DIGITAL TECHNOLOGIES FOR DISCOVERING OPPORTUNITIES IN ENTREPRENEURSHIP EDUCATION: FUTURE TRENDS

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ABSTRACT

The trend towards digital transformation in entrepreneurship education research is gaining importance globally as entrepreneurship is critical for economic growth. Utilizing and incorporating various digital technologies are considered very effective in teaching entrepreneurship and designing courses and more innovative teaching methods need to be studied to better understand and improve entrepreneurship education worldwide. The paper provides a literature review on innovative digital technologies in entrepreneurship education to understand the trends and developments in entrepreneurship education and highlights findings on the impact of digital transformation on opportunity recognition in academic entrepreneurship education. Grounded on the incremental innovation theory and social entrepreneurship theory the paper outlines the impact of numerous digital technologies that provide entrepreneurship students with necessary skills and effective learning experience and ease their opportunity recognition. The paper summarizes research gap on digital technologies in entrepreneurship education studies and generates questions for future research direction.

INTRODUCTION

Entrepreneurship education research has shown a fast progress globally (Igwe et al., 2021) as entrepreneurship is vital in economic advancement and global competitiveness (Ratten & Usmanij, 2021; Ozgen & Minsky, 2019; Ozgen, 2020). Innovation and opportunity recognition are considered the essence of entrepreneurship process and therefore entrepreneurship education courses incorporate opportunity recognition as core element in entrepreneurship curricula. Identifying and exploiting opportunities for new viable ventures and addressing a need in an innovative way is fundamental in entrepreneurship (Secundo et al., 2020a).

Kirzner's incremental innovation theory is grounded on the asymmetry of information and addresses that information gaps exist and knowledge is unevenly diffused in a competitive market (Kirzner, 1973). This situation creates various volatile profit opportunities for alert entrepreneurs who have knowledge (Kirzner, 1973). The theory ties entrepreneurship to innovation requiring the entrepreneur to innovate and search for information (Kirzner, 1973, 1979). Kirzner especially points out that alertness is not non-random discovery as alert individuals are those who possess information that will help them discover opportunities (Kirzner, 1997). An arbitrary individual without information cannot identify and exploit market opportunities. Kirzner's incremental innovation theory suggests that alertness and therefore possession of information and having

knowledge are the key in exploitation of incremental innovation for existing products, service, methods, processes to stay competitive (Kirzner, 1973, 1979, 1997). Alertness is commonly accepted as the antecedent of opportunity recognition (Valliere, 2013).

Entrepreneurship education stimulates students to exploit innovative opportunities by improving their knowledge, creativity, and competencies and provides avenues for more advantageous learning (Costa et al., 2017; Tantawy et al., 2021; Wang et al., 2021). Courses in entrepreneurship facilitate innovation, competition, and socio-economic development and help developing transversal skills and competencies (Greene & Saridakis, 2008; Nambisan et al., 2017; Ilonen & Heinonen, 2018; Wang et al., 2021), creative thinking, problem-solving, and analytical skills (Ozgen & Minsky, 2013). Entrepreneurship education curriculum includes a wide array of areas. such as opportunity recognition, commercializing a concept, managing resources, and initiating a business, which all help providing effective versatile competences relevant to real life and business settings. In entrepreneurship curriculum, appropriate and innovative teaching methodologies that help sharpen students' entrepreneurial alertness, idea generation, and cognitive processes are essential for an effective learning experience. Having information through entrepreneurship education assists students in a wide array of entrepreneurship process (i.e., recognizing possible signals, needs for venture ideas; preparing mindset in seizing opportunities; networking, problem solving, communicating, marketing, leadership, etc.) (Handayati et al., 2020). Previous studies reported that entrepreneurship education fosters entrepreneurial intention (Cui et al., 2021; Jena, 2020); students' perceptions of desirability and feasibility of starting a new venture (Sukavejworakit et al., 2018), and improves competence (Byun et al., 2018; Ratten & Jones, 2020; Bonesso et al., 2018).

Entrepreneurship education should inspire a dynamic and self-regulating attitude and develop a better mindset that is always on the lookout for new opportunities (Ndou et al., 2018; Cui et al., 2021; Rosendahl Huber et al., 2020; Martínez-Gregorio et al., 2021; Ratten & Jones, 2021). The current trends in entrepreneurship education show that a preference for self-employment is a good indicator of whether a student will want to enroll in an entrepreneurship course (Ratten & Usmanij, 2021; Wardana et al., 2020; Boubker et al., 2021).

