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A Promotion of Female Entrepreneurship Education Ecosystem to Empower Girls and Women

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ABSTRACT

Digital technology has revolutionized every aspect of life with the onset of the 4.0 industrial revolution. There is no exception for women entrepreneurs; their time has come. However, there is a shortage of research on female entrepreneurship education and the supporting infrastructure. This report emphasizes the need for worldwide female entrepreneurship education to overcome obstacles to achieving sustainable development goals. The ecosystem model of entrepreneurship education presented in this paper is specifically created for women and girls to remove the current hurdles in entrepreneurship education. The introduction of the female entrepreneurship education ecosystem is divided into three parts: the micro educational administration ecosystem, digital technology, and female entrepreneurship education. These three components combine to produce insights that allow female students to choose the subject they are passionate about and give them the power to shape the future.

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Background

In 1999, UNESCO initially suggested that colleges and universities view the development of entrepreneurial skills and entrepreneurship as the primary objective of higher education. It's no secret that entrepreneurship has become a popular subject in higher education across the globe and that it's a powerful tool for stimulating economic growth and opening up job opportunities. Entrepreneurship is a skill that everyone can develop. According to the Sustainable Development Goals (SDGs) of the United Nations, entrepreneurship is about more than just starting a business; it's also about tackling some of society's most difficult problems (GEM, 2020). Increased participation of women and girls in this aim is unquestionably beneficial if entrepreneurship can accomplish what the SDGs ask for (GEM, 2020). Moreover, as women were more likely than men to concur that juggling family and work obligations are one of the key entrepreneurial motives, entrepreneurship is an essential means of rescuing women from poverty, achieving gender equality, and promoting good work. In addition, women are more highly motivated spiritually than males to create enterprises; they do so to change the course of human history (Buttner & Moore, 1997), demonstrating an ideal and pure aspiration for women to pursue with greater tenacity and determination.

Since Covid-19, several nations have taken numerous actions to combat its negative consequences. It is severely impacting all facets of humankind's life and transforming them. Women and children are particularly at risk. However, possibilities and challenges coexist; the pandemic not only forces a shift but also introduces new sectors or, at the very least, speeds up the development of existing ones like online education, online medical treatment, remote offices, and so forth. Women entrepreneurs have emerged as a force in these new industries as a result of this transformation, as shown by a report on women entrepreneurs in China by Chuangye Zone, which found that the top 10 industries in which Chinese women entrepreneurs are active are closely related to the five keywords that define new industries: artificial intelligence (AI), online and big data, education, and health care. As a result, there is an urgent need for and expectation of entrepreneurship education for women and girls.

The Introduction to Entrepreneurship Education

In both industrialized and emerging nations, the subject of entrepreneurship has grown crucial. The skill of beginning a new firm, particularly when doing so requires spotting chances, is known as entrepreneurship. According to the Cambridge English Corpus, remarkable public entrepreneurship is necessary, and good ideas must be sought out and utilized. Entrepreneurship and innovation are closely related to one another. No matter what the invention is, people can see the advantages it would have if it could eventually be developed into concrete objects like products, technology, or services. Therefore, entrepreneurship is chasing the ideal of being practice-focused, change-based, and human-based. According to Timmons (1978) of Babson College, entrepreneurship education (EE) aims to provide the genetic blueprints for entrepreneurship for future generations, demonstrating the EE's long-term and lagging qualities. EE aims to develop future entrepreneurs who still have a long way to go rather than producing entrepreneurs quickly.

According to the World Economic Forum's Future of Jobs survey, the world is undergoing an unprecedented technological and social transformation, and half of today's jobs could be automated by 2055. Today's students must also prepare for an uncertain future with social, economic, and environmental challenges. But as the phrase goes, anything is possible if you put your mind to it. The core goal of female EE is to develop entrepreneurial female talents who can lead by example and have the power to transform society. This goal is driven by continuously enhancing the female students' competitiveness and competencies to cope with future global developmental trends and humans' comprehensive development. Entrepreneurship education may therefore offer the entire educational system the appropriate solutions to these problems. EE teaches lifelong skills, such as entrepreneurial spirit, innovation and creativity, technology skills, and problem-based learning, which precisely meet the criteria of education 4.0's definition of high-quality learning. EE doesn't just teach female students the fundamentals of starting a business.

