# SKILLS AND COMPETENCIES, WHERE ARE WE? BUSINESS SCHOOLS JOURNEY TOWARDS SDGS

## Dr. NEERAJ SINGHAL

Assistant Professor, Strategy, Management Development Institute Murshidabad, India. Email: neeraj.singhal@mdim.ac.in

### **Abstract**

Sustainability, sustainable development (SD) and sustainable development goals (SDGs) are the areas of concern and discussion among corporate, academia, government and society over the years. This study captured the responses from 122 Indian respondents, using the pre-validated questionnaire. The convenient random sampling used to reach the business school (b school) stakeholders; management, faculty, staff, students, government, alumni, recruiters, society. The Habermas theory (1987) referred for this study; to explore the stakeholder's general awareness on SDGs, skills required for integrating SDGs, present status of SDGs adaptation and future course of action. The respondents feel that inculcating multidisciplinary approach in business education; teaching, research and own initiatives can do better alignment of SDGs in b schools. The respondents also mentioned that social and environmental skills can be enhanced by adding course modules, specialised training to staff, conducting extra-curricular and co-curricular activities at department and student level. In response to important activities for SDGs integration, the most priority activity was; education for awareness creation. The priority for future actions was; reorient curricula. Leadership, responsibility, guidance, direction and inspiration emerged as important driving forces for SDGs implementation.

Keywords: Sustainability, Sustainable development, SDGs, skills and competencies

## 1. INTRODUCTION

Over the period of decades' sustainability and sustainable development (SD) had covered the different millstones, and in the year 2015 renamed as sustainable development goals (SDGs) by the United Nations (UN). According to Lambrechts et al. (2013), during the last phase of UN decade of SD (2005-14), education had emerged as important tool for integration and adaptation of sustainability across the domains. Within education the other domain explored was the competencies; knowledge, skills, values and attitudes (Baethge et al., 2006; Rychen and Salganik, 2003). During last three decades' higher education institutions (HEIs) had focused on integration of sustainability through research, training, knowledge dissemination, technology transfer etc. across functions and operations within campus (Cortese; 2003, Leal Filho; 2011).

According to Eizaguirre et al. (2019) still no common competencies and skills are identified for adaptation and integration of sustainability in HEIs. Chankseliani & McCowan (2020) mentioned about an increasing number of universities aligning SDGs with activities such as teaching, research, university operations etc., still a significant gap exist between knowledge and evidence. Beddewela et al. (2021) emphasized on inculcating responsible management education by integrating sustainability in curriculum, research and enterprise activities and moving towards developing an ecosystem. Beddewela et al. (2021) study also highlighted the role, and balanced contribution of b school stakeholders towards knowledge, understanding and ethical behaviour.

The foundation of our study is based on Habermas (1987) theory of communicative action, developing a holistic understanding of SDGs among multiple stakeholders through general awareness on SDGs, skills required for integrating SDGs, present status of SDGs adaptation and future course of action. The actual integration of SDGs possible in business schools (further referred as b schools), once the skills and competencies will be in alignment with b school's activities; teaching, research, institute operations. According to Habermas (1987), this may





transform the people's beliefs and values through skills and competencies and modified the peoples own lifeworld (LW). The communicative action among stakeholders may enhanced the level of tolerance for effectives execution of SDGs.

This study framed around b school's multiple stakeholders, and the first base question is established on SDGs awareness and adaptation in own organisation to explore the stakeholder's general awareness on SDGs. The second question is, skills required for integrating SDGs in b schools. Third question is present status of SDGs adaptation and future course of action.

## 2. CONCEPTUAL AND THEORETICAL FRAMEWORK

Sustainability, Sustainable development (SD) and Sustainable development goals (SDGs) had emerged over a period of time as the path towards the betterment of the society, businesses and government policies (Ciegis et al., 2011; Secundo et al., 2020; Sobol, 2008; Wiek et al., 2011, UN, 2015). The development and betterment always come with some critical issues and challenges, on the path of SDGs adaptation the challenges are related to addressing the skills gap at the level of each stakeholder associated with business, society or government (Sachs, 2012). The individuals, managers, and leaders required a new set of skills and competencies for the mapping and attainment of SDGs in their respective domain (Sobol, 2008). Universities, business schools, and training centres has to grasp this gap as an opportunity for rolling out a strategic framework or action plan for the achievement and implementation of SDGs in the larger interest of nation, society, and community.