Entrepreneurship education helps link academic teaching, theory, and models to current business practices. Grounded on the learning theory of cognitive structure and the planned behavior theory, entrepreneurship education (EE) has shown a positive effect on entrepreneurial intention among college students (Wang et al., 2021). Both personal attitude and behavioral content make up the main determinants of entrepreneurial intent. In a study on entrepreneurship education, students "relational support, structural support, and education support" are found as key factors in students' entrepreneurial behavior. "Higher education support" was found to be significant for explaining both personal attitudes (0.26) and perceived behavioral control (0.53) (Ben Youssef et al., 2021).

Entrepreneurship education is much more than just formal education in a classroom setting, due to its interactive, industry collaboration based experimental learning methodology (Lu & Jover, 2019; Ratten & Jones, 2021; Ratten & Usmanij, 2021), and its connection with multiple stakeholders (Galvão et al, 2020). Social network theory suggests that access to social network ties are helpful in entrepreneurs' having information and access to critical resources which lead them to opportunity recognition. Entrepreneurs' social ties are strongly linked to their recognition of

entrepreneurial opportunities (Arenius et al., 2005; Ozgen & Baron, 2007; Santarelli & Tran, 2013). Social networking is an antecedent of opportunity recognition (Ozgen & Baron, 2007; Singh, 2000). Engaging in social network through multiple stakeholders and contacts increase collaboration, enlarge potential entrepreneurs' knowledge, give them access to experience, expertise, and provide them resources that will increase the probability of discovering opportunities (Sexton & Bowman,1991; Perry-Smith, 2006; Ozgen & Baron, 2007).

THE ROLE OF DIGITAL TECHNOLOGIES IN ENTREPRENEURSHIP EDUCATION

Globally there is a growing trend in adopting advanced digital technologies (Rippa & Secundo, 2019) to ease entrepreneurial ecosystems (Zahra et al., 2022) and improving entrepreneurship education (Miller et al., 2018; Tarabasz et al., 2018). Incorporating digital technologies in entrepreneurship process helps diffusing knowledge (Secundo et al., 2017), ease innovation opportunities (Cohen et al., 2017; Nambisan et al., 2017; Ramaswamy & Ozcan, 2018), and help universities be more entrepreneurial (Miller et al., 2018; Tarabasz et al., 2018). In entrepreneurship education, digital technologies are found helpful in improving cognitive process of students, emotional intelligence, entrepreneurship competencies (Rippa & Secundo, 2019), creativity, problem-solving, an ability to marshal resources, financial and technological knowledge, access to resources, and connections to markets and various stakeholders (Abernathy & Clark, 1993). Digital technologies, such as having access to the facilities of the Internet and social media, provide learning environments that foster collaboration (Chen et al., 2021) and knowledge building and ease recognizing opportunities.

Using digitalization in entrepreneurship education includes more stakeholders for the identification of entrepreneurial opportunities (Rippa & Secundo, 2019; Secundo et al., 2020a). Digital technologies make the technology transfer faster and easier to create research collaboration with industry and wider networks between a growing number of stakeholders (Horta et al., 2016).

Digitalization process expands student partnerships and networks with their peers across countries, entrepreneurial educators, and business communities. For instance, digital technologies provide opportunities to review organizational processes within the universities to obtain more effective results in patents production, technology transfer activities and spinoff creation within academic entrepreneurship. The collaboration of digital technologies supporting academic entrepreneurship helps promote new organizational forms and business models. Digital technologies help students and researchers discover and create more ideas. It also gives universities the chance to move into an open and flexible bureaucratic organization instead of a closed one (Rippa & Secundo, 2019).

The experiential nature of entrepreneurial learning fits well in adopting new innovative digital technologies (Chen et al., 2021). Digital technologies make adaptations to curricula and teaching techniques and improve students' entrepreneurship skills by combining creativity, problem-solving ability and adopting learning mindsets to engage and appeal students. Digital tools could help entrepreneur students comprehend specific challenges and unique circumstances in their recognition of opportunities for viable entrepreneurial ventures.

As digital technologies are gaining importance in entrepreneurship education it will be helpful to review current digital technologies that are being used in entrepreneurship education and outline future research direction in opportunity recognition in entrepreneurship education. Studying the status of effective digital teaching methodologies and future direction will help us improvise teaching design and better implement innovative approaches in entrepreneurship education.