Barriers to Female Entrepreneurship Education

The favorable entrepreneurship environment to empower girls and women is not yet established

EE is still not fully integrated into the entire learning process for students, let alone specifically into the development of female students. This highlights the low status of EE for female students and the inadequacy of the support structure from a female gender perspective. The single role of the school cannot satisfy the EE needs of female students; rather, it severely restricts the growth of female entrepreneurship education (FEE). Despite having a particular trustworthy business, women are less likely to be approved for loans than men (Mijid, 2014). As a result, a body with several facets needs to be considered. It is critical to examine the EE ecosystem via a gendered lens to understand what is effective for empowering girls and women. FEE must accurately and concisely connect to both the academic and practical worlds (Fayolle, 2018). A full support structure and various entrepreneurial resources are required for the entrepreneurial process. However, the gender gap in the workforce frequently results in structural differences in women's career development opportunities and development paths, creating a barrier known as the "glass ceiling" of careers, putting women in a subordinate position and making it more challenging for them to access entrepreneurial resources during the entrepreneurship process. Additionally, women tend to have narrower networks than men, making them less likely to become entrepreneurs (Isenberg, 2011).

Traditional gender roles hinder female entrepreneurship education

All educational systems are interdependent and autonomous, and from a larger viewpoint, education is a system in and of itself, a part of a social system. Compared to other fields, EE is more susceptible to social and economic developments because of its unique qualities. For a long time, entrepreneurship has been associated positively with stereotypically male traits and negatively with those associated with women (Ahl, 2006). Some women may have lesser expectations to be business owners due to gender stereotypes, and lacking the fundamental resources needed for entrepreneurship may harm their companies' performance (Steele et al., 2002). Such stereotypes significantly impede the advancement of female entrepreneurship

education, creating a vicious cycle that results in a shortage of EE-related research and practices on women and girls, but the gender imbalance in entrepreneurship still needs to be resolved. As a result, formal and systematic EE can lessen the negative outcomes for female students.

Additionally, gender also contributes to role conflict in women's entrepreneurship. For instance, women frequently have to choose between success and marital happiness, leading them to make decisions that fall short of their potential to conform to established gender norms. Since entrepreneurship requires a lot of time and effort, it can be difficult for women to balance family and career.

The inadequate and unsatisfactory entrepreneurship education and training for female students

How well does the existing entrepreneurship education work for female students? The response is still insufficient (Westhead & Solesvik, 2016). When discussing the entrepreneurship education environment, female students' education is sometimes positioned as the "other" (EES). The need for studying female entrepreneurship has been emphasized by numerous academics (Allahar, 2019; Bullough et al., 2015) (Wendy C., 2019), but how can their entrepreneurial skills be improved so they can be used in the quickly changing economic and working environment, especially with the introduction of cutting-edge digital technologies? The response is still hardly adequate. Girls and women have the potential to be business owners. Thus it is important to actively encourage them to participate in turning their ideas into viable business plans. The earlier they begin, the better (Speech by Annex during the 2015 G7 summit's Leaders' Declaration) (Selge, 2015). Female pupils' entrepreneurial potential will be fully unleashed the earlier the approaches to female entrepreneurship education are displayed and outlined.

The Introduction of the Entrepreneurship Ecosystem

According to Merriam-Webster, the ecosystem is described as "Something is thought to resemble an ecological ecosystem notably because of its numerous interdependent parts. Spiling introduced the entrepreneurial system in 1996, attempting to connect the technique with entrepreneurship. He argued that the entrepreneurial system represents a range of participants and environmental elements in a geographical region. Such diversified forces maintain and maximize the entrepreneurial performance in this region through interaction, further affecting the economy. The concept of an entrepreneurial ecosystem appeared in 2006 (Cohen, 2006), then Isenberg (2011) described it as a collection of interrelated persons, infrastructure, culture, and regulators within a certain geographic area. The current explanation is that multiple complex players are connected in a non-linear way, generating a self-organizing and self-adaptive ecosystem that varies with the environment, and this ecosystem is limited by geographical culture.