Competency based theory and models were common phenomena explored by strategist starting from 1990 onwards and justified the same in context of business organization performance enhancement. Resource based theory focused on valuable, rare and inimitable aspects of an organizational resources (Bordeleau et al., 2020, Pereira and Bamel, 2021). The organizational resources include tangible, intangible and human resources, organization competencies are the outcome of all the resources. According to Shet & Pereira (2021) resource based theory linked to human capital framework, further human capital based on knowledge, skills, ideas and health of individual. Avitia-Carlos et al., (2019) redefined the human capital base as the combination of knowledge, skills, abilities and opportunities. Human resources can help the organization to achieved the desired results and performance.

According to Bartram (2005) competencies helps the organizations in achieving the desired results and performance. Competencies derived through knowledge, skills and attitude which takes the organization on the path of desired outcomes (Boyatzis, 1982, Spencer and Spencer, 2008). According to Habermas (1987), theory of communicative action based on authentic knowing, development of communicative capacity and finally communicative action. Our study used the inferences of Hebermas theory in context of stakeholder's awareness on SDGs and skills required for integration of SDGs, SDGs adaptation and future course of action to bring the all stakeholders at the same pace.

## 3. BUSINESS SCHOOLS JOURNEY TOWARDS SDGS

Brundtland (1987), report definition the Sustainable Development (SD) as "meet the needs of present without compromising the future generation needs", over the years, this definition has been explored and interpreted by many researchers and practitioners for setting the milestones of their journey towards SD. International Association of Universities (IAU) in 2019, highlighted the integration of SD in higher education institutions with a holistic perspective of social, economic and environmental dimensions. United Nations (UN) introduced the Principles for Responsible Management Education (PRME) in the year 2007 for the effective



contribution of business schools towards SD. Responsible management concept becomes the agent of social change for business schools by integrating the SD concepts across teaching, training, research and institute operations.

The journey towards SD, reached to another milestone in the year 2000, named as Millennium Development Goals and further streamlined as UN's seventeen Sustainable Development Goals (UN, 2015). Due to growing attention towards SDGs, academic institutions also streamlining their curriculum, research and other activities for embedding SDGs (Snelson et al.;2020). According to Kurucz et al., (2014), a change in the business school stakeholder's knowledge, understanding and behaviour can facilitate the SDGs integration in b schools. Lucía Alcántara-Rubio et. al (2022), identified education, leaning, research and governance as important driver for integrating SDGs in universities. Owens (2017), explored collaborations among government, academic institution, stakeholders and multiple agencies as important drivers for SDGs execution. Christ and Burritt (2019), highlighted the need of holistic solution for SDGs integration in business schools to fill the gap between theory and practice. Our study is an effort to fill this gap by aligning necessary skills and competencies with b school activities, and stakeholders action for SDGs execution.

# 3.1 Managerial competencies and sustainable development goals

Sustainable development and sustainable development goals are emerging as the central theme for the businesses and business schools. Their concern for meeting the needs of present without compromising the future needs, leads the organization towards maintaining an equilibrium among economic, social and environmental aspects. Appropriate competencies and skills needs to be developed among present and future managers for the integration of sustainable development goals in the business schools. According to Wiek et al., (2011) managerial competencies can help the managers to better understand the complexities of economic, social and environmental aspects and suggest simplified solution for the same.

Competencies as a concept had evolved over the period of centuries even earlier to Romans era, Romans used to practice the competency evaluation during recruitment of new soldiers (Draganidis & Mentzas; 2006). The corporates started to adopt the competency based approach around 1970, McClelland (1973), Harvard psychologist introduce the competency in context of human resource literature and also suggest the competency test. Private sector in the United States (US) and United Kingdom (UK) started to explore competency management in 1980s to address the challenges come across due technological changes, competition and decline in profitability (Hondeghem et al., 2005; Horton, 2000b). Both the countries introduced the changes in the education system for developing the required national skill sets to build the competencies.