RESEARCH PURPOSE

Based on the incremental innovation theory and social network theory, possession of information, alertness, and networking are crucial in opportunity recognition and therefore play a key role in entrepreneurial process. Digital technologies are found helpful in entrepreneurship education for students' access to resources, information, and networking and therefore recognition of opportunities. The paper intends to review the current state, research gap, and the future direction of digital technologies to better understand opportunity recognition in entrepreneurship education.

RESEARCH QUESTIONS

What are some of the digital technologies being used in entrepreneurship education that will ease opportunity recognition?

What is the future research direction on digital technologies in opportunity recognition in entrepreneurship education? (i.e., what is the research gap?)

DATA

To review digital entrepreneurship education studies, mainly Science Direct data base was used. Research articles are included; editorial, book reviews, book chapters, and encyclopedias are excluded. The scope of search is limited to only a few keywords in the database. Digital technologies, entrepreneurship education, opportunity recognition keyword searches resulted in 792 articles. Selected articles in this group were used in most of the review.

DIGITAL TECHNOLOGIES USED IN ENTREPRENEURSHIP EDUCATION

Digital technologies used in entrepreneurship education include digital artifacts, digital infrastructure, and digital platforms (Marzano & Miranda, 2021; Elia et al., 2020; Cenamor et al., 2019; Niemand et al., 2017). In the context of entrepreneurship education, the adoption of digital platforms, digital infrastructures, and digital artifacts support the integration of resources (Parker

et al., 2016), knowledge sharing, development of entrepreneurial skills, and facilitate collaboration of multiple players in discovering opportunities (Adner, 2006; Iansiti & Levien, 2004).

Digital Artifact

Digital artifact (i.e., digital documents, presentations, programs and codes, video and audio files, images, etc.) is a digital component, application, or media content that is part of a new product and offers a specific functionality to the user (Marzano & Miranda, 2021).

Dynamic concept maps are digital artifacts that are found helpful in online learning to facilitate students' understanding of topics in greater detail by helping the learner rearrange and organize their own knowledge (Marzano & Miranda, 2021). Various technologies such as e-LENA; Single-Sign On plug-in; PHP engine; and Javascript client interface are integrated to apply Dynamic concept maps (Marzano & Miranda, 2021). The data on dynamic concept mapping was collected from Italian students pursuing BA degree in Primary Education Sciences and suggested as an innovative and effective online tool to enhance student learning. Podcast, an audio or video broadcast, is another digital artifact that is found highly effective in enhancing entrepreneurial students' competencies (Vidal et al., 2021).

Digital Infrastructure

Digital infrastructure is cloud computing, data analytics, online communities, social media (Ali et al., 2017), 3D printing, digital maker spaces, which offer communication, collaboration and/or computing capabilities. Social media technologies, such as LinkedIn, Facebook, Twitter, Google+, etc., trigger students' entrepreneurial spirit and motivation for social engagement, develop creativity and teamwork, and support community outreach (Chen et al., 2021). Social media is found to be very helpful in identifying and exploiting new entrepreneurial opportunities, as it provides collaboration, widespread reach, and quick dissemination of information (Ali et al., 2017; Aniemeka, 2013). Facebook was found as the most effective social media tool in entrepreneurship education compared to Wiki (Chen et al., 2021). Social media is considered a multifunctional tool, as it is usually supplemented by other technologies when it is embedded in entrepreneurship education (Chen et al., 2021). For instance, gamification may enhance social media (Wu & Song, 2019).

In a comparative study of three digital technologies used in entrepreneurship education social media (Facebook) received the highest rating in facilitating students' interaction and student-entrepreneur interaction and cooperation compared to MOOC and gamification (Chen et al., 2021). Chen et al. (2021) suggested that social media is very effective in assisting teamwork and sharing information in EE. In Italy, in the entrepreneurial Clab survey on entrepreneurship students, the usage of ten different categories of digital technologies were inquired (Secundo et al., 2020b). On a five-point Likert scale, the degree of adoption of every single technology in students' daily activities were inquired. Social media is listed as the most adopted technology, with an average

score of 4.33. The digital platform, with 3.17, is found as the second most used digital technology (Secundo et al., 2020b).

Digital Platforms

Digital Platforms are a common set of services and architecture that serves to host complimentary offerings, are among digital technologies that are used in entrepreneurship process, and are growing in importance globally (Liu et al., 2018; Deng et al., 2021; Heeks et al., 2021). Facebook, Google Play, and Apple App Store are among the heavily used digital platforms in entrepreneurship in fostering entrepreneurial mindsets and trigger the acquisition of knowledge about global future trends, business management and business planning, and launching innovative actions (Fan et al., 2021). Digital platforms facilitate alertness in discovering potential entrepreneurial opportunities (Fellnhofer, 2021).

MOOCs

Various digital educational platforms such as massive online courses, MOOCs, have an important role in entrepreneurship education (Vinogradova et al., 2019; Al-Atabi & DeBoer, 2014; Vorbach et al., 2019; Secundo et al., 2020a). MOOCs are found highly effective in the diffusion of wide entrepreneurial culture, mindset, collaborative learning, and opportunity recognition (Chen et al., 2021; Al-Atabi & DeBoer, 2014). MOOCs are entirely online and usually two categories (i.e., cMOOCs emphasize connectivity and focus more on collaborative tools and social interaction and follow a set-in time, whereas xMOOCs focus on knowledge dissemination and duplication) are incorporated as hybrid MOOCs (Żur, 2018). Empirical research on 53 leading entrepreneurship MOOCs provided by eight international MOOC platforms (Coursera, edX, Udacity, Openlearning, Openlearn, Futurelearn, iversity, Alison, and Canvas Network) revealed that incorporating MOOCs in university entrepreneurship programs brings significant benefits (Żur, 2018). Some of the benefits of top entrepreneurship MOOCs are reported as clear description of the learning goals and outcomes, rich academic thematic content, incentives for students (idea pitch, student competition, mentoring), high quality video/audio content, e-books and high-quality materials to download, possibility of working in groups, interactions with instructor and other participants to exchange ideas, and getting feedback (Żur, 2018). In a comparative study of three digital technologies used in entrepreneurship education MOOCs (Coursera) received the highest rating in acquiring entrepreneurship knowledge, quality of entrepreneurship activities, achievement of objectives and efficiency, and few errors compared to social media and gamification (Chen et al., 2021).

Digital technology transformation in entrepreneurship education is developing 3D technologies (Rippa & Secundo, 2019; Secundo et al., 2020a), augmented reality, artificial intelligence, big data analytics, and virtual laboratories (Zhang, 2021). “The augmented reality and artificial intelligence could supplement the existing online teaching methods by filling the gap in real-life immersion. They are expected to replicate diverse campus activities and some certain practical experience in

the digital environment" (Zhang, 2021; p. 450). Social media, gamification and digital platforms are found as most popular technologies in entrepreneurship education (Chen et al., 2021).

Simulations

Simulations are increasingly being used in entrepreneurship education (Costin et al., 2018; Orel, 2020) as they provide a learning environment that facilitates entrepreneurial knowledge and practical skills (Orel, 2020). Simulated virtual enterprises and gamifications are part of the simulations used in entrepreneurship education.

Simulated Virtual Enterprises

A study on virtual entrepreneurial firms operating in cybermediary platforms suggested that virtual firms enable connectivity with multiple actors and are effective in increasing online social networks (Chandna & Salimath, 2020). Entrepreneurship students can retain more information and can effectively use learned skills and obtained knowledge after participating in virtual reality simulation (Orel, 2020). A few studies found virtual reality environment help entrepreneur students improve rehearsing business pitches, self-efficacy, engage in social interactions with their peers, visualize their actions which all impact opportunity recognition.

Simulation Games

Simulation games are digital game-based learning. Gamified learning is found very helpful in higher education as it improves student-engagement, motivation, and performance (Subhash & Cudney, 2018). Gamification also enables students to think critically on game scenarios via participation in gamifications, which can be strengthened and embedded in their mind by theoretical learning which follows the gaming activities (Subhash & Cudney, 2018; Fox et al., 2018).

Gamification is a virtual setting that enables learners to experience a variety of different settings that cannot be achieved in real physical cases (Kauppinen & Choudhary, 2021). Learning from lectures only is not an appropriate method of entrepreneurship and business education, because it is sometimes not providing a real business scenario. Digital tools (i.e., online gaming) give students the real business dynamism. Gamification had a positive impact on students' subsequent business behavior and practices (Kauppinen & Choudhary, 2021). Interactive simulations, and games are found very helpful for engaging students and stimulating students' mindset and creative thinking. Gamifications provide good learning stimuli in entrepreneurial classrooms (Fox et al., 2018; Kauppinen & Choudhary, 2021). Gamification is found effective to learn and deepen their understanding of theories and models (Fox et al., 2018). Chen et al. (2021) did a comparative study on three digital technologies used in entrepreneurship education and reported that gaming

facilitated e-mindset, motivation, mastering information and competence, and gave more user satisfaction more than social media and MOOCs.