The entrepreneurial ecosystem is characterized by diversity, cooperation, self-sustaining, competitiveness, and complexity. Diversity demonstrates the diversification of participants, including different stakeholders on the one hand, and the diversification of participants' behaviors on the other hand, eg. for entrepreneurs, they identify and develop entrepreneurial opportunities are greatly influenced by factors like their own personal characteristics, previous knowledge

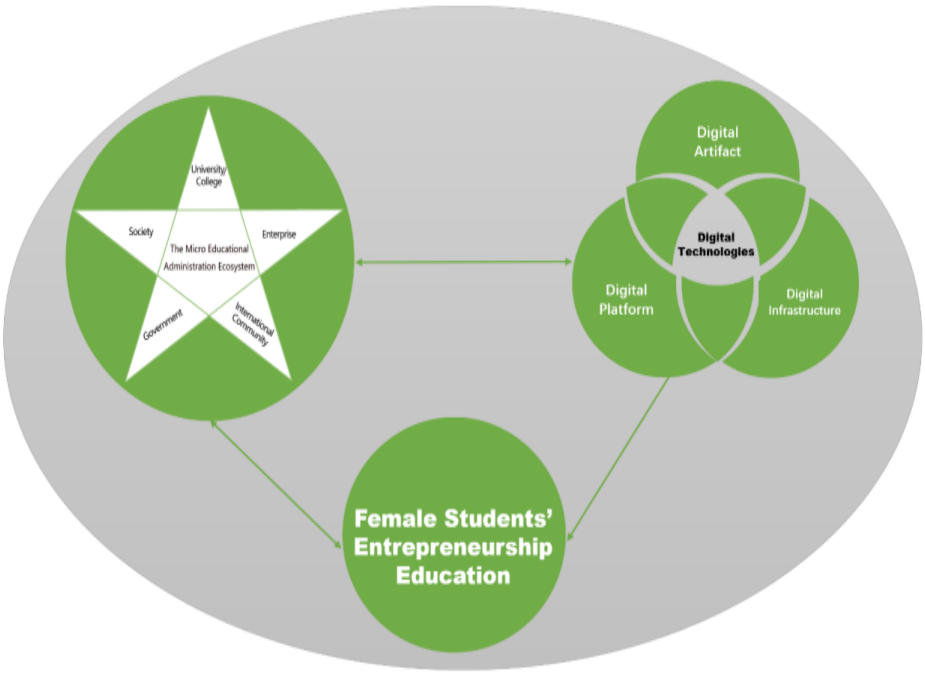
and experience, and social capital (Mary George et al., 2016); Coordination illustrates that the participants in the ecosystem depend on each other, and the elements are coordinated, so that entrepreneurial activities can be realized (Stam, 2015); Self-sustaining requires that entrepreneurship ecosystem can cope with the external challenge and internal stress, and realize self-maintenance and self-strengthening from them (Roundy et al., 2017); Due to the scarcity of resources, when entrepreneurs find and take advantage of profitable opportunities, they will compete with each other in order to seize the profitable opportunities (Shane & Venkataraman, 2000); During the dynamic evolving process of entrepreneurship ecosystem, different parts are interact with each other in the non-linear fashion, exhibiting the complexity of system. Consequently, while developing an ecosystem, especially for girls and women, all the above traits are of considerable value, which gives full assistance to cultivate and promote female entrepreneurs or potential ones.

The Entrepreneurship Ecosystem vs. The Entrepreneurship Education Ecosystem

The entrepreneurship education system is easy to confound with the entrepreneurial ecosystem. They have strong links as well as noticeable variances. First, in a more interactive perspective, the Entrepreneurship education system is a subsystem of the entrepreneurship ecosystem, which is an integral component of the broader social entrepreneurship ecosystem, therefore intersecting and engaging with other subsystems. The significant distinction between them rests in differing dominant positions. As for the entrepreneurship ecosystem, the core is no question enterprise, university, or college is only a critical participant focused on the entrepreneurial behaviors and outcomes. At the same time, university or college is the mainstay of the entrepreneurship education system, emphasizing balancing internal and external relations in education to foster entrepreneurial talents or potential entrepreneurs. The female entrepreneurship education ecosystem (FEE) is formed of several EE elements, which have a specific role and can generate a holistic influence on EE. In this ecosystem, elements and the environment interact to produce an organic one through energy, matter, and information.

