Section A-Research paper
ISSN 2063-5346

Impact of digitalization on flexible learning and teaching methods

Dr. Mousmi Goel mausmigoel.goel@gmail.com
Associate Professor
HOD Commerce Department, Quantum university, Roorkee
Dr. NirmeshSharma nirmesh0120@gmail.com
Associate Professor
HOD Management Department, Quantum university, Roorkee

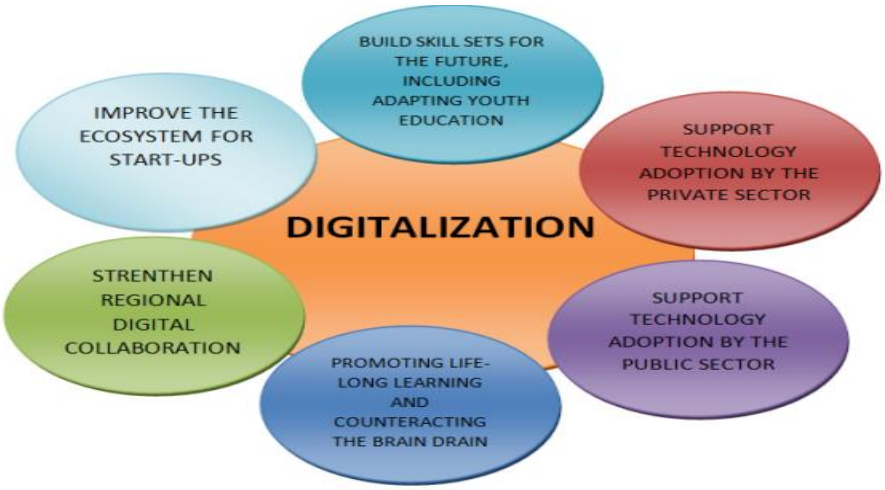
Abstract:
The rapid development of information and communication technology has made the digital society and digital economy a reality, creating certain challenges. In this environment, digital skills and competencies are essential to achieving professional success and personal growth for everyone. In this research, we tried to clarify some basic concepts in the field of digital technologies, as well as their current impact on the educational process. The main purpose of this paper is to reflect the impact of digitization on Indian education sector. The importance of the topics covered can be justified with many arguments, but mainly refers to the need to achieve the goals proposed by the Strategy 2020 in the field of education, research, and development. With the previous premise in mind, this paper presents information on the concept of digitization and digitization and its impact on the educational sector.
Keywords- Digitization, Flexible learning, Education sector

The framework of the digitization phenomenon

This article analyzes the impact that the phenomenon of digitization is having on the education sector. The analyzed problems are also important from the perspective of achieving the goals of the new post-corona education policy. In this regard, the current state of the digitization phenomenon in India is adequately presented, the existing strategies for increasing the degree of digitization in the education sector are discussed, and finally the prospects arising from the enhancement of digitization in India. A conclusion is drawn on this sector. This topic has been intensively discussed in the literature by both scientists and experts. We proposed to present the latest perspectives and arguments on the analyzed topic to make a substantive contribution to the topical research field.

Like current trends, the topic of digitization has caused confusion and debate about its importance. In this case, the terms "digitization" and "digitization" are confused because although they come from the same realm, they are interpreted differently. Therefore, the term