FUTURE RESEARCH DIRECTION

Entrepreneurship education needs a specialized environment in order to pursue real-life entrepreneurial activity. Building a digital technology-based entrepreneurship education is critical in enhancing the rigor of entrepreneurship education. Although digital technologies research is growing, still more studies are needed to sufficiently address the impact of digital technologies on the entrepreneurial process (Elia et al., 2019).

This literature review has outlined some digital technologies used in entrepreneurship education. Although previous studies proved that using digital technologies in entrepreneurship programs had a positive effect on entrepreneurial students' recognition of opportunities, the review identified some more research areas on this topic that will shed more light on opportunity recognition in entrepreneurship education. Future research needs are outlined below.

Teaching Methodology

More studies are needed on adjusting the teaching methodology, technology on the needs of the student who have different backgrounds in education. Most previous studies on the impact of digital technologies in entrepreneurship education are geared to business majors, and many other students are left out. (Yami et al., 2021). For instance, digital artifacts, such as dynamic concept maps, are found helpful in students' learning the material, yet wider samples with different backgrounds in various disciplines from different universities are suggested to study to improve the findings of dynamic concept maps (Marzano & Miranda, 2021). More integrative and interdisciplinary studies are needed to better understand the impact of digital artifacts (Zaheer et al., 2019). Different cultures, environment, and educational backgrounds change the way in which students view entrepreneurship process (Secundo et al., 2021; Ben Youssef et al., 2021). Students with varied backgrounds in other disciplines (engineering, business, management, etc.) and in other countries (emerging, developed, developing economies) (Coduras et al., 2018) need to be studied to understand the impact of digital technology on entrepreneurial intention (Yami et al., 2021; Ben Youssef et al., 2021) and opportunity recognition.

Rigor

There are still challenges on how to handle technology, management, government policies, and stakeholders' engagement in incorporating digital tools in entrepreneurship education. There is a need for more rigorous studies on how digital technology can be enhanced to create a greater learning environment (Sousa et al., 2018; Ratten & Usmanij, 2021) and facilitate opportunity

recognition. More methodological rigor is suggested in entrepreneurship education studies (Sousa et al., 2018; Ratten & Usmanij, 2021). Most studies are still undertheorized or need a robust theoretical background (Rippa & Secundo, 2019; Secundo et al., 2020a) and more empirical research on the effectiveness of digital tools in opportunity recognition in entrepreneurship education is needed. A review study on 165 journal papers on digital academic entrepreneurship suggests that, despite the growing number of studies on digital entrepreneurship, there still will be a need for theory-based academic entrepreneurship studies with technological, economic, and social focus (Secundo et al., 2020a). Studies on how incorporating theoretical concepts in digital infrastructures, information systems, digital artifacts, and platforms can impact entrepreneurship education (Rippa & Secundo, 2019) and increase opportunity recognition will be helpful.

Generalizing Results

Using digital platforms is linked to opportunity recognition, yet more studies are required to generalize the results (Fellnhofer, 2021). For instance, the Fellnhofer (2021) digital platform study on entrepreneurial alertness was conducted using a sample from four European countries and suggested more studies in different country settings, with different innovation ecosystems, to better understand the recognition of opportunities. Extending this suggestion, it is also recommended to conduct cross-cultural studies to better understand and compare the impact of digital platform technologies on opportunity recognition in entrepreneurship education in different countries with different innovation ecosystems. How digital technologies are affecting entrepreneurship students' opportunity recognition in different phases of entrepreneurship curriculum needs to be addressed.

Need for Comparative Studies on Various New Digital Technologies

Studies on digitalization in entrepreneurial education are growing, yet there needs to be more systematic reviews on digitalization and a broader scope to better understand its effectiveness and impact on opportunity recognition. To date, usually the focus of digitalization in entrepreneurship education includes one or two digital technologies. The Chen et al. (2021) study was the first study to compare the effectiveness of three relatively mature technologies (social media, gamification, and digital platform) used in entrepreneurship education. Chen et al. (2021) suggested more comparative studies that include various new technologies may help better underpin the effectiveness in opportunity recognition in EE (Chen et al., 2021; Buzady & Almeida, 2019) and better construct entrepreneurship education courses (Chen et al., 2021).

