

‘Bleeding-edge’ Business Education Lynchpin Business Model 4.0

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Context: Through this research article, we appeal to all the educational policymakers, leaders, and educational actors to promptly revamp the existing educational models and harness the changes associated with Industry 4.0. After a systematic literature review on Industry 4.0 readiness models, we designed the ‘Bleeding-edge Business Education Model’ which we prescribe to an educational ecosystem to foster intrapreneurship with meta-skills for Industry 4.0^[1]. This proposed model is a lynchpin for the Industrial Revolution 4.0. We deployed a design-based research methodology to conceptualize this Business Education Model. We audit the existing Business Education model to find out the gap and portrayed our succinct and robust model in the Value Proposition Canvas tool which reflects the key areas of our Business Education Model and gives the visual format for assessment of its key metric of operations and deliverables. Industry 4.0 readiness model exhibits the six most basic dimensions of any organization viz. Technology, People, Strategy, Leadership, Process, and Innovation and gauge the readiness in terms of human resource competencies to work on Industry 4.0 technologies and innovations with resilience. The characteristics of the 4th Industrial Revolution were ordained to revamp Business Education Model to lynchpin the axle of Business Model 4.0 through the ‘only intellect’ dimension i.e. people who are the key-drivers to put other dimensions of the organization in action. According to the Future of Employment report (2018-19), 47 percent of total employability is in the high-risk category. Particularly management graduates’ unemployability is due to lack of meta-skills of Industry 4.0, and the latent variable behind

This is conventional ‘Business Education Models’.

‘Alexa! Tell me the Meta-skills requirements for Business model 4.0!’ Alexa answers, “Artificial Intelligence, Machine Learning, Big Data, Augmented Reality, Virtual Reality, Cloud Computing, IoT, Digitization, and Robotics; all these are interdisciplinary.” The essence of this metaphoric conversation is a kick to us for this research about existing Business Education model relevancy with Industry 4.0 to prescribe bleeding-edge Business Education Model. At most of the B-schools, the economic model of human behavior is taught. B-schools must revamp their model to embrace the changes thrust by Business Model 4.0 in the interest to fall the stakeholders, in all the three phases viz input, processes, and output, to enhance the impact in terms of outcome. Our Proposed Model produces Intrapreneurs. ‘Intrapreneurs’ is a flipped terminology for the most important dimension (people) of today’s organization. The NEP 2020, with its core agenda of access, equity, excellence, and empowerment articulates and charts a roadmap to prepare the young populace to shape India’s as a Knowledge Superpower by empowering people to be skilled, educated, employable and prosperous [21]. This draft is indeed ambitious, full of positivity and readiness for the future, however, to make it happen, a robust execution plan is required and that is the role of all Education actors. Our prescription is the contribution towards this reform as it is in consent with Prime Minister says on NEP that it is the foundation of ‘New India’ and will help close the gap between education and research.

Prologue: The Bleeding-edge Business Education Model is prescription for all Tier II,

III & IV Business/Management Institutes except elite Business/Management Institute as this model is appropriately fit to the purpose of preparing employable management graduates, and these Tier II, III & IV institutes hold the major share of the workforce.

According to a Lumina/Gallup study released in 2014, only 33 percent of business leaders agree or strongly agree that graduates know their business needs ^[2]. And according to a 2013 Inside Higher Education survey conducted by Gallup and released in 2014, 96 percent of chief academic officers say their institution is somewhat or very effective at preparing students for the world of work, so why is this gap? This gap is due to the fact that the real-time skills required in the industry is different from what has been taught in the Business/ Management schools, since the past few decades. Presently, Management Graduates are expected to exhibit attributes like an ethical leader, competencies that will define the next century, and the ability to make a difference and put an impact on the world. Industries are more often interested in hiring management graduates who can exhibit data analytical skills and reasoning competency, along with digital and social media literacy, cross- culture competency, Problem Solving, Leadership, and being a conceptually strong Intrapreneur. To meet the evolving industry expectation and to keep Management graduates relevant and in demand, business education must be revamped with the right mix of technical and management skills to be relevant, progressive, and valuable ^[3]. There is an implied need to substantially change and redesign B-school program content and pedagogy to produce responsible & accountable professionals. [4].

The researcher accumulates thoughtful inputs from representatives of business education's stakeholders : Faculty, Deans, and Administrators, company executives, and

Talent acquisition managers, students, and graduates through interview method and massive crowd- sourcing of ideas. The present research work is the exploration from the intense literature review on existing business education and drawn the insights. As a prescription, the researcher proposed the Bleeding-edge Business Education Model,

which is the lynchpin for Business Model 4.0.