"digitization" is understood as the process of taking and encoding analog information so that computers can recognize, process, store, and transmit it to users (Bloomberg, 2018). In business, digitization is important both for analog processing of information and for streamlining "paper-based" processes. "Paper-based" is only a metaphor. It is important to remember that it is not the process that is digitized, but the information. This is where digitization comes in (Bloomberg, 2018). The term "digitization" or "digital transformation" refers to "changes associated with the application of digital technologies in all aspects of human society". Digitization is also accepted as "the ability to transform an existing product or service into a digital variant, thereby offering advantages over physical products" (Parviainen, Tihinen, Kääriäinen, &Teppola, 2017 2006, p.64). The process of digitization influences several other organizational processes, particularly organizational change, and transformational leadership (Bratianu, 2011; Bratianu&Anagnoste, 2011; Lefter, Bratianu, Agapie, Agoston, &Orzea, 2011). A distinction between the two concepts is necessary because of their differing usefulness and impact. Depending on what we want to achieve, we resort to implementing one of two processes: digitization or digitization. A proper understanding of the two processes is necessary for public knowledge but is especially important for those involved in transformations such as those affecting innovation in the digital realm. The implementation of the two processes captures different aspects related to non-linear integrators of resources, technology, and organizational capital (Bloomberg, 2018; Bratianu, 2013, 2018).
This article deals specifically with the phenomenon of digitization, which is required by an increasing number of organizations and universities. Adapting to the mass digitalization of higher education institutions is very important. Because the customers of these institutions are mainly the younger generation, complementing and even inseparable from digital technology. Education systems need to adapt to the needs of these generations, as digital technology begins to permeate people's lives from an early age and accompany them permanently. Digitization is currently a facility/advantage offered by higher education institutions, but in the future it is expected that digitization will become the criterion for the existence or non-existence of these institutions (Parviainen, Tihinen, Teppola , 2017; Tihinen&Kaariainen, 2016).



Source: Newell et al. 2015

The digitization trend in education

Digitalization has transformed and stimulated the whole society in recent years, resulting in new working skills, current cultural circumstances, and novel instruments for communication and enterprise (Newell &Marabelli, 2015). Digitalization links with intellectual capital (Bejinaru, 2017b), services, and states in a knowledge economy, easing commercial operations, collaborations, and engagement, leading to the establishment of complex networks (Pînzaru, 2015).

In terms of changing and updating the worldwide educational environment, the digitalization revolution in education is a powerful trend. In the educational process, digitalization entails converting text, pictures, video, and audio into a digital format that can be played by a computer. Computers, the internet, smartphones, scanners, digital cameras, projectors, printers, and other digitalization technologies are examples. Digitalization can take the shape of an online admission procedure, an online test, the exchange of online / web knowledge, digital support materials (in various forms such as ppt, pdf, doc), social groups, digital publications, and so on.

In the year 2021, the world was exposed to a health pandemic. The covid 19 pandemic. Due to this the modes of and teaching methods had to adapt to the unexpected challenges and multiple demands on because of the turbulent waters of covid 19 pandemic. The situation remains fluid as there is an international and national escalation of the infection rates as lockdown restrictions are lifted, institution of higher education are having to reshape and adapt the rigid learning and teaching approaches to be more flexible and provide solutions to the challenges. Covid -19 has presented a new set of challenges in higher education institutions. These challenges forced the stakeholders to rethink the learning and teaching practices in higher education institutions during covid -19 has become an integral catalyst for the transformation of higher education.

UNESCO numbers on school closures caused by covid-19 illustrate the pandemic overwhelming impact on education throughout the world. At its peak early 2020, the nationwide closures of educational institutions were affecting over 91 percent of global student population . In absolute numbers this means that nearly 1.6 billion students in upto 194 countries were impacted by schools being shut down. Because of its far-reaching effect technology role becomes so prominent because it is the only way at that time which can be helpful in resolving this massive problem because it is about the stake and future of students and country because both are interrelated to each other

Digital technology in education enables us not to find new answers not only to what people learn but also to how they learn, where and when they learn. On top of that, digital technology can help boost the role of teachers. Rather than just communicating knowledge ,they can become co –creators of knowledge ,coaches , mentors and evaluators .Existing digital learning systems .For example can go beyond mere teaching. Empowered by Artificial Intelligence, these systems can also observe how students learn. Besides they discover what kind of tasks and thinking interset them the most, and what kind of problem they find boring or difficult. These systems then accommodate individual students learning styles. And most importantly they can do this with much more precision than any traditional classroom setting could ever achieved.

Digital Technology has changed the education scenario in the educational institution by enhancing teaching and learning Research and governance there is a great need of advocate infrastructure better internet connectivity up to date digital equipment safe platform that digital computer professional in India higher education institution is evident with the increasing use of ICT Cloud Computing artificial intelligence robotics and virtual reality in day to day practice which enhance is complete competence and helping align with the industry based scheme this present of digitalization process in higher education.