MOOCs

MOOCs offer high quality learning experiences for all types of learners, but, at present, they are too linear and one dimensional to fit the needs of all participants (Yepes-Baldò et al., 2016). More

studies on how MOOCs evolve, so they can better cater to individuals with differing goals and skills and increase opportunity recognition, will be fruitful (Rippa & Secundo, 2019).

Need for More Studies on the Impact of Digital Technologies

Even if there is a growing interest on digital technologies research, still results are general. There is need for more studies on various digital technologies and the impact of digital technologies on entrepreneurship education (Rippa & Secundo, 2019) and specifically on opportunity recognition. For instance, virtual reality environment has not yet been widely adopted and, to date, studies are limited. Further investigation of different perspectives of digital technologies (such as 3D printing, augmented reality, virtual reality, big data analytics) toward academic entrepreneurship will be fruitful.

Studies are needed on how digital technology could better improve entrepreneurship education by implementing new designs and delivery. Also, how digital technologies can be reconfigured to help with entrepreneurial education during any future emergency, such as the Covid-19 pandemic (Secundo, et al., 2021).

Gamification

Although previous studies found that online games are beneficial for entrepreneurship students and motivate them to participate in class activities, studies are limited on the impact of online games on enhancing students' ability to recall information (Kauppinen & Choudhary, 2021). More research is needed on how to enhance students' learning outcome and opportunity recognition from online game-based modules.

Need for Tailored Digital Technology Skills

It has been long accepted that possession of information and alertness are an antecedents of opportunity recognition. There is a need for digital technologies to be tailormade for students with diverse backgrounds to increase knowledge retention and possession of information. Some studies suggest that it will be helpful to adopt digital technologies that align with, and meet students' needs in entrepreneurship settings to better prepare students, so they can be alert for challenges and opportunities in the future (Lamine et al., 2021; Snihur et al., 2021; Yami et al., 2021).

Stakeholders and Policy Makers

More studies on digitalization in entrepreneurship education that involve stakeholders and policy makers could be valuable, as stakeholders provide the necessary funding for technology and entrepreneurial education (Yami et al., 2021). Grounded on social network theory, networking is an antecedent of opportunity recognition. Therefore, how digital technology can be incorporated to increase collaboration among various stakeholders will be helpful in better understanding opportunity recognition.

Using Various Databases

It is also suggested to looking for data in other databases. Other countries might have their own databases that have missing information. Bringing this subject to more schools around the globe will help increase awareness and studying trends from different geographic locations will be helpful in opportunity recognition research.

FURTHER QUESTIONS TO EXPLORE

Based on Kirzner's incremental innovation theory and social network theory, possession of information, alertness, and networking are considered antecedents of opportunity recognition. Based on these theories and the literature review on digital technologies in entrepreneurship education, the paper generates these questions below for further studies in opportunity recognition in entrepreneurship education:

- What theories other than incremental innovation theory and social network theory can be applied to better underpin the impact of digital technologies on opportunity recognition in entrepreneurship education?
- What are the major challenges facing students in the digitalization process in entrepreneurship education in recognizing opportunities?
- What are the major challenges for embedding social media, such as Facebook, Twitter, etc., in entrepreneurship education in recognizing opportunities?
- What are the major challenges for embedding simulations in entrepreneurship education in recognizing opportunities?
- Which digital technologies better support alertness and networking and opportunity recognition in entrepreneurship education?
- Which digital technologies better support research collaboration between universities and industry and enhance opportunity recognition?
- What is the effect of digital technology on entrepreneurship students' alertness, networking, and opportunity recognition in different countries?
- What is the effect of digital technology on entrepreneurship students' alertness, networking, and opportunity recognition from other disciplines (i.e., engineering, science)?

- How are digital technologies affecting entrepreneurship students' alertness, networking, and opportunity recognition in different phases of entrepreneurship curriculum?
- How does incorporating virtual reality in entrepreneurship education impact alertness, networking, and opportunity recognition?
- How does incorporating augmented reality in entrepreneurship education impact alertness, networking, and opportunity recognition?
- How does incorporating 3D printing in entrepreneurship education impact alertness, networking, and opportunity recognition?
- How does incorporating artificial intelligence in entrepreneurship education impact alertness, networking, and opportunity recognition?

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