The adoption of this proposed model helps the business school for:

- ☐ Value creation experience worthy with respect to time and price.
- ☐ Extend B-school reach and real- World Relevance.
- ☐ Assort differentiators and catch Spotlight midst disruption.

INSIGHT-1:STEM-Integrated Business/Management Education

The major challenge in the edge of the Industry 4.0 era is to satiate the global urgency to improve STEM education driven by socio-environmental impacts, and which has the power to facilitate or jeopardize global security and economic stability. Where, in retaliation to the challenges, there is massive reformation in STEM education over the last two decades. The implementation of the conceptual framework has had benefits in the process, where the full implementation of STEM is yet to observe as STEM educators lack understanding of STEM education, which is now growing day-by-day In this cyber-physical amalgamated world, applied technology integrated management skills are imperative, to remain relevant and competitive in a growing global economy [6]. In today's data-driven organization, the qualitative skills, and leadership skills with an ability to parse and analyze data for making better business decisions are needed to excel in all levels including the C-suite to bring value to the organization. In Boardrooms, the point of discussion is data analytics to solve the complex business problem, however, STEM (Science, Technology, Engineering, and Mathematics) education is the point of discussion in classrooms.

STEM education can link scientific inquiry, by formulating questions answered through investigation to inform the student before they engage in the engineering design process to Solve problems[5] (Kennedy et al. 2014).

The research shows that 21st Century Meta skills comprise STEM-based interdisciplinary Education as a reflection of today's data-driven organizations' need, in which rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in contexts that make connections between school, community, work, and the global enterprise.

To produce Intrapreneur, who is an Innovative and complex contextual problem solver with the applied process, tools and technologies, as a business school final product, the Researcher vouch to have integrated, interdisciplinary, STEM MBA by design and not by preference, regardless of any specialization, this leads to sustainable employability. The STEM MBA equips students with decision-making skills based on strong quantitative, analytic al, and economic lenses.

This signals the companies that STEM MBA graduates can:

- ☐ Drive success in their business with the strong analytical framework
- ☐ Be relevant and collaborative in the contemporary global workplace
- ☐ Achieve goals and exponential professional growth.

Insight-2: Adopting the SCALE-UP (Student-Centered Active Learning Environment with Upside-down Pedagogies) Teaching Model.

In addition to already practiced teaching pedagogy which enhances higher order of cognitive skills, the B-school should adopt this very innovative and effective teaching Model-SCALE-UP^[6]. This Model has an element of architectural design, which aims to encourage interactions among teams. SCALE-UP Teaching Model characterizes with the specifics space design of the classroom which is a round table, are restaurant-like seating. This design instigates social interactions among teams to investigate and the instructor has enough space to roam around and encourage e participation in the discussion.

The active ingredient of the SCALE-UP teaching model is social interaction between students and their faculty. It advocates upside-down pedagogy, which has three aspects:^[7]

1) Students become teachers to other students while learning in a team

☐ Flipped classroom. It is the concept of flipping things inside the classroom with outside the classroom. It is expected that the students learn the basic course material before they enter into the classroom, and complete the preparatory work beforehand, which is then discussed in class with the help of peers and the instructor^[8].

2) Backward thinking in curriculum design and delivery. The curriculum is designed by keeping in mind the end outcome of the learning, like what the students are expected to exhibit are able to do, the means through which he/she can be assessed and then accordingly impart the skills. Indeed it is a reverse approach to the usual but very effective. The SCALE-UP teaching model is student-centric and adopts pedagogy which integrates RASE (Resource, Activity, Support, Evaluation) to cultivate the disposition to understand^[9]. Research shows that the SCALE-UP teaching model improves problem-solving ability, attitude, risk-taking ability, and Conceptual understanding.

Insight-3: Evaluation is on the reflection of innovative application of business operational excellence competency.

According to the PEX Network Biennial State-of-the Industry Report 2015, Operational Excellence Program is expanding to drives sustainable enterprise-wide transformation, stated by 52.9% professionals, in line Bizagi CEO, Gustavo Gomez, says Operational Excellence on the C-Suite agenda is "not just a 'good thing' – it's a mandatory requirement."

Every Organization desires lower costs, high revenues, fewer risks, and more satisfied

Customers compared with competitors and operational excellence is the way to achieve these. So, the expectation from business management graduates is to reflect their learning as an operational Excellence competency, with which they can create value streams for the Organization. As very aptly, Kevin Duggan defined Operational Excellence “the point at which every employee can see the flow of value to the customer and can fix that flow before it breaks down.”^[10].

