

The Net Positive Valuation of Information and Communication Technology in Online Education

Executive Summary

As online education has evolved in the American undergraduate education system, the use of information and communication technology (ICT) for this purpose has exploded. Utilizing Arizona State University's current ASU Online education program for undergraduate degrees as the case study, this report focuses on the net positive impact of ICT in online education.

Using structured interviews of experts with knowledge of ICT platforms across the education market with a focus on Arizona State University (ASU) and ASU Online, high-level models of key stakeholders and variables were developed and populated. The unit of analysis used is the delivery and completion of undergraduate degrees.

Key Findings

- **Online education has become a significant component of ASU's sustainability strategy** due to more degrees leading to more socio-economic impact for a smaller environmental footprint per degree.
- As demonstrated through ASU Online enrollment data, **the typical online education student is a 31-year old female, ten years older than the typical traditional undergraduate student**, allowing a greater diversity of people access to degrees and greater potential lifetime earnings.
- **Socio-economic benefits of \$545,000 per undergraduate degree** based on lifetime economic earnings as a result of attaining a bachelor's degree, potential higher net worth at retirement and social services avoided and/or contributed.
- ICT platforms and online programs equate to a **carbon savings between 30 and 70 metric tons of carbon dioxide equivalent per undergraduate degree** produced through ASU Online based on avoided classroom construction and reduced travel.
- In the near term, **nearly 100 percent of an institution's courses, both immersive and virtual, will be delivered on the same technology platforms.**
- Innovation through ICT will impact **future facilities and retrofits built in a more environmentally sound manner**, incorporating LEED, Net Zero and Living Building concepts.

Based on these findings, the contribution of ASU Online to the net positive position of the ASU complex is substantial and is based almost entirely on increased access and affordability. Simultaneously, it is lowering the environmental footprint required to produce an undergraduate degree. Additionally, ICT is enabling innovation in education in general, and in online education specifically. The ratio of positive benefits of producing a college graduate to the resources required to do so, including emissions, is growing quickly due to the maturation of online education and the dedication of higher education institutions to making it so.

Download the complete report at sustainabilitysolutions.asu.edu/solutionsservices.