The Innovative Female Entrepreneurship Education Ecosystem

The scope of research on EE has grown significantly over the past 20 years, moving beyond disciplines, entrepreneurs, and start-up businesses to include the society-enterprise-government, entrepreneurial stakeholders, beneficiaries, and entrepreneurial universities (Galvão et al., 2020). (Fernández-Nogueira et al., 2018). According to Belitski and Heron (2017), an innovative ecosystem for empowering female entrepreneurs has been suggested using a quadruple framework of various sectors. The contemporary entrepreneurship education ecosystem (EEE) has also attracted much attention (Allahar, 2019). EEE from a gender viewpoint is, however, underappreciated and rarely observed. Administration theory frequently depicts the dominant position men students or entrepreneurs held, showing how female students or entrepreneurs are viewed as the exception rather than the rule (Lämsä et al., 2000). The following is provided to demonstrate how innovative the female entrepreneurship education ecosystem (FEEE) Model is in supporting and developing female entrepreneurship education (Boni & Molloy, 2022).



The Female Entrepreneurship Education Ecosystem to Empower Women and Girls

The "Triple Helix of university-industry and university interactions" (Etzkowitz, 2003), which emphasizes the critical importance of restructuring and reinforcing organizational arrangements and adopting motivational techniques to promote innovation, served as inspiration for the design of the FEEE model. H. Liu et al. (2021) concluded that the entrepreneurial ecosystem contains two important components: one encoded as the factors that represent intermediaries and the other as the units that refer to the relevant stakeholders. This emphasizes the two essential components in the ecosystem for female entrepreneurship education: the micro educational administration subsystem encoded as the units that involve the pertinent stakeholders and digital technologies encoded as the intermediary that links the entire ecosystem. With the combination of female students' targeted entrepreneurship education, the ecosystem for female entrepreneurship education (FEEE) model is innovative, as the following illustrates.

The micro educational administration ecosystem, the digital technologies, and the female entrepreneurship education make up the three components of the FEEE model, which was created specifically for female students. These three components support and promote one another, and their interactions help to realize EE's ultimate goal of empowering women and girls. Although there is general agreement that universities and colleges play a key role in entrepreneurship education, there isn't a formal framework (Ma et al., 2020). A system known as the micro educational administration ecosystem is built to support FEE. This micro ecosystem offers a framework for organizing, making decisions, managing, and addressing issues; it emphasizes the need for teamwork among various departments or methods and recognizes the supporting subsystems and their interactions.

Digital technology has played a significant role in women's education in entrepreneurship since the advent of the Education 4.0 era. Digital technology integration has made it easier to innovate in female entrepreneurial education concepts, teaching strategies, and management models. It has also helped to create a more accessible and inclusive lifelong learning system. The FEEE Model demonstrates how the entrepreneurial education system harmoniously coexists with many subsystems. The development of the FEE cannot be separated from the larger education ecosystem and live independently; it is not only a vital component of the higher education ecosystem but also a branch of the entrepreneurship ecosystem. EE is entrenched in the FEEE and even a wider social system. This FEEE Model seeks to equip female students with the skills necessary to navigate the increasingly changing workplace successfully. EE teaches female students more than simply the fundamentals of starting a business; it also teaches transferable skills that will help them in any field they choose. Each component works as intended and is not a standalone unit; rather, they work closely together.