Impact of Digitization in Higher Education Sector

1.OFFICE AUTOMATION- Office automation in higher education institution coordinates and control all office activities in transparent ways automation may be used for digitisation of process at source creating smartphone creating workformsand document management automation of student service request and creating self service blocked from office automation labels administration solution data security detective and data storage and better cooler vision across campus digitalisation and funding.

2.General Administration- The main the main impact of digitilization on general administration includes the use of college website to display important information about the institution computers or extensively used by official staff having administrative duties in the institution the official notices to stop or given through emails or WhatsApp groups old teacher stop and student are using separate WhatsApp group 4 communication or information admission and registration are done through the online platform and the admission status can be monitor from anywhere in real time online content time table lecture location of hostel accommodation result and assessment etc online awarding loan quiz biometric attendance is maintain through machine in stored in administrative building the live management stock entry and work distribution or done digital through computer Microsoft office is used to type letters and presentation of reports of.

3.Financial management-Cloud based accounting automation tools enables accountant and financial team to work from anywhere Microsoft Excel are used to analyse financial institution various accounting software or also used for the analysing data accounting automation takes most of the account section work and touch them automatically and without any errors a large portion of the financial transaction or done online using user id and password many college by align payment via mobile apps for through net banking

4.Block chain-Block chain technology Is an open source platform where digital records are stored at as a ledger. it is a database of several blocks which containing formation if one block full of information then it is automatically connected with the other block and this process continues. Blockchain technology offer security of data management mechanism ameliorated efficiency and Technology improved in higher education adoption of this technology will bring transparency and eliminate corruption. All records at the time of the establishment of the institution will be stored securely because it is not under control of the person . It is impossible to change the information stored in blockchain. Blockchain system maintain the records of transaction across several computers,allows decentralized open data .Block chain are used to exchange degree and diploma certificates among institution.

5.Big data analytics- The Institutions are using big data techniques to track the performance of students. The data analysis is perform at an adequate speed using various data structure and suggest the best solution among several choices. This technique predict the future occurrence and analyse the past performance any errors are detected in real time and solved every year thousands of student or include in variety of courses in different Institutions and a large amount of data is generated the students data include post details enrollment year student id examination graduation and the work marks obtained in individual subject these big data can be used to screen student by performing productive analysis for understanding how student my perform in future it help in selection and recruitment process and reduce the time spend in the process data and automatic learning analytics of learning process.

Strategic orientation for digitalization

To successfully implement digital transformation, higher education institutions must develop a variety of competencies in their field of activity, depending on the educational programs they offer, the projects they implementation and the strategic vision they follow (Carcary, Doherty, & Conway; Reis, Amorim, Melão, & Matos, 2018). Indeed, digital "abuses" in every way demands a great deal of attention and thus easily reaches the center of our operations. This is a strong incentive for organizations like HEI to rethink their market position, revise their strategies and even improve their vision and mission so as not to get stuck in the past. Unlike business organizations where digitization reduces barriers to entry and disruption of existing value chains, industry structures and business models, universities have a field advantage that is not easily overcome (Bankewitz, Aberg and Teuchert, 2016; Schwab, 2016).

First, higher education institutions need to become digital institutions themselves to provide digital teaching, digital learning, digital experiences, and finally technical skills. number for their students. Becoming digital organizations requires digital resources and specialized staff. It is important that all stakeholders understand, accept, and prepare for the need for change. Organizational change, implemented in such large structures is likely to encounter some resistance to change, which may be caused by a different type of factor. Passive factors refer to the individual's habits of working style as well as a certain degree of comfort with the daily work routine. On the other hand, there are positive factors including unpleasant attitudes towards new and alternative methods or ways of developing tasks. "In this category, we also include cultural inertia, which means the fear of acting differently from other members of the community" (Bejinaru&Baesu, 2013, p.128). At this stage, higher education institutions should focus on understanding the key drivers of the promising digitization process and disseminating them.

