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THE ROLE OF THE DISCIPLINE OF INFORMATION TECHNOLOGY: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Aim/Purpose	The goal of this publication is to explore methods for advancing student success in technology related disciplines via improved program classification and selection within higher education.
Background	Increased demand for information technology (IT) professionals has been cited as a challenge in many fields including cybersecurity and software development. Many highlight the challenge as not just a numbers gap but a skills gap when comparing industry needs to the curricula in traditional disciplines within higher education. Closing the gap by increasing the number of skilled graduates remains a critical challenge we must address.
Methodology	This publication leverages a systematic literature review to identify factors that classify existing higher education programs within the discipline of information technology.
Contribution	Research in this area can act as a catalyst to increase relevance of IT related programs as well as graduation rates in technology and engineering.
Findings	Authors analyzed forty-four primary studies and found that 56.8% of the publications referenced programs that meet the IT framework definition although they were not classified as IT programs. The findings and further analysis highlight direct challenges between program classification and the potential impact on student success.

Recommendations for Practitioners	Research in this area is relevant for academic administrators, private sector executives and others working to increase the technology pipeline.
Recommendations for Researchers	Researchers may benefit by exploring thematic analysis as a means of generating relevant classifications and taxonomies that highlight opportunities for improvement in a broad set of subject areas.
Impact on Society	Research in this area can serve as a catalyst to increase graduation rates in programs related to technology and engineering.
Future Research	This area would benefit from further research by comparing program success rates within varied disciplines. Future research may also produce a classification process.
Keywords	information technology, systemic literature review, STEM, discipline, classification

AUTHORS

Josette Riep is the Assistant Vice President of Integrated Data, Engineering & Application Services (IDEAS) in Digital Technology Solutions (DTS) and is currently pursuing a doctoral degree in Information Technology at the University of Cincinnati. Josette's responsibilities include Development, DevOps and Data & Analytics. Josette is committed to creating a more inclusive environment within STEM. Through participation in Diversity initiatives including ShareIT (training and mentoring program), AI-driven research related to the expansion of African Americans in STEM, and other initiatives Josette continues to serve a role in ensuring higher education creates an environment that does not tolerate but embraces our differences and thus empowers individuals and organizations to excel.

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Hazem Said is a Professor of Information Technology and the director of the School of Information Technology (SoIT) at the University of Cincinnati (UC). He is a certified Project Management Professional (PMP). Dr. Said founded the UC Information Technology Solutions Center (ITSC) in 2012, where he consults with government, public and private organizations, and leads teams of professionals, as well as graduate, undergraduate, and high school students, to investigate, develop, and support a variety of information technology solutions. In addition, Dr. Said is a co-founder and co-director of the Ohio Cyber Range Institute and the Justice, Law, and Information Technology Institute. Dr. Said is the recipient of over 200 grants and contracts totaling over $30 million and has authored over 27 articles on topics related to information technology education.