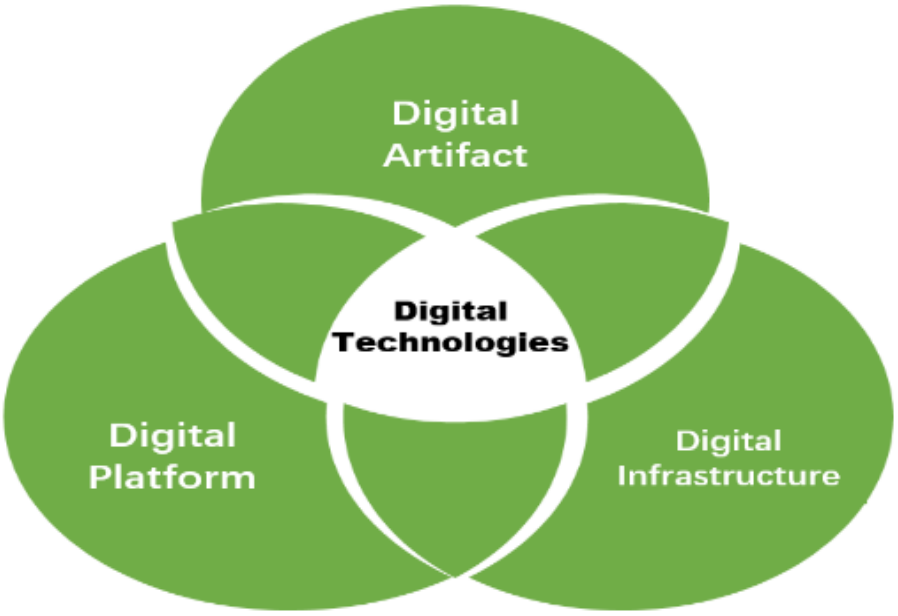
Digital Technologies Enable Female Entrepreneurship Education

Today's entrepreneurship education has changed since the 4.0 industrial revolution began; the integration of digital technologies is mostly responsible for this change. Digital entrepreneurship and digital technology-enabled entrepreneurship are two categories into which the new emergent entrepreneurial practices fall. Digital technology must be used to work in two dimensions. As a result, it is possible to characterize the function of digital technology in entrepreneurship as an enabler. Numerous academics emphasize the significance of implementing digital technologies to transform entrepreneurship education (Ratten & Jones, 2021; Swaramarinda, 2018). Pierluigi Rippa and Giustina Secund introduced the idea of "Digital Academic Entrepreneurship" in 2019, which outlines the critical impact of digital technologies on changing the EE method. The traditional understanding of entrepreneurship education is challenged by digital technology, which also introduces a variety of opportunities and uncertainties, causing educators to reevaluate the EE instructional model and methods. Higher education's main duty is to prepare students for future success. The beneficial experience of EE—creative problem-solving, viewing challenges as opportunities with a realistic and pragmatic approach, and collaborative learning—provides a strong basis for this accomplishment, responding well to the SDGs' demand for future education. The economy, the abundance of information and complexity, the speed of change, the threats to the environment, the influence of globalization, and COVID-19 require instructors to assist students in fostering a passion for lifelong learning.

According to China Women's University & Ali Research Institute (2019), the digital economy period is the pinnacle of women's entrepreneurship. Some academics started concentrating on fusing digital technologies with female entrepreneurship in 2020 (Ughetto et al., 2020). By expediting the flow of information, lowering expenses, and assisting businesses in connecting with more clients, digital technology enables women and girls who lack traditional entrepreneurial resources to launch firms. More than 30% of women enter the software, intelligent hardware, new energy, and other areas, according to the data from Alibaba (China Women's University & Ali Research Institute, 2019). According to research, women business owners can enhance their entrepreneurial skills by integrating online networks like the Wechat group, QQ group, and online communities (Wei et al., 2019). According to several research, women are more likely than males to travel and explore

foreign markets if they have access to information about them through digital technology (Pergelova et al., 2019). The digital platform's openness and capacity for self-improvement lower the bar for female entrepreneurs to access resources and increase their prospects.

The three components of digital technologies are digital artifacts, platforms, and infrastructure (Nambisan, 2017). Digital infrastructure is one of them; without it, digital platforms and artifacts cannot operate as intended. Although the digital platform and digital artifact are how the unseen technologies are brought into existence, their consequences on FEE cannot be disregarded. Therefore, the three dimensions listed below can be used to examine how digital technologies help female students with EE.