Boyatzis (1982), excellent contribution came in the context of managerial competencies, he mentioned the competence factors that differentiate more successful managers with less successful. He suggested 19 generic characteristics derived from five clusters; goal and action, human resource management, leadership, focus on others, directing subordinates. Occupational competency covered knowledge application, understanding, practical and thinking skills, problem solving. According to (Chung et al., 2016; Dudin et al., 2017; Dumitrescu, et al., 2014; Dzhengiz & Niesten, 2019; Mukhopadhyay et al., 2011; Remington-Doucette & Musgrove, 2015), managerial competencies can be used to achieve sustainable development and can also be helpful in integrating and executing SDGs across businesses, society and educational system. Hassan (2020) suggested the competencies for executing sustainable development projects; communication, leadership, development orientation, achievement orientation, motivation, team work, innovation, and decision making.



Over the period of time many researchers, scholars and practitioners had explored the managerial competencies such as; communication, leadership, development orientation, flexibility, influence, motivation, teamwork, achievement orientation, quality focus, customer focus, planning, innovation, decision making (Hassan, 2020).

United Nations (UN) report (2021) titled "Changing Mindsets to Realize the 2030 Agenda for Sustainable Development" suggested the mind set and competency framework for SDGs implementation. Identified competencies were; systems thinking, risk informed adaptation, collaboration, strategic problem solving, creativity, innovation, data and information literacy, public financial management, long term planning, forward looking and proactive, risk management, result based management, lifelong learning, manage performance, coordination, integration and dialogue, multi-stakeholder partnership, applicability and understanding of technological development, professionalism, ability to collect, manage and share information, communication, managing resources, respect for diversity and non-discrimination, intergenerational equity, empowerment and participation, negotiation and facilitation, emotional intelligence, social consciousness, responsibility, respect, protect and promote human life and fundamental freedom, construct administrative acts, skills in management and planning, impact assessment.

All India Council for Technical Education (AICTE), New Delhi, India, a regulatory body of government of India developed model curriculum for management education in the year 2018 and identified the managerial competencies for future mangers; business environment and domain knowledge, critical thinking, business analysis, problem solving, innovative solutions, global exposure and cross cultural understanding, social responsiveness and ethics, effective communication, leadership and teamwork. The AICTE also suggested the skills and competency based measurement tools in aliment with outcome based education linked to blooms taxonomy, Bloom et al. (1956) mentioned six levels for measuring different level of knowledge and skill sets; remembering, understanding, applying, analysing, evaluating and creating. The tools also suggested for ensuring the learning and skills in context of business education; examination, mini and minor project work, course project, capstone project etc.

## 4. METHODOLOGY

This study is based on the adaptation of a pre-validated questionnaire from Hiroshima 2022, University **SDGs** awareness survey accessed https://www.apu.ac.jp/~tomomi/SDGs/HU\_SDGsSurvey\_2022eng.html, and modified as per the requirement of the study, Beddewela et al. (2017). The respondents were b school stakeholders, chosen randomly from the Indian b schools based on accreditation and rankings; management, faculty, staff, students, government, alumni, recruiters, society. The questionnaire shared through google forms during February 2024-March 2024, to the 500 stakeholders representing all categories. The filled questionnaire response was 24.4%, in absolute count it was 122. No specific weightages were given to one category of stakeholder above the other category, to minimise the bias. All stakeholders and their responses were considered at par without any bias. According to Visser et al. (1996), even the response rate less than 20% can give the better results, in comparison to studies with 60-70% response rate. So the response rate 24.4% considered adequate for drawing the inferences from this study.

## 5. ANALYSIS & DISCUSSION

The discussion section divided in four sub-parts; awareness on SDGs, skills required for integrating SDGs, present status of SDGs adaptation and future course of action.



**5.1 SDGs awareness among stakeholders**: Snelson-Powell et al. (2020) emphasized on practical challenges of incorporating SDGs in b schools due to lack of precise formula for the same. Harbermas's (1987) theory of communicative action suggested the solution of the same with understanding of SDGs awareness and implementation among multiple stakeholders. As per our study 44% of the respondents mentioned about SDGs awareness and more details about its implications in their respective context. But the surprising response was from remaining 56%, half of them even not heard about SDGs prior to this study, and remaining half mentioned that they heard but not knowing much details in their context.

The response for another cross question on awareness was, involvement of their respective organization in SDGs, the response was in line with previous response. The most surprising response was, where 85% respondents mentioned that they wish to reside in municipalities that actively involved towards SDGs. Even 58% of the stakeholders mentioned, if I have to go for a job or has to change present job, would like to work in an organization actively involved in SDGs.

The response of stakeholders for SDGs implementation was also interesting, 73% respondents mentioned, they would like to actively involved in SDGs execution, by initiatives in a day to day life, teaching, research and through other activities. Seventy percent of the respondents were of the opinion that multidisciplinary approach is required for SDGs integration in b schools.

- **5.2 Skills required for SDGs integration in b schools:** More than 90% respondents mentioned problem solving with multidisciplinary approach as most important skill for addressing and incorporating SDGs in b schools. Around 55% respondents feels system thinking, and understanding of environmental and social issues is also equally important. Close to 50% respondents mentioned about behaving ethically and acting responsibly could also contribute for better SDGs execution. Ninety-one percent respondent mentioned that sustainability, responsibility, resilience and ethics has to be incorporated in teaching, research and other activities of the business schools.
- **5.3 Stakeholders perspective on SDGs integration in b schools:** Around two third respondents mentioned that their organisations involved in integrating SDGs in some or the other way. The SDG 1 (no poverty) was mentioned as the highest priority for focus, the other ones in higher to lower priority was; SDG 4 (quality education), SDG 3 (good health and wellbeing), SDG 2 (zero hunger), SDG 5 (gender equality). The stakeholders mentioned their organizations focusing on teaching, research and other activities for SDGs alignment. Seventy-three percent respondents mentioned their organization's mission, vision statements embedding social and environmental skills. Around 40% of the respondents highlighted that their course structure and student activities also incorporating social and environmental perspective.

The stakeholders mentioned the multiple activities on which their respective organization already initiated the actions, the activities mentioned here are in higher to lower order as per stakeholder's response; education for awareness creation, sourcing and purchasing strategy, research publication & projects, certifications (accreditation, ranking), awards and rewards, sustainability investments (solar energy, net zero, waste management, water harvesting etc.), student research projects & presentations, NGO activities, CSR, entrepreneurship (incubation, innovation, technology), committees, forums & consultations, partnership & alliances, dialog among stakeholders, assessment and monitoring.

Around two third respondents mentioned their institutions initiated for course curriculum changes for incorporating SDGs perspective, 36% respondents highlighted about conducting



public awareness program on SDGs, 35% mentioned about focusing on SDGs related research and implementing sustainability across institute operations. Close to one third of the respondents mentioned about training workforce for SDGs, education for practitioners, and developing graduates with appropriate skills and competencies. The sixty-eight percent respondent mentioned authority as the important driving force for SDGs awareness, adaptation and execution. Responsibility, guidance, direction and inspiration were other drive forces mentioned by the respondents.

5.4 Stakeholders suggestions for future actions: Stakeholders would like to focus on following SDGs as future priority; SDG 1 (no poverty), SDG 2 (zero hunger), SDG 4 (quality education), SDG 3 (good health and wellbeing), SDG 5 (gender equality). Sixty-eight percent respondents mentioned that in future focus needs to be on incorporating sustainability, resilience, responsibility and ethics across various activities of b schools for ensuring SDGs integration in b schools. Seventy percent of the respondents suggested to add a module for developing social and environmental skills, 38% suggested to equally focused on aligning institute and student's events around the theme of social and environmental aspects, another suggestion of the stakeholders was, training of employees for enhancing contribution towards social and environmental skills. Training for education awareness emerged as the most critical area to address, second priority area is sustainability action related to own institute activities such as (solar energy, net zero, waste management, water harvesting etc.), third area to focus is dialog among various stakeholders, fourth important factor is implementation of sustainability assessment, monitoring and audit. On the side of skills and competencies, developing graduates with appropriate skills and competencies emerged as most critical factor, second important area for focus is working executives training and education, third one is motivating for conducting research in the domain of SDGs and allied functions. Leadership, appropriate frameworks, culture and developing an operational ecological system can facilitate in integrating SDGs and appropriate skill sets to the address the gaps.

## 6. CONCLUSION

Herbermas's (1987) theory of communicative action focused on the needs of creating awareness among the multiple stakeholders for developing the sense of belongingness and effective execution. As, more than half of the respondents were not aware about the SDGs and its alignment with their jobs prior to this study, so the action required is conducting the awareness programs as specific module or part of the specialised training program. The awareness and training programs will help the stakeholders to further streamline their action and initiatives towards SDGs and the zeal for developing required skills and competencies. Problem solving and multi-disciplinary approach emerged as important area to work upon to minimize the skills and competencies gap. Working with systems approach and focusing on ethics is also another important area to further streamline. The priority SDGs identified by stakeholders to focus are; SDG 1 (no poverty), SDG 2 (zero hunger), SDG 4 (quality education), SDG 3 (good health and wellbeing), SDG 5 (gender equality).

The stakeholders mentioned education for awareness creation as most important focus area to reduce the gap of skills and competencies. The other area of immediate attention is sustainability initiative action in own organization. Sustainable branding and rankings also identified as attention seeker. More facilitation and support is required for creating the dialog among multiple stakeholders, conducting research on SDGs priority areas, developing partnership for rolling out funded research project and training programs. Certifications and accreditations also function as motivator for the b schools to reduce the gap of skills and competencies towards SDGs integration. Streamlining the process of assessment & monitoring



and accordingly realigning the ecosystem activities is the most challenging task for the b schools.

Developing the graduate skills and competencies by creating more awareness among multiple stakeholders, aligning curriculum, developing curricular and co-curricular activities, promoting SDGs oriented research, organising open awareness programs, training employees and working executives and developing roadmap for journey towards sustainability were identifies as key focus areas. Leadership, governance, operational guidelines, leaning assurance, ecological ecosystem, and multiple stakeholders vision and passion may assure the success of SDGs integration in b schools and could also reduce the skills and competencies gap for the same.

### References

- 1. Avitia-Carlos, P., Morales-García, C.G., Rodríguez-Verduzco, J.L., Tapia, B.R., Arballo, N. C., (2019). Conditions for the development of Industry 4.0 from the human capital technological competences perspective. Revista de Ciencias Tecnológicas, 2 (4), 159–165. 10.37636/recit.v24159165
- 2. Baethge, M., Achtenhagen, F., Arends, L., Babic, E., Baethge-Kinsky, V., Weber, S., (2006). PISA-VET. A Feasibility-Study. Franz Steiner Verlag, Stuttgart. doi:10.25162/9783515128223
- 3. Bartram, D. (2005). The Great Eight Competencies: A Criterion-Centric Approach to Validation. Journal of Applied Psychology, 90(6), 1185–1203. doi:10.1037/0021-9010.90.6.1185
- 4. Beddewela, E., Anchor, J., & Warin, C. (2021). Institutionalising intra-organisational change for responsible management education. Studies in Higher Education, 46(12), 2789–2807. https://doi.org/10.1080/03075079.2020.1836483
- 5. Bordeleau, F.-E., Mosconi, E., & de Santa-Eulalia, L. A. (2019). Business intelligence and analytics value creation in Industry 4.0: a multiple case study in manufacturing medium enterprises. Production Planning & Control, 1–13. doi:10.1080/09537287.2019.1631458.
- 6. Bloom, B.S., Engelhart, M.D., Furst, E.J., Hill, W.H. and Krathwohl, D.R. 1956 Taxonomy of educational objectives Handbook 1: cognitive domain. London, Longman Group Ltd. Boyatzis, R.E., 1982. The Competent Manager: A Model for Effective Performance. John Wiley & Sons.
- 7. Brundtland, G. (1987). Report of the World Commission on Environment and Development: Our Common Future "United Nations General Assembly Document a/42/427." Available at: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf. (Accessed June 26, 2024)
- 8. Chankseliani, M., & McCowan, T. (2020). Higher education and the Sustainable Development Goals. Higher Education. doi:10.1007/s10734-020-00652-w.
- 9. Christ, K. L., & Burritt, R. L. (2019). Implementation of sustainable development goals: The role for business academics. Australian Journal of Management, 44(4), 571–593. https://doi.org/10.1177/03128962198705
- 10. Chung, L., Lo, C., & Li, P. (2016). The interaction effects of institutional constraints on managerial intentions and sustainable performance. International Journal of Production Economics, 181, 374-383. https://doi.org/10.1016/j.ijpe.2016.01.001
- 11. Ciegis, R., Kliucininkas, L., & Ramanauskiene, J. (2011). Assessment of state and tendencies of sustainable development in Lithuania. Management of Environmental Quality: An International Journal, 22(6), 757-768. https://doi.org/10.1108/14777831111170858
- 12. Cortese, A.D. (2003), The critical role of higher education in creating a sustainable future. Planning for Higher Education, 31, 15–22.
- 13. Draganidis, F. & Mentzas, G. (2006). Competency based management: A review of systems and approaches, Information Management & Computer Security, 14 (1), pp. 51-64.
- 14. Dudin, M., Vysotskaya, N., Frolova, E., Pukhart, A., & Galkina, M. (2017). Improving professional competence of the staff as a strategic factor for sustainable development of companies. Journal of

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Volume: 40 Issue Number:08

Business & Retail Management https://doi.org/10.24052/JBRMR/V12IS01/IPCOTSAASFFSDOC

Research,

12(01).

- 15. Dumitrescu, C., Drăghicescu, L., Olteanu, R., & Suduc, A. (2014). Key Competences for Sustainable Development Aspects Related with SUSTAIN Project Activity. Procedia -Social and Behavioral Sciences, 141, 1101-1105. https://doi.org/10.1016/j.sbspro.2014.05.185
- 16. Dzhengiz, T., & Niesten, E. (2019). Competences for Environmental Sustainability: A Systematic Review on the Impact of Absorptive Capacity and Capabilities. Journal of Business Ethics,162(4),881-906. https://doi.org/10.1007/s10551-019-04360-z
- 17. Eizaguirre, A.; García-Feijoo, M.; Laka, J.P. (2019). Defining sustainability core competencies in business and management studies based on multinational stakeholders' perceptions. Sustainability, 11(8), 2303. doi.org/10.3390/su11082303
- 18. Habermas, J. (1987). The theory of communicative action: Vol. 2: The critique of functionalist reason (McCarthy, T., trans.). Polity Press.
- 19. Hassan A. (2020), Managerial Competencies Required to Achieve Sustainable Development Projects: A Proposed Model for Managers, Environmental Management and Sustainable Development, 9(3):68-86, doi:10.5296/emsd.v9i3.17603
- 20. Hondeghem, A., Horton, S. & Scheepers, S. (2005). Modèles de gestion des compétences en Europe, Revue française d'administration publique, 16, pp. 561-576.
- 21. Horton, S. (2000b) "Introduction the competency movement: its origins and impact on the public sector", The International Journal of Public Sector Management, 13 (4), pp. 306-318. doi.org/10.1108/09513550010350283
- 22. Kurucz, E. C., Colbert, B. A., & Marcus, J. (2014). Sustainability as a provocation to rethink management education: Building a progressive educative practice. Management Learning, 45(4), 437–457. https://doi.org/10.1177/ 1350507613486421
- 23. Lambrechts, W., Mulà, I., Ceulemans, K., Molderez, I., & Gaeremynck, V. (2013). The integration of competences for sustainable development in higher education: an analysis of bachelor programs in management. Journal of Cleaner Production, 48, 65–73. doi:10.1016/j.jclepro.2011.12.034
- 24. Leal Filho, W. (2011). About the role of universities and their contribution to sustainable development. Higher Education Policy,24(4), 427–438. 10.1057/hep.2011.16
- 25. Lucía Alcántara-Rubio, Rocío Valderrama-Hernández, Carmen Solís-Espallargas & Jorge Ruiz-Morales (2022) The implementation of the SDGs in universities: a systematic review, Environmental Education Research, 28(11), 1585-1615, DOI: 10.1080/13504622.2022.2063798.
- 26. McClelland, D. C. (1973). Testing for competence rather than for "intelligence." American Psychologist, 28(1), 1–14. https://doi.org/10.1037/h0034092
- 27. Mukhopadhyay, K., Sil, J., & Banerjea, N. (2011). A Competency Based Management System for Sustainable Development by Innovative Organizations. Vision: The Journal of Business Perspective, 15(2), 153-162. https://doi.org/10.1177/097226291101500206.
- 28. Owens, T. L. (2017). "Higher Education in the Sustainable Development Goals Framework." European Journal of Education, 52 (4): 414–420. doi:10.1111/ejed.12237.
- 29. Pereira, V., & Bamel, U. (2021). Extending the resource and knowledge based view: A critical analysis into its theoretical evolution and future research directions. Journal of Business Research, 132, 557–570. doi:10.1016/j.jbusres.2021.04.021
- 30. Remington-Doucette, S., & Musgrove, S. (2015). Variation in sustainability competency development according to age, gender, and disciplinary affiliation: Implications for teaching practice and overall program structure. International Journal of Sustainability in Higher Education, 16(4), 537-575. https://doi.org/10.1108/IJSHE-01-2013-0005.
- 31. Rychen, D.S., Salganik, L.K., 2003. Key Competencies for a Successful Life and a Well- Functioning Society. Hogrefe & Huber, Germany.
- 32. Sachs, J. (2012). From Millennium Development Goals to Sustainable Development Goals. The Lancet, 379(9832), 2206-2211. https://doi.org/10.1016/S0140-6736(12)60685-0

www.abpi.uk



- 33. Secundo, G., Ndou, V., Vecchio, P., & De Pascale, G. (2020). Sustainable development, intellectual capital and technology policies: A structured literature review and future research agenda. Technological Forecasting and Social Change, 153, 119917. https://doi.org/10.1016/j.techfore.2020.119917
- 34. Shet, S. V., & Pereira, V. (2021). Proposed managerial competencies for Industry 4.0 Implications for social sustainability. Technological Forecasting Social Change, 121080. doi:10.1016/j.techfore.2021.12108
- 35. Snelson-Powell, A. C., Grosvold, J., & Millington, A. I. (2020). Organizational hypocrisy in business schools with sustainability commitments: The drivers of talk-action inconsistency. Journal of Business Research, 114, 408–420. https://doi.org/10.1016/j.jbusres.2019.08.021
- 36. Sobol, A. (2008). Governance barriers to local sustainable development in Poland. Management Environmental Quality: An International Journal, 19(2), 194-203. https://doi.org/10.1108/14777830810856573
- 37. Spencer, L.M., Spencer, P.S., 2008. Competence at work models for superior performance. John Wiley & Sons.ley & Sons.
- 38. United Nations (UN). (2015). Transforming our world: The 2030 agenda for sustainable development. Resolution adopted by the General Assembly on 25 September 2015. Available http://tinyurl.com/od9mens.
- Visser PS, Krosnick JA, Marquette J, Curtin M., (1996), Mail surveys for election forecasting? An evaluation of the Colombia Dispatch Poll. Public Opinion Quarterly, 60(2):181-227
- 40. Wiek, A., Withycombe, L., & Redman, C. (2011). Key competencies in sustainability: a reference for academic program framework development. Sustainability Science, 6(2), 203-218. https://doi.org/10.1007/s11625-011-0132-6

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