Changes in the economic, political, social and cultural spheres lead without error or delay to changing priorities in the field of higher education. Organizations that truly want to prepare for a prosperous future are using technology and data to transform processes and upgrade systems. This is to enable what is now called digital transformation. In addition, we present the most important factors that motivate universities to actively pursue this goal.

1. Improved competitiveness:

To achieve this goal, we need to use two kinds of means. On the one hand, the decline in student numbers must be compensated for by streamlining the operation of educational institutions. On the other hand, attracting students (from a dwindling pool) can be achieved by increasing the attractiveness of the services offered and adjusting candidate preferences related to digital experiences.

2. Cost control:

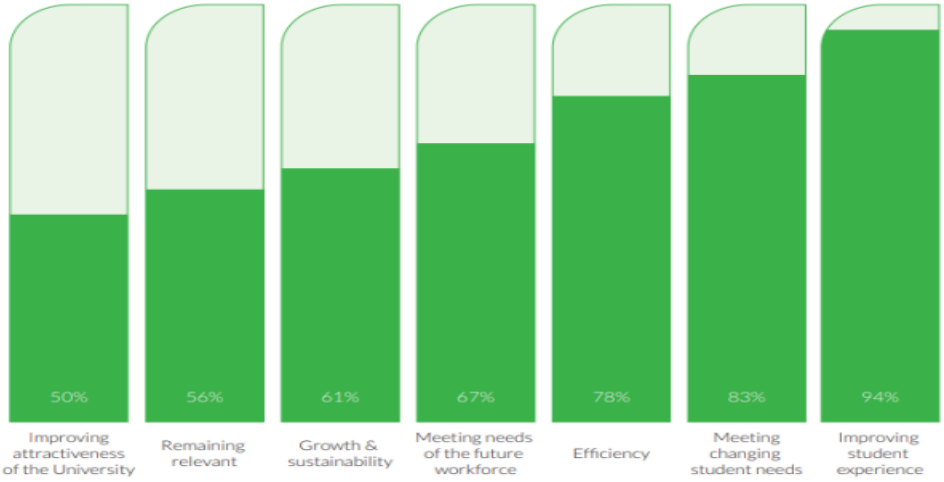
Financial management of financial institutions must focus on cost reduction. Additionally, more care needs to be taken to justify tuition fees so that the cost-benefit ratio is positive for both the student and the university. An alternative to cost savings is to reduce the amount of materials required for file storage while saving staff time. This is called the spiral management method of controlling costs.

3. Improved user experience:

Research shows that on average, 4 out of 10 of her students access at least two of her digital devices during a typical school day. Students who grew up with smartphones often struggle with outdated technology at school. Therefore, the university needs to update its website to make it easy for students to use and get the information they need from their smart devices at any time. Providing a digital experience that meets student expectations is a great strategy for engaging students and keeping them connected to your university.

4. Improved Agility:

There is more to the digital transformation process than just software. It is to identify the interests and needs of the institution in the decision-making process to adapt to the market. Using technology is an agile and flexible way to meet the high demands of students, faculty, and staff. World-class universities are always looking for new ways to improve their processes. Most importantly, how to evolve the student's journey throughout the educational journey. Related to this, continuous improvement of the user experience is created through innovative use of technology to keep students, staff, and faculty productive and satisfied.



Source: Navita 2017

By implementing four types of strategies, the results of digital transformation can be seen relatively quickly. A prospective student's first impression of our university is determined by the quality of their digital experience when they visit our website. If digital transformation is successful, the effects will be noticeable very quickly and reliably. There is also a survey that according to the website, 80% of college applicants rate the college. The study shows that 70% of the information that interests them and that can later influence their choices is in online scientific catalogs (Navitas, 2017). With this in mind, we have conclude that using cutting-edge technology and updating the data in our virtual science catalog will enable us to undergo a rapid and successful digital transformation.

Conclusion

Digitization is currently one of the most important trends transforming society and the economy. There is no doubt that the digital economy is fundamentally changing the way businesses produce and deliver goods and services around the world. This is how we will implement digitization in the education sector at the next level.