Digital Infrastructure

The foundation of entrepreneurship is innovation, the goal of entrepreneurship education is technology innovation, and digital infrastructure helps technological innovation, ultimately fostering the growth of EE for female students. For example, making full use of the 5G networks infrastructure in combining and applying in universities on the one hand, and in areas like production, distribution, consumption, etc. outside the universities, which supports the active digitization of education, the government has played a significant role in implementing the supporting policies and funds for encouraging colleges or universities to deepen educational reforms. Big data has emerged as the primary force behind women's entrepreneurship. The rapid growth of big data technology helps women significantly forecast the entrepreneurial market, calculate entrepreneurial investments, and assess the advantages of entrepreneurship (Anping & Ting, 2020). Building a digital industrial system based on cutting-edge technology will give female business owners, and would-be business owners access to a larger market.

Digital Artifact

A digital artifact can be categorized as a digital component, media material, or application that offers the end user a certain function or value (Kallinikos et al., 2013). Taking the storytelling technique as an example, digital storytelling uses multi-media means with the aid of video, audio, animations, and VR tools, by which female students can have a direct and vivid learning experience. The common digital artifacts assist in digitalizing the methodologies in EE. Female students can more easily turn their intangible creative ideas into tangible products with the aid of 5G internet, 3D printing, and other digital tools, and during this process, they take center stage in learning, particularly in STEM fields where they have historically demonstrated disadvantage. Additionally, the advancement of AI encourages gender equality because it makes housework easier for women who are students and gives them confidence that balancing life and work is possible while also inspiring them to pursue further education in these fields. According to Dewey, knowledge development in an efficient educational setting involves classroom instruction and, more importantly, ongoing engagement with a complex society (Dewey et al., 1939). The isolated and unchanging disciplinary theory encourages students to memorize abstract diagrams and ideas, but the connection between knowledge and social reality is strangely overlooked. The outside world and entrepreneurial education are connected through digital technologies. Students can solve problems and accomplish work creation in actual projects with the help of entrepreneurship education that incorporates data technology, which helps them to build their understanding and expertise through the real-world experience before exploring and evaluating what they have learned (Muhammad Talha et al., 2022).

Digital Platform

Due to the digital platform's lower entry barrier, female students have a considerably simpler path to starting their businesses. First, it fully uses its expertise in featuring women, innovates its business model, and uses new digital platforms like Alibaba, Red Book, Vlog, and Tiktok, among others. Female students can conduct experiments and error testing with low costs because of the openness and operability of the digital platform. While the boundaries of knowledge and abilities are stretched and not limited by geography or time, those of the several stages of the entrepreneurial process are broken. In addition, the netizen bonus, one of the platforms' hidden resources, is essential to female entrepreneurship, especially for female students who previously had restricted access to social networks. Female entrepreneurs and students are more efficient at finding business possibilities and have a wider range of search options thanks to various digital platforms. Thirdly, the internet is a great way for female students to learn about successful female entrepreneurs. For example, take Wei Ya, a successful Chinese woman who started her company as a live streamer on Taobao. Her story motivates other women and girls to start their businesses online, promoting the idea of female leadership.