Operational excellence integrates four building blocks: Strategy Deployment, Performance Management, and Process Excellence and Employee Engagement ^[17].B-schools must adopt

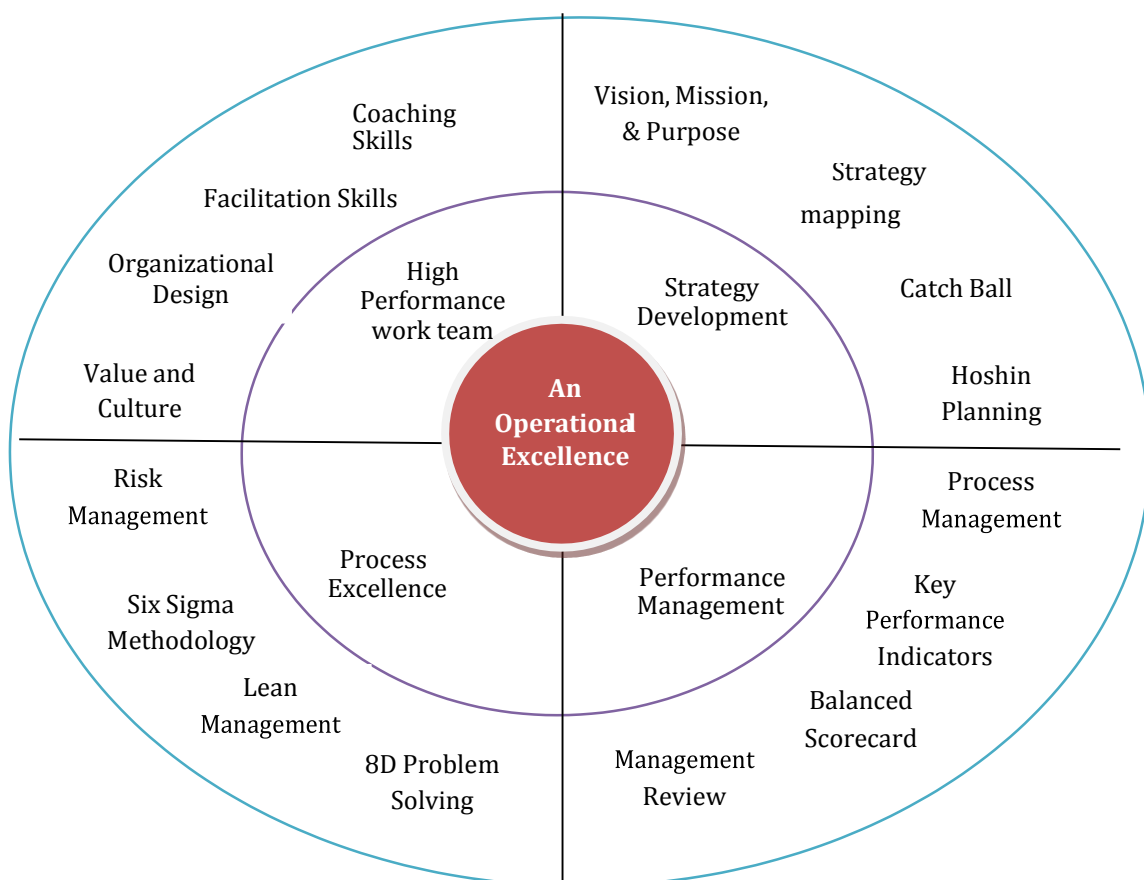
Experiential learning as pedagogy with an emphasis on excellence in six excellence areas, which derived from the above mentioned four blocks. These Six Excellence areas areas follows.

- ☐ Strategy excellence
- ☐ Performance management excellence

- ☐ Improvement excellence
- ☐ Process management excellence
- ☐ Organization excellence
- ☐ Employee engagement excellence

The researchers suggests B-school must assign an integrated real business problem project, through collaborative relations with local industry ecology.