For administration, education, learning, evaluation, research, development and for the benefit of society. While there are many benefits such as time savings, transparency, overcoming geographic barriers, continuous 24/7 flow, and minimizing human error, mass digitization is a highly dependent, risks of a physical and psychological nature, and irresponsible use. process, disregard for basic human skills, etc. In the adjustment process, universities should focus on significantly improving their traditional mission of teaching and learning. In a world of rapid and unpredictable change resulting in a turbulent business environment, higher education institutions must not only adapt to all these changes, but also become change agents and pioneers in building new contracts. Hmm. Universities need to develop strategies to increase their intellectual capital and become digital organisations. Universities should be able to be at the forefront of change and innovation in new economic and social conditions.

Digitization is an important impact of globalization in higher education. In order to integrate ICT into higher education, we need to ensure quality, easily assessed and affordable education for people living in remote areas. Governments are developing strategies to increase it

Intellectual capital through funding for the development of a suitable technical infrastructure within the institution. The new National Education Policy 2023 makes education digitalization one of the government's top priorities.

References

- Andonova, V. (2006). Mobile phones, the Internet and the institutional environment. Telecommunications Policy, 30(1), 29–45. doi: 10.1016/j.telpol.2005.06.015.
- Bankewitz, M., Aberg, C., &Teuchert, C. (2016). Digitalization and boards of directors: a new era of corporate governance? Business and Management Research, 5(2), 58- 69. doi: 10.5430/bmr.v5n2p58.
- Beilock, R., & Dimitrova, D. V. (2003). An exploratory model of inter-country Internet diffusion. Telecommunications Policy, 27(3–4), 237–252. doi: 10.1016/S0308- 5961(02)00100-3.

- Bejinaru, R. (2010). Knowledge dynamics and Ba. The Annals of the "Stefan cel Mare" University of Suceava, 10, 217-223.
- Bejinaru, R. (2017a). Dynamic capabilities of universities in the knowledge economy. Management Dynamics in the Knowledge Economy, 5(4), 577-595. doi: 10.25019/MDKE/5.4.07
- Bejinaru, R. (2017b). Knowledge strategies aiming to improve the intellectual capital of universities. Management & Marketing. Challenges for the Knowledge Society, 12(3), 500-523. doi: 10.1515/mmcks-2017-0030. 378 | Ruxandra BEJINARU Impact of Digitalization on Education in the Knowledge Economy
- Bejinaru, R. (2018). Assessing students' entrepreneurial skills needed in the knowledge economy. Management & Marketing. Challenges for the Knowledge Society, 13(3), 1119–1132.
- Bejinaru, R., &Băeşu, C. (2013) Issues of knowledge dynamics during organizational change. The USV Annals of Economics and Public Administration, 14(19), 147-153.
- Bejinaru, R., &Iordache, S. (2011). Intellectual capital dynamics within the learning organization. In Turner, G., &Minnone, C. (Eds.). Proceedings of the 3rd European Conference on Intellectual Capital (pp.70-77). Reading, UK: Academic Conference and Publishing International. Berger, T., & Frey, C.B. (2016). Digitalization, jobs, and convergence in Europe: strategies for closing the skills gap. Oxford, UK: Executive Agency for Small and Medium-sized Enterprises.
- Berlin, Germany: Springer. Stuart, K. (2014). What every parent needs to know about video games: a crash course. Retrieved on May 6, 2019 from https://www.theguardian.com/technology/2014/jun/02/parents-guidevideogames-playstation-xbox-wii-apps-children.
- Billon, M., Lera-Lopez, F., & Marco, R. (2010). Differences in digitalization levels: a multivariate analysis studying the global digital divide. Review World Economy, 146, 39-73. doi: 10.1007/s10290-009-0045-y. Bloomberg, J. (2018). Digitization, digitalization, and digital transformation: confuse them at your peril. Forbes. Retrieved on August 28, 2019 from https://www.forbes.com/sites/jasonbloomberg/2018/04/29/digitizationdigitalization-and-digital-transformation-confuse-them-at-yourperil/#78e677fd2f2c.

- Bolisani, E., &Bratianu, C. (2017). Knowledge strategy planning: an integrated approach to manage uncertainty, turbulence, and dynamics. Journal of Knowledge Management, 21(2), 233-253. doi: 10.1108/JKM-02-2016-0071.
- Bratianu, C. (2011). A new perspective of the intellectual capital dynamics in organizations. In Vallejo-Alonso, B., Rodriguez-Castellanos, A., &Arregui-Ayastuy, G. (Eds.), Identifying, measuring, and valuing knowledge-based intangible assets: new perspectives (pp.1-21). Hershey, PA: IGI Global.
- Bratianu, C. (2013). Nonlinear integrators of the organizational intellectual capital. In Fathi, M. (Ed.), Integration of practice-oriented knowledge technology: trends and perspectives (pp.3-17). Heidelberg: Springer.
- Bratianu, C. (2018). Intellectual capital research and practice: 7 myths and one golden rule. Management & Marketing. Challenges for the Knowledge Society, 13(2), 859- 879.
- Bratianu, C., &Anagnoste, S. (2011). The role of transformational leadership in mergers and acquisitions in emergent economies. Management & Marketing, 6(2), 319-326.

- Bratianu, C., &Bejinaru, R. (2017). Knowledge strategies for increasing IC of universities. In Lopez, I.T., &Serrasqueiro, R. (Eds.), Proceedings of the 9th European Conference on Intellectual Capital (pp.34-42). Reading, UK: Academic Conferences and Publishing International.
- Bratianu, C., Vasilache, S., &Jianu, I. (2006). In search of intelligent organizations. Management & Marketing, 1(4), 71-82.
- Carcary, M., Doherty, E., & Conway, G. (2016). A dynamic capability approach to digital transformation–a focus on key foundational themes. In: 10th European Conference on Information Systems Management (pp.20-28). Reading, UK: Academic Conferences and publishing limited.
- Chinn, M.D., &Fairlie, R.W. (2007). The determinants of the global digital divide: a cross-country analysis of computer and internet penetration. Oxford Economic Papers, 59(1), 16–44. doi: 10.3386/w10686.
- Management Dynamics in the Knowledge Economy | 379 Vol.7 (2019) no.3, pp.367-380; www.managementdynamics.ro
- Dewan, S., Ganley, D., & Kraemer, K. L. (2005). Across the digital divide: a cross-country multitechnology analysis of the determinants of IT penetration. Journal of the AIS, 6(12), 409–432.
- Digarc (2018). 4 Drivers of Digital Transformation in Education. Retrieved on July 28, 2019 from https://www.digarc.com/blog/2018/08/four-drivers-of-digitaltransformation-in-education/.
- Elena-Pérez, S., Saritas, O., Pook, K., & Warden, C. (2011). Ready for the future? Universities' capabilities to strategically manage their intellectual capital, Foresight, 13(2), 31-48. doi: 10.1108/14636681111126238.
- Hadad, S. (2018). The geographic distribution of knowledge economy (KE) within the European Union (EU). Management & Marketing. Challenges for the Knowledge Society, 13(3), 1089-1107. doi: 10.2478/mmcks-2018-0025.
- Hapenciuc, C.V., Bejinaru, R., Roman, C., &Neamtu, D.M. (2016) The role of HES within the evolution of the business sector. Paper presented at EDULEARN- 8th annual International Conference on Education and New Learning Technologies. Retrieved on July 30th, 2019 from https://library.iated.org/view/HAPENCIUC2016ROL
- Lefter, V., Bratianu, C., Agapie, A., Agoston, S., &Orzea, I. (2011). Intergenerational knowledge transfer in the academic environment of the knowledge-based economy. Amfiteatru Economic Journal, 13(30), 392-403.
- Lupan, M., &Bejinaru, R. (2019). Perspectives of university governance for the development of entrepreneurship. The USV Annals of Economics and Public Administration, 19(29), 74-81.
- Machekhina, O.N. (2017). Digitalization of education as a trend of its modernization and reforming. RevistaEspacios, 38(40), 26.
- Navitas V. (2017). Digital transformation in higher education. Retrieved on July 30th, 2019 from https://www.navitasventures.com/wpcontent/uploads/2017/08/HE-Digital-Transformation-_Navitas_Ventures_- EN.pdf.
- Newell, S., &Marabelli, M. (2015). Strategic opportunities (and challenges) of algorithmic decision-making: a call for action on the long-term societal effects of 'Datification'. Journal of Strategic Information Systems, 24(1), 3-14. doi: 10.1016/j.jsis.2015.02.001.

- Parviainen, P., Tihinen, M., Kääriäinen, J., &Teppola, S. (2017). Tackling the digitalization challenge: how to benefit from digitalization in practice. International Journal of Information Systems and Project Management, 5(1), 63-77. doi: 10.12821/ijispm050104.
- Perez, C., Johnson, L., & Kleiner, A. (2017). Are we on the verge of a new golden age? A long-wave theory of technological and economic change suggests the financial malaise that began in 2007 may be about to end. Strategy+Business. Retrieved on July 30th, 2019 from https://www.strategy-business.com/article/Are-We-on-the
- Pînzaru, F. (2015). Managing in the digital economy: an introductive discussion. Pannon Management Review, 4(2), 9-31. 380 | Ruxandra BEJINARU Impact of Digitalization on Education in the Knowledge Economy
- Prelipcean, G., &Bejinaru, R. (2016). Universities as learning organizations in the knowledge economy. Management Dynamics in the Knowledge Economy, 4(4), 469-492.
- Quibria, M.G., Shamsun, A.N., Tschanh, T., & Reyes-Macasaquit, M. (2003). Digital divide: determinants and policies with special reference to Asia. Journal of Asian Economics, 13(6), 811-825. Rada, C.I. (2015). Digital agenda for Romania. Progress towards 2020 Targets. STUDIA EUROPAEA, 4, 35-66.
- Reis, J., Amorim, M., Melão, N., & Matos, P. (2018). Digital transformation: a literature review and guidelines for future research. In Rocha, A., Adeli, H., Reis, L.P., & Costanzo, S. (Eds.), 6th World Conference on Information Systems and Technologies (pp.411–421).
- ShaliniVerma, Dr. Nirmesh Sharma, Dr. Rubinapathan. "PARADIGM SHIFT IN CONTEMPORARY BUSINESS EDUCATION: COMPETENCY BASED KSA A NEW NORMAL". ACCENT JOURNAL OF ECONOMICS ECOLOGY & ENGINEERING ISSN: 2456-1037 INTERNATIONAL JOURNAL IF:8.20, ELJIF: 6.194(10/2018), Peer Reviewed and Refereed Journal, UGC APPROVED NO. 48767, 7(6), 63-69. Retrieved from https://ajeee.co.in/index.php/ajeee/article/view/3293
- Sharma, N., &Pandey, B. (2022). "Teaching -Learning processes with special reference to the innovation strategies." SambodhiIndological Research Journal, Vol-45 No.-01(V).
- Tihinen, M., &Kääriäinen, J. (2016). The industrial Internet in Finland: on route to success?. Espoo, Finland: VTT Technology.
- Trippl, M., Sinozic, T., & Smith, H.L. (2012). The "third mission" of universities and the region: comparing the UK, Sweden and Austria. Presented at the 52nd European Congress of the RSAI, 21- 25 August 2012, Bratislava, Slovakia. Retrieved on July 28, 2019 from http://wwwsre.wu.ac.at/ersa/ersaconfs/ersa12/e120821aFinal00063.pdf.
- World Economic Forum (2016). The Global Competitiveness Report 2015–2016. Retrieved on July 28, 2019 from http://reports.weforum.org/globalcompetitiveness-report-2015-2016/methodology/

Book Reference:

- Porwal, M., Singh, G., Akhtar, F., Sharma, N., &Pandey, A. (2022). Digital Marketing based on NEP syllabus (Ist). Asian Press, kolkata. https://www.amazon.in/Digital-Marketing-Dr-Mukesh-Porwal/dp/B0BLZGK5NL