Table 1

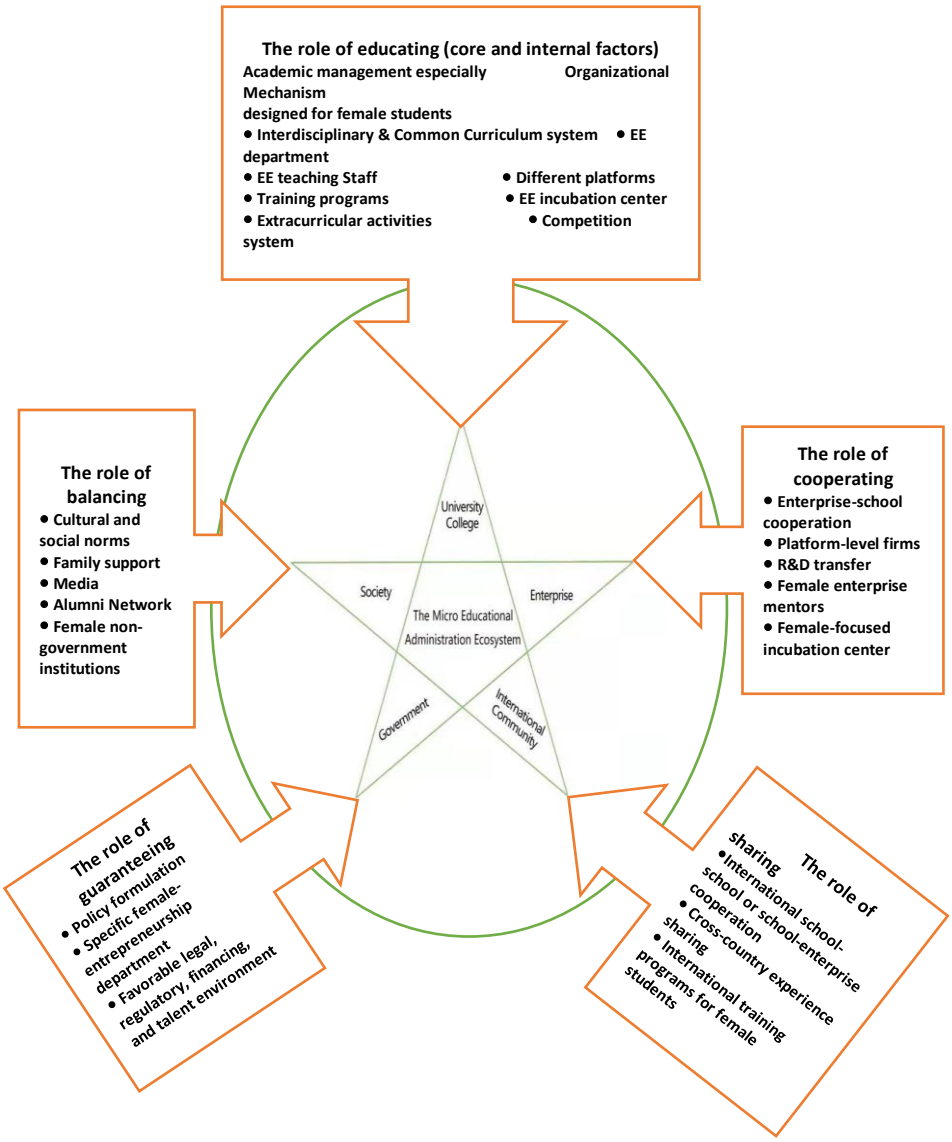
Examples of the different types of digital technologies that can be used in female entrepreneurship

Digital technology example	Description	Impact on female students
3D Printing	The three-dimensional design sketch was combined with three-dimensional software and printed through a 3D printer.	3D Printing for entity model (e.g., artwork, cultural and creative products)
Artificial Intelligence	New technological science to develop theories, methods, technologies, and application systems for stimulating and extending human intelligence.	AI+ Entrepreneurship+ New Area （e.g., AI-enabled smart medicine）
VR/ AR technology	Virtual reality (VR) provides a computer-generated 3D environment (including both computer graphics and 360-degree video) that surrounds a user and responds to an individual's actions naturally, usually through immersive head-mounted displays. （definition from Gartner Glossary (n.d.)）	VR/ AR Lab
Big data	Big data can be defined as large data volume in unstructured form.	Big data+ entrepreneurial projects, big data thinking
New Media	A new form of media provides users with information and services through digital technology	New media operation
Digital platforms	Online platforms with digital technology, like social media platforms and intelligent apps.	Market, information, and resource-sharing platforms
MOOCs	Massive open courses are provided online without the limits of space and time.	Online courses, games, interactive simulation,

Since the 4.0 industrial revolution, the social division of work has improved. Different stakeholders contribute more specifically and favorably to women's education in entrepreneurship. Colleges and universities take the initiative to create links between local society, business, government, and the international community to promote their diversified cooperation, which means the various stakeholders work together to promote the development of digital technologies. This is done to cultivate more innovative and entrepreneurial female talent. Therefore, the micro-educational ecosystem is incorporated into the FEEE model to fulfill the ultimate objective of empowering women and girls. In turn, digital technologies also help the model, realizing the mutually beneficial coexistence and coordinated development of multiple stakeholders.

