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**Sustainability Framework for Online and  
Distance Education**

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# Author's Photos



# Author's short biographies

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Dr. Syed Afzal Moshadi SHAH is a passionate university teacher, trainer, researcher, author and philanthropist. His professional work experience ranges from financial sector, manufacturing sector, social sector to academia sector and is spanned over one and a half decade. His PhD is on consumer ethical decision making. His notable publications are in the field of ethical decision making, cultural diversity and social media in leading journals of Emerald, Elsevier and Springer. He teaches marketing specialization courses and delivers training on management and marketing. He runs a charity fund since 2008 in order to financially assist orphan girls in their marriages. (Email: [afzalshah@cuiatd.edu.pk](mailto:afzalshah@cuiatd.edu.pk))

# Introduction

- Distance education creates various learning opportunities that are not available through conventional learning, either locally or internationally.
- The recent Covid-19 pandemic's impact.
- Growing public participation in lifelong learning, the contributions of communication technologies and the increasing demand for online and distance education due to changing lifestyles have created an educational niche opportunity to implement distance education as a supplementary rather than a distinctive solution.
- The essence of online and distance education nurtures sustainability.

# The Literature Review

- Sustainable Development and Sustainable Development Goals:
  - Triple Bottom Line
    - Outlines the three main pillars of sustainability, namely, the economic, environmental, and social pillars.
- Online and Distance Education:
  - Teaching is conducted by someone removed in time and space from the learner and that its mission aims to include greater dimensions of openness and flexibility, whether in terms of access, curriculum, or other elements of structure (UNESCO, 2002).
  - The following characteristics are observed: the separation of teacher and learner in time and place; institutional accreditation; the use of mixed-media courseware involving two-way communication; the possibility of face-to-face meetings; and the use of industrialised processes (The Commonwealth of Learning, 2000).

# The Literature Review

- Quality Assessment of Online and Distance Education
  - Quality assessment framework that looks into the elements that define its ideal criteria
  - Code of Practice for Programme Accreditation: Open and Distance Learning (COPPA-ODL)
  - The Malaysian National e-Learning Policy (DePAN)

# The Literature Review

- Sustainable Development and Distance Education
  - Distance education has been acknowledged in previous studies as a mechanism through which sustainable development can be achieved (Aleixo et al., 2018; Azeiteiro et al., 2015; Ramos et al., 2015).
  - The assessment of the programmes' sustainability remained complex and opened issues. Insufficient attention has been given to the criteria or characteristics of online and distance education settings (Herring & Roy, 2002; Roy et al., 2001), so the relationship between sustainability and the operational assessment of online and distance education can be further understood (Md Harizan & Hilmi, 2019).
  - The environmental perspective of sustainability has been overemphasized in attempts to conceptualise sustainability elements in online and distance education (Aleixo et al., 2018; Md Harizan et al., 2015, 2016, 2017), leaving avenues to define the other main sustainability pillars in these settings.

# The Study

- Studies have largely focused on the effectiveness of distance education in delivering lessons related to sustainable development.
- A few attempts have studied the impact of online and distance education on elements of sustainability, yet little attention has been given to the criteria or characteristics of distance education itself.
- Large focused on the characteristics of online and distance education in terms of its environmental dimension, more work needs to be done to address other sustainability perspectives related to the online and distance education mode, particularly the economic and social pillars.



# Research Question(s)

- “How does online and distance education relate to sustainable development?”
- Objective: To identify the attributes of online and distance education that can be related to the social, economic, and environmental pillars of sustainability.

# Methodology

- Qualitative method
- Online focus group discussion (FGD) sessions
- Field experts from three prominent distance education programmes provider/centre/faculty
- Thematic analysis
- The initial codes were developed based on the intersection of the main distance education operational aspects and the three main pillars of sustainability

# Results

Table 1: Online and distance education criteria for economic sustainability

Sustainability Pillars	Criteria for distance education
Economic	<ol style="list-style-type: none"> <li>1. Reasonable and efficient cost to installing, maintaining, and upgrading bandwidth.</li> <li>2. Availability of sustainability-related start-ups, training in online or distance learning, credit given in service-learning activities that involve students in community service activities and applying the experience to personal and academic development taking place outside the higher educational institution.</li> <li>3. University budget for the sustainability effort via distance education settings.</li> <li>4. Research funding related to sustainability in distance education.</li> <li>5. Availability and reasonable budget allocation for the e-learning unit/team which provides institutional support for learning design.</li> <li>6. Cost reduction associated with travelling to the classroom (staff and students).</li> <li>7. Lower break-even point for institutional finances.</li> <li>8. Higher income or socioeconomic status after student graduation.</li> <li>9. Graduate employability is satisfactorily.</li> </ol>

# Results

Table 2: Online and distance education criteria for environmental sustainability

Environmental	<ol style="list-style-type: none"><li>1. Energy conservation policies and implementation.</li><li>2. The availability of interoperability, for example:<ol style="list-style-type: none"><li>(a) external open sites (e.g., social media, DropBox, Google Drive);</li><li>(b) learning management systems;</li><li>(c) exchange of information and teaching/learning materials (e.g., SCORM);</li><li>(d) single sign-on access control.</li></ol></li><li>3. Green ICT implementation.</li><li>4. Utilisation of energy-efficient infrastructure/appliances.</li><li>5. Implementing smart building.</li><li>6. Greenhouse gas emission reduction due to less travel required to the classroom.</li><li>7. Paperless policy and its implementation.</li></ol>
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# Results

Table 3: Online and distance education criteria for social sustainability

Social	<ol style="list-style-type: none"><li>1. Bandwidth speed capacity, bandwidth access, and e-learning platform utilisation are satisfactory for users.</li><li>2. Security and safety features of e-learning platforms and data.</li><li>3. E-learning platform utilisation is satisfactory.</li><li>4. The availability of original e-content and e-assessment deployment is satisfactory.</li><li>5. Student satisfaction regarding the adequacy of the pedagogical approaches adopted for the learning objectives.</li><li>6. Student satisfaction regarding learning materials.</li><li>7. Student and teacher satisfaction regarding performance reports.</li><li>8. Student satisfaction regarding interactions with teachers and tutors.</li><li>9. E-learning activities and practice are evident; e-learning enculturation and recognition mechanism is satisfactory.</li><li>10. Impactful e-learning activities for students.</li><li>11. The resulting ICT skills and literacy are satisfactory.</li><li>12. University-run sustainability website/social media availability.</li><li>13. Flexible professional development for staff.</li><li>14. Flexible learning environment.</li><li>15. Equal education opportunities for all.</li></ol>
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# Discussion

- The results extracted nine, seven, and fifteen criteria for online and distance education that can be categorised into the economic, environmental, and social pillars of sustainability, respectively.

# Discussion

- Provided the most support for quality education (SDG 4)
- Reduce inequalities (SDG 10)
- Builds resilient infrastructure, promotes inclusive and sustainable industrialisation, and fosters innovation (SDG 9)

# Discussion

- By adhering to the environmental dimension of sustainability, the study's proposed criteria attempt to fulfil SDG 11, SDG 12 and SDG 13 through online and distance education operations.
- SDG 8, which promotes the sustained and inclusive economic growth that occurs when graduating students enter the labour force and enjoy decent work.



# Discussion

- A concerted effort that supports the achievement of SDG 17 - strengthening the means of implementation and revitalising global partnerships for sustainable development.
- Comprise the continuous development, transfer, dissemination, and diffusion of environmentally sound technologies and practices to residents in developing countries.

# Implications

- Study further explained the criteria for online and distance education settings by applying the economic, environmental, and social pillars to the Triple Bottom Line approach.
- Provide the new perspective that associates the attributes and characteristics of online and distance education with the SDGs.
- Provide the basis on which the extent of attaining sustainability development goals for online and distance education can be gauged.

# Implications

- Newly generated criteria may form the basis for further developing quantifiable indicators that measure the extent of sustainability in online and distance education settings, including their programmes and other curricular activities.
- Findings may correspond to the National Higher Education Strategic Plan, 2007-2020, and the Blueprint on the Enculturation of Lifelong Learning for Malaysia, 2011-2020, by strengthening learners' learning capacity, supporting the National e-Learning Policy (DePAN 2.0), emphasising the quality and innovation in education, branding Malaysian education, reducing the cost of delivery, bringing Malaysia's expertise and skills to a global level, and cultivating lifelong learning among its people.

# Suggestions for Further Research

- Current findings may only reveal criteria for online and distance education that adhere to the economic, environmental, and social dimensions of sustainability.
- Future studies may further enhance the criteria's comprehensiveness by expanding the dimensions used to define the elements of sustainability within online and distance education settings.

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