MBA graduates are expected to contribute to this excellence area through the application of their learning. With this core competency of operational excellence, they can create value for all the stakeholders with agility and adaptability of the improved Strategy to keep up with the mutable demand



Operational Excellence Framework

Insight-4: Establishment of the Design Thinking Skill Studio

Today's business world is characterized by VUCA (Volatility, Uncertainty, Complexity, & Ambiguity) environment, so the most sought-after skills for contemporary business are innovation, creativity, critical thinking, and problem-solving^[11]. 'Design Thinking' skills studio is the panacea. Design thinking is the concept of taking human desirability, technical feasibility, and economic viability to create business solutions that are meaningful, productive, and profitable with the elements of empathy, creativity, collaboration, exploratory, and iteration for the best. In the Design Thinking process, it is crucial to have an interdisciplinary team to bring diverse perspectives with the solution-based approach and teaching pedagogy should be based on the Design sprint format.^[12]

The researchers suggest shaving Design Sprint Studio at B- schools, which is integrated with its core curriculum and where the learner collaboratively works in a small team to explore desirable, feasible, and viable solutions to real business cases for real clients, solutions to complex social problems of society at large, to enhance growth and well-being. This practice enables problem-Based learning and

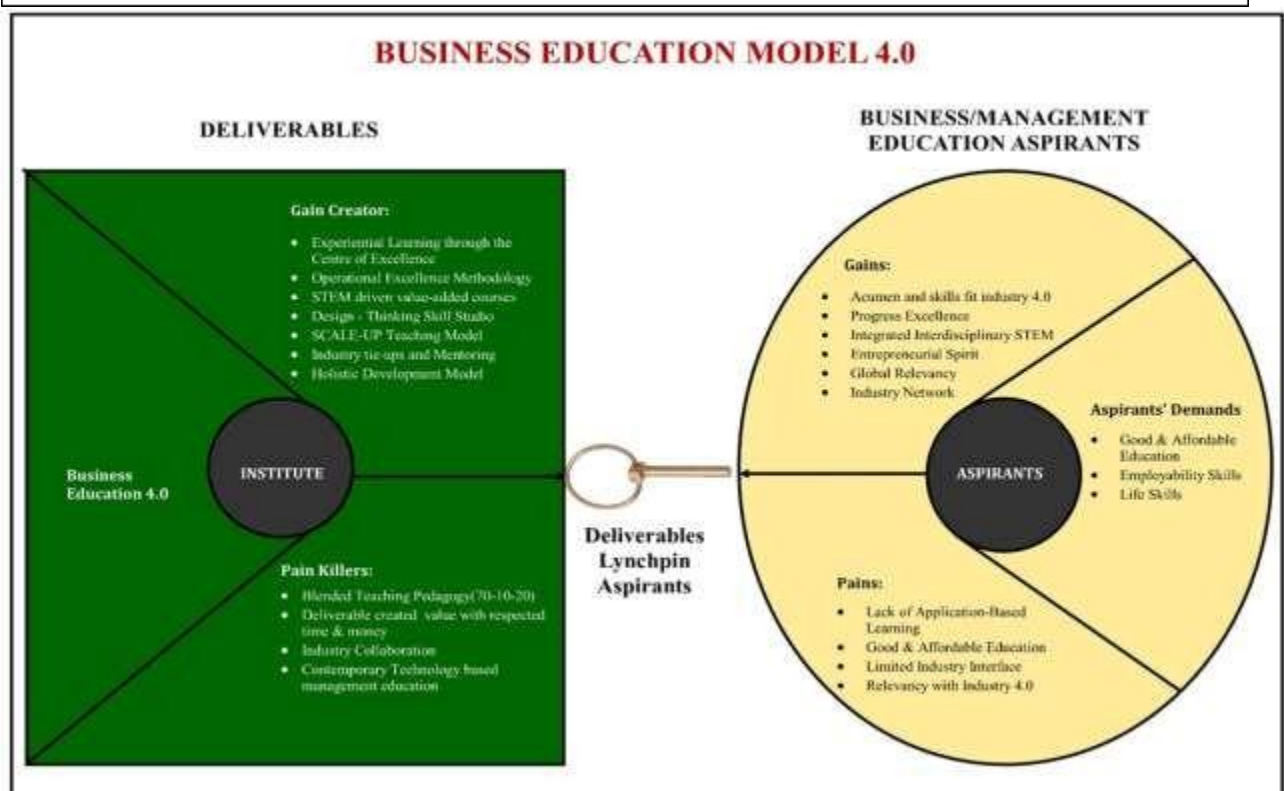
develops design thinking with a growth mindset.

The concept of a Hackathon brings a multitude of values for a large number of stakeholders. The kind of 'Management Consulting Hackathon' should be the part of Curriculum delivery, where the diverse stream of students collaboratively work as a team to put their problem solving, decision making, and entrepreneurial skills to the test in an intensive environment and reach viable solution.^[13]

Projects / Dissertation should be on real-time social issues/problems in collaboration with Local/State / Central Government, so that the students learn, empower, adapt and perform at their fullest capacity for giving solution to complex problems^[14].

Prescription: Culminating these insights, we prescribe our comprehensive Bleeding- edge Business Education Model (Annexure I), which is a tool to revamp the structural framework of Business/Management Education and emphasize Interdisciplinary Business Education by design rather than by preference.

Source: Authors



Policy Implications: Integration of digital technology in business education appears an ad-hoc approach. The business school must respond to this digital revolution, to be relevant and valuable by adopting a comprehensive contemporary framework which encompasses classroom space design with collaborative technology. This technology enable course designs that facilitate team interaction, flipped classrooms, real-time data and problem-solving, teaching pedagogy with backward design. This data-rich and immersive teaching materials should go beyond static management cases, frozen in time and context, with digital technology helping visualize complex problems that aren't adequately captured or presented on slides and spreadsheets, Contemporary interdisciplinary courses and Curriculum, which are the elements of lynchpin for Business Models 4.0 and essence of the proposed Bleeding –Edge Business Education Model, which is a Game- Changer.

A great way to plan and prepare for the suggested intervention-Adoption of Bleeding–Edge Business Education Model, is to perform a 360-degree comprehensive assessment of the institute concerning current capabilities and the opportunity. The assessment tool should be deployed to check there readiness of the institute, considering three dimensions- Leading intervention, implementing an intervention, and delivering the intervention with an emphasis on sustainable growth and innovation^[15]. The mapping of capacitybuilding should be done with the strategic imperatives, vision-mission, and objectives of the institute^[16].With the help of the proposed Business Education Model, the institute can chalk out its future–proof road- map, which sustains robust growth inthe society, at large and in-line with NEP 2020vision.

Reference

Sanath Divakara Wasanthi, Madurapperuma Wasanthi Madurapperuma, A Systematic Literature review on Intrapreneurship and Organizational performance, Second Asia - Pacific Conference on Multidisciplinary Research 2017, 47-55, https://www.researchgate.net/publication/320212622_A_Systematic_Literature_revie_w_on_Intrapreneurship_and_Organizational_performace

- [1] Lumbia-Gallup, Great jobs-greatlives,astudyofmorethan30,000 college graduates across the U.S.
- [2] Asheesh Majumdar, A RESEARCH PAPER ON
- [3] BodoB. Schlegelmilch, Howard Thomas, The MBAin2020:willtherestillbeone? , Journal of Management_Development, Vol.30No.5, 2011,474-382
- [4] Todd R. Kelley & J. Geoff Knowles, A conceptual framework for integrated STEM education, International Journal of STEM Education volume 3, Article number: 11(2016),<https://doi.org/10.1186/s40594-016-0046-z>
- [5] Pieter J. Mosterman, Justyna Zander, Industry 4.0 as a Cyber-Physical System study, Springer-VerlagBerlinHeidelberg2015,D OI10.100 7/s10270-015-0493-x,https://www.researchgate.net/publication/283116110_Industry_40_as_a_Cyber-Physical_System_study
- [6] JaneMcNeil, Michael aBorg, Ellie Kennedy ,Vanessa Cui,Helen Puntha, Zena Rashid,S CALE-UP Handbook 2018,Nottingham Trent University, 2ndedition 2017,1-45.
- [7] Dr. Helen Boulton, Perceptions of a ‘flipped classroom’ approach to teaching and learning: a casestudy, http://irep.ntu.ac.uk/id/eprint/32620/1/9726_Boulton.pdf, 05-12-2020

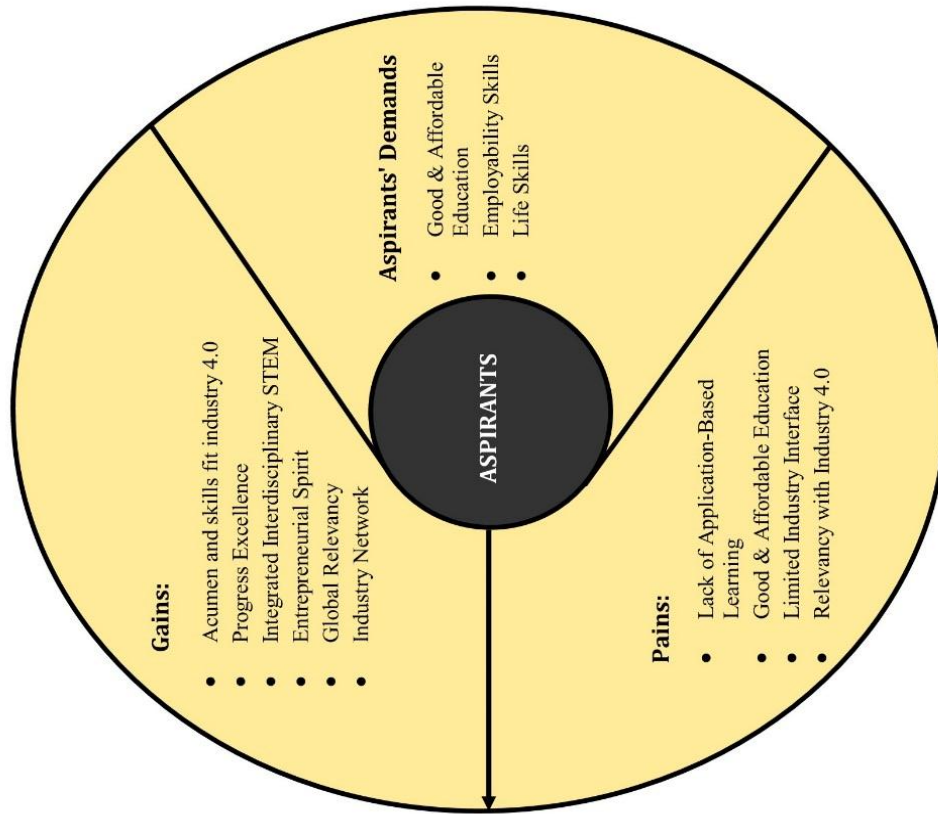
- [8] Churchill, D., King, M., Webster, B. & Fox, B. (2013). Integrating Learning Design, Interactivity, and Technology.In Proceedings of Electric Dreams. Proceedings a scilite2013Sydney(pp.139-143).Australasian Society for Computers in Learning in Tertiary Education. Retrieved December7,2020,from<https://www.learntechlib.org/p/171118/>.

- [9] Michael Urick, David Adams Terrance Smith, Taylorism and Operational Excellence Improving on the "One Best Way" Journal of Leadership and Management 9-10 (2017) 17-21 ISSN: 2391-6087, 18-21, https://www.researchgate.net/publication/318043967_Taylorism_and_Operational_Excellence_Improving_on_the_One_Best_Way_Article_info
- [10] Petra C.M. Neessen & Marjolein C.J. Caniëls & Bart Vos & Jeroen P. de Jong, The intrapreneurial employee: toward an integrated model of intrapreneurship and research agenda, International Entrepreneurship and Management Journal (2019) 15:545–571 <https://doi.org/10.1007/s11365-018-0552-1> 545-571, <https://link.springer.com/article/10.1007/s11365-018-0552-1>
- [11] Thinking Studio.in MBrown. MHartnett, and T. Stewart (Eds), Future Challenges, Sustainable futures, proceeding ascilite Wellington 2012. 1071-1081
- [12] Erik E. Lehmann, Michele Meoli, Stefano Paleari & Sarah A. E. Stockinger (2020) The role of higher education for the development of entrepreneurial ecosystems, European Journal of Higher Education, 10:1, 1-9, DOI: 10.1080/21568235.2020.1718924
- [13] Pavel Luksha, Joshua Cubista, Alexander Laszlo, Mila Popovich, TRANSFORMATION, Global Education Futures 2018, http://www.globaledufutures.org/images/people/GEF_april26-min.pdf
- [14] Nick Skillicorn <https://www.ideatovalue.com/inno/nickskillicorn/2019/11/3-dimensions-of-innovation-the-23-capabilities-your-company-needs-to-succeed/>, 06-12-2020
- [15] Tomas Hellström, Centres of Excellence and Capacity Building: from Strategy to Impact, Science and Public Policy, Volume 45, Issue 4, August 2018, Pages 543–552, <https://doi.org/10.1093/scipol/scx082>
- [16] Lourdes G. Planas, Intervention design, implementation, and evaluation, Am J Health-Syst Pharm—Vol 65 Oct 1, (2008) 1854-1863
- [17] Xinni Du, Sharon Taylor, Flipped classroom in first-year management accounting unit – a case study, Electric dreams, 30th ascilite Conference 2013 Proceedings, 252-256, <https://www.ascilite.org/conferences/sydney13/program/papers/Du.pdf>
- [18] James W. Martin, Operational Excellence—using lean Six-Sigma To transform Customer value, TLI-Asia Pacific White Paper Series, Operational Excellence—Doing more with less, March 2010, Singapore, <https://www.tliap.nus.edu.sg/wp-content/uploads/2019/04/10-May-TI01-Operational-Excellence-Doing-More-With-Less.pdf>
- [19] Tomas Hellström, Programme on Innovation, Higher Education and Research for Development (IHERD) Background document Centres of Excellence as a Tool for Capacity Building, https://www.oecd.org/sti/Draft_OECD%20synthesis%20report_final.pdf
- [20] Manuel Brusoni, radu damian, josep grifols auri, stephen jackson, hasan kömürçügil, mariam almedy, oxa namatveeva, galina motova, solange pizarz, patricia pol, ausrarostlund, erika soboleva, orlandavares, lagle zobel, the concept of excellence in higher education, ISBN 978-952-5539-73-8 (web publication) ISSN 1458-1051, https://enqa.eu/indirme/papers-and-reports/occasional-papers/ENQA%20Excellence%20WG%20Report_The%20Concept%20of%20Excellence%20in%20Higher%20Education.pdf
- [21] Aithal, P. S., & Aithal, Shubhrajyotsna (2020). Analysis of the Indian National Education Policy 2020 towards Achieving its Objectives. International Journal of Management, Technology, and Social Sciences (IJMTS), 5(2), 19-41. DOI: <http://doi.org/10.5281/zenodo.3988767>.
- [22] Julie Sarama, & Douglas H. Clements, Douglas H. Clements, Christopher B. Wolfe, Christopher B. Wolfe Mary Elaine Spitler, Longitudinal Evaluation of a Scale-Up Model for Teaching Mathematics With Trajectories and Technologies:

- Persistence of Effects in the Third Year July 2012 Journal of Research on Educational
- [23] Uttam Gaulee, Role of Higher Education in the Economic Growth: A Comparative Analysis of the Republic of South Korea and Republic of India, International Journal of Multidisciplinary Perspectives in Higher Education Vol. No.1 (2016), PP. 71-84, <http://www.jimphe.com>
- [24] Report: Graduate Management Admission Council, Demand for MBA and Business Master's
- [25] Matthew J. Laye, Caroline Boswell, Morgan Gresham, Dawn Smith-Sherwood & Olivia S. Anderson Multi-Institutional Survey of Faculty Experiences Teaching Capstones, Journal College Teaching Volume 68, 2020- Issue 4 Pages 201-213
- [26] Sharon Bailin, Roland Case, Jerrold R. Coombs & Leroi B. Daniels, Conceptualizing critical thinking, Journal of Curriculum Studies Volume 31, 1999- Issue 3, 285-302
- [27] R. T. Pithers & Rebecca Soden, Critical thinking in education: a review, Journal Educational Research Volume 42, 2000- Issue 3, 237- 249.
- [28] Daniela Duca, Spinning-in- Intrapreneurs in the Knowledge Economy (Knowledge Economy Working Paper, The Work Foundation) January 2011 DOI: 10.13140/2.1.4744.0648, https://www.researchgate.net/publication/266201305_Spinning-in-Intrapreneurs_in_the_Knowledge_Economy_Knowledge_Economy_Working_Paper_The_Work_Foundation
- [29] Narayanan Ramaswamy, Madhavan Vilvar ayanallur, Debabratta Gosh, Impact of National Education Policy 2020 and opportunities for stakeholders, KPMG, August 2020, <https://assets.kpmg/content/dam/kpmg/in/pdf/2020/08/impact-of-national-education-policy-2020-and-opportunities-for-stakeholders.pdf>
- [30] Cyril Amarch, Mangaldas, NEP 2020: An Interplay Of Education And Technology, <https://www.bloombergquint.com/opinion/nep-2020-an-interplay-of-education-and-technology>, Bloomberg Quint Read, September 26 2020, Copyright © Bloomberg Quint
- [31] Wang, Z. and Zhang, Q. (2019) Higher-Education Ecosystem Construction and Innovative Talents Cultivating. Open Journal of Social Sciences, 7, 146-153. doi: 10.4236/jss.2019.73011
- [32] Imperial College London, Innovative teaching for world class learning and Teaching Strategy, <https://www.imperial.ac.uk/media/imperial-college/about/leadership-and-strategy/education/public/LearningTeachingStrategy.pdf01-12-2020>
- [33] Lesley Clack, Rachel Ellison, Innovative Approaches to Management Education, Journal of Management Policies and Practices June 2018, Vol. 6, No. 1, pp. 6-9, DOI: 10.15640/jmpp.v6n1a2 URL: <https://doi.org/10.15640/jmpp.v6n1a2>
- [34] Peter Serdyukov, Innovation in education: what works, what doesn't, and what to do about it?, Journal of Research in Innovative Teaching & Learning Vol. 10 No. 1, 2017 pp. 4-33 Emerald Publishing Limited, 2397-7604 DOI 10.1108/JRIT-10-2016-0007, <https://www.emerald.com/insight/content/doi/10.1108/JRIT-10-2016-0007/full/pdf?title=innovation-in-education-what-works-what-doesnt-and-what-to-do-about-it>
- [35] Cheng W., Jiang H. (2012), The Innovation Research of Teaching Methods on Higher Education of Management Discipline. In: Wu Y. (eds) Advanced Technology in Teaching Soft Computing, vol 116. Springer, Berlin, Heidelberg, https://doi.org/10.1007/978-3-642-11276-8_45
- [36] Cochrane, Thomas & Withell, Andrew. (2013). Augmenting design education with mobile social media: A transferable framework. Journal of the NUS teaching academy (JNUSTA). 3. 150-168.
- [37] Colin M. Gray, Indiana University Bloomington, USA, Factors That Shape Design Thinking, Design and Technology Education: An International Journal 18.3, 8-20, <https://files.eric.ed.gov/fulltext/EJ1119596.pdf>
- [38] SSrirangam et al 2019 IOP Conf. Ser.: Mater. Sci. Eng. 63601 2016 <https://iopscience.iop>

- [org/article/10.1088/1757-899X/636/1/012016/pdf](https://doi.org/10.1088/1757-899X/636/1/012016/pdf)
- [39] Jeanne Liedtka, INNOVATION Why Design Thinking Works, Harvard Business Review, September–October 2018 Issue, <https://hbr.org/2018/09/why-design-thinking-works>
- [40] Nick Skillicorn <https://www.ideatovalue.com/inno/nickskillicorn/2019/11/3-dimensions-of-innovation-the-23-capabilities-your-company-needs-to-succeed/>, 06-12-2020
- [41] Frances James, <https://www.qs.com/everything-you-need-to-know-education-40/07-12-2020>
- [42] World Economic Forum, Insight Report The Future of Jobs Report 2018
- [43] Pallavi Goela, Pardeep Kumar, Prashant Johri, Sandesh Kumar Srivastava, Sashant Suhaga, A Comparative Study of Industry 4.0 with Education 4.0, International Conference on Innovation Advancement in Engineering and Technology (IAET-2020), <https://ssrn.com/abstract=3553215>
- [44] M. A. A. AlMaadeed and D. Ponnammam, "Role of Research and Higher Education on Industry 4.0, Material Science as an example," 2020 IEEE International Conference on Informatics, IoT, and Enabling Technologies (ICIoT), Doha, Qatar, 2020, pp. 435-439, doi: 10.1109/ICIoT48696.2020.9089662.
- [46] J. Pokorný, L. Adislav, P. Ládl, L. Adislav, P. Ládl, Tereza, Balcarová Tereza, Balcarová Irina, Sergeeva Irina, Sergeeva Value Proposition Canvas, Identification of Pains, Gains and Customer Jobs at Farmers' Markets, Agri On-line Papers in Economics and Informatics 7(4):123-130, DOI: 10.7160/aol.2015.070412
- [47] Judith A. Ramaley, The Changing Role of Higher Education: Learning to Deal with Wicked Problems, ©Journal of Higher Education Outreach and Engagement, Volume 18, Number 3, p. 7, (2014), 7-22, <https://files.eric.ed.gov/fulltext/EJ1043282.pdf>
- [48] Delipiter Lase Delipiter Lase, Education and Industrial Revolution 4.0, DOI: 10.24114/jh.v10i1, https://www.researchgate.net/publication/334837153_Education_and_Industrial_Revolution_40
- [49] Alex Gray, The 10 skills you need to thrive in the Fourth Industrial Revolution, World Economic Forum, 19 Jan 2016, <https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/>
- [50] András Benedek György Molnár György Molnár, ICT in Education: A New paradigm and old obstacle, Conference: ICCGI 2014: The Ninth International Multi-Conference on In the Global Information Technology, https://www.researchgate.net/publication/288773890_ICT_in_Education_A_New_paradigm_and_old_obstacle
- [51] Paul Costley, What is Industry 4.0? Everything you need to know about Industry 4.0's Impact on Education, Mental up, 05 November 2019, <https://www.mentalup.co/blog/industry-4-and-its-impact-on-education>

Annexure I

BUSINESS EDUCATION MODEL 4.0**BUSINESS/MANAGEMENT
EDUCATION ASPIRANTS****Deliverables
Lynchpin
Aspirants****DELIVERABLES**