The Micro Educational Administration Ecosystem

As seen in the figure below, the micro-educational administration ecosystem is a star-shaped system in which all relevant FEE stakeholders are involved. The four external bodies—government, society, business, and the international community—are integrated into this micro-ecosystem to create a supportive environment for the education of women and girls in entrepreneurship in collaboration with the main internal body—university/college.



The Micro Educational Administration Ecosystem

University- The role of educating

The center of the FEEE, the university or college, acts as an internal factor that sets off a chain reaction among other components, bringing everything together into a unified whole. Through regular connections with non-academic institutions, the university can minimize its monolithic development mode of chasing academic achievements (Hayter, 2016). The first thing to consider is the decision-making process of the school administrator, i.e., whether to implement female entrepreneurship education and choose to use a variety of methods to achieve this goal (Jambulingam, 2019).

Most literature suggests that women experience more challenges, particularly in the academic context. Gender biases within universities' entrepreneurial ecosystem have been mentioned as one of these challenges (Giuri et al., 2020). In terms of academic management, a university or college is where EE for female students is primarily implemented, and FEE's top priority is to increase awareness of a gender-sensitive mindset. Due to education's critical role in building a sustainable future (Serdyukov, 2017), innovations in education are especially important in the field of entrepreneurship education. In contrast to other disciplines, FEE must always follow the general trend of social and economic development, which requires timely information updating to guide EE toward addressing the situations that are changing quickly, particularly in the age of digital technology. Therefore, the innovations proposed here primarily focus on EE pedagogy and curriculum reforms, which necessitate multidisciplinary integration, a method based on female students, and the flexible application of skill and knowledge. Adopting the action-oriented transformative pedagogy, the primary instructional strategy used in entrepreneurial education is required for education for sustainable objectives (ESD). The EE teachers who create the lesson plans and employ the method are another essential component. Dual-qualified EE teachers, or those with a combination of theoretical and practical skills, are individuals who have both professional backgrounds and practical experience. With the trend toward education 4.0 and the high demand for digital technology proficiency, dual-qualified EE teachers are particularly hard to come by. As a result, training programs and corresponding support systems are exactly what teachers need the most.

A gender-sensitive mindset can also be implemented into all related sectors of the organizational structure. It is essential to create a department or faculty to oversee FEE and be in charge of organizing all the resources needed to implement FEE. While doing so, incorporating gender awareness into various mechanisms at all levels outlines in detail the supporting actions to encourage female students' entrepreneurial interests and self-efficacy, such as setting up a unique entrepreneurship competition for female students, with which female students can practically apply their knowledge of entrepreneurship; Establishing an exclusive space for female students in the entrepreneurship incubation center with basic infrastructure. In general, the six deep learning competencies of character, citizenship, collaboration, communication, creativity, and critical thinking will be developed in female students with the help of various incentive policies and activities, ultimately improving their chances in life.

External factors constituting the female entrepreneurship education ecosystem

The university or college is the primary internal factor in the development of the FEEE model. However, this model can only be fully realized when external factors like

government, society, business, and the global community are combined. Or, to put it another way, the goal of FEE's educational administration is to combine the efforts of five parties to offer comprehensive, individually tailored support and guidance to female students.

Government – the role of guaranteeing

Regardless of the "up-bottom" or "bottom-up" planning system used in EE, the government is in charge of formulating policy, particularly in reducing the gender gap in entrepreneurship and creating a supportive environment for female entrepreneurial talent. Examples of this leadership include removing social barriers, promoting training programs, increasing capital investment, and other measures (Warnecke, 2013). Few preferential policies are specifically created for the entrepreneurship of college students, much less the entrepreneurship of female college students, as students are not the driving force behind successful entrepreneurs. However, it cannot be denied that female students have significant entrepreneurial potential. Therefore, unless government realizes that gender-specific entrepreneurial support is required and feasible and takes effective measures to ensure women's and girls' entrepreneurial rights, for example, by creating a specific department to oversee female entrepreneurