperative to mention here that stronger communication strategies and best-fit offers keep the students involved and inspire to grow closer ties to their college's brand identity.

The Cisco Energy Management Suite provided to Plymouth University seeks to drive efficiency and cost-saving. It is designed to help cut energy costs across campus buildings by up to 35 per cent and gain 100 per cent visibility of energy in data center.

University of New South Wales (UNSW) is an outstanding example of Digital Transformation with the Internet of Things (IOT). It delivers a great user experience for 55,000 people using 168,000 devices. At UNSW, change in the student learning experience as well as facilities management is caused by Internet of Things. With the use of Cisco wireless solutions, UNSW is creating a Digital Campus of the future by connecting people, process, data and things. Besides Wi-Fi communication, the wireless network support information gathering for planning.

By deploying Cisco Mobile Experiences (CMX), Deakin University has decided to improve the value of wireless network and maximising their investment.. CMX uses the Cisco Mobility Services Engine(MSE) to deliver real value by providing user data analytics that has the capability of pushing location specific information. CMX furnishes location analytics information to enhance student's learning experience and provides library usage data to the University.

Canvas learning management system was launched in 2011 which is an open, cloud-based system that expands the interactions of students and faculty in a user-friendly environment. The system provides the ability to expand beyond text-only interaction in order to connect voices, faces and names to students and faculty interacting in the online community. Alerts are available to manage course announcements and discussion posts. (Canvas, 2017)

To realise the business value of integrating communications and collaboration with Virtual Learning, Edinburgh Napier University has streamlined long-distance learning with a joint collaboration solution from Cisco and CirQlive. Users can now schedule a whole semester's worth of classes in just a few clicks.

Sam Houston State University, Texas focused on security and key information governance to ensure the protection of intellectual property. It understood the need for advanced security tools to support their needs for securing data and research

assets. A secure infrastructure is maintained while ensuring academic freedom in research by using Cisco's Advanced Malware protection for Endpoints.

V. CONCLUSION

Digital platform provides a global base for education, which in turn helps in enrolling students globally. Internationalization of education is becoming a common phenomenon all over the world as online learning and teaching is observed as win-win solution for all. Online education has resulted in convenience for the teachers, students and also the parents. It is expected that online sections will gain more enrollments than on-campus classes in the coming years.

IT Strategy and internet-based technologies, within every department, must be responsive, sophisticated and omni-channel to address its stakeholders- prospective students, students, parents, lecturers, researchers, alumni and administration. Digitization also requires to create and nurture the ability to innovate and change the pedagogy to react positively to the students' ever-changing expectations. The standards of education must keep upgrading while keeping the operating budget low. Digitalisation must empower students to decide how they want to learn at any stage of their study cycle, thereby creating a superior experience. Eventually, in the digital age, University will be more successful in the development and placement of brightest minds of generations to come. For further research, results can be analysed, using quantitative tools, on the pedagogical use of education softwares in learning process.

REFERENCES

[1] Masera, Rainer.2018.The New Triangle Of Knowledge, Technology And Education An Italian Perspective. Università Degli Studi Guglielmo Marconi.Digital Universities. Issue 2018/1-2

[2] Press Information Bureau.2015.Digitalisation of Universities.Government Of India.March 16th

[3] Allen, Pamella.2018.The Fourth Industrial Revolution In Higher Education The Age Of Learning Management Systems.University of Phoenix, Arizona, USA.Digital Universities.Issue 2018/1-2.

[4] Denis, Guerra-Burbano & Rojas-Barrera, Milena & María, Lina & Zabala-Vargas, Sergio.2018.Digital Educational Resources For The Improvement Of Reading Processes And Writing In Elementary School Students.

[5] Breslow Lori, Pritchard David E., DeBoer Jennifer, Stump Glenda S., Ho Andrew D., Seaton Daniel T.2013.Studying, learning in the Worldwide Classroom, edX. MIT & Harvard.

[6] Correnti, Susanna.2018.Personal Branding And Job Hunting In The Era Of Industry 4.0.Open Educational Resources For Trainers And Students.Università degli Studi Guglielmo Marconi.Digital Universities.Issue 2018/1-2.

[7] Blackboard 2017. Blackboard Learning Management System.
http://www.blackboard.com/learning-management-system/index.aspx

[8] A Thoring, D Rudolph, R Vogl.2017.Digitalization of Higher Education from a Student's Point of View

http://www.eunis.org/download/2017/EUNIS_2017_paper_47.pdf.

[9] https://www.managementlearningaids.com/

[10] Canvas 2017.Canvas Overview.https://www.canvaslms.com/higher-education/

[11] de.slideshare.net/marcvandenberkitelligence/webinar-on-engagement-in-highereducation-by-itelligence-okt15

[12] www.itelligencegroup.com/blog

[13] http://de.slideshare.net/marcvandenberkitelligence/sap-hybris-in-higher-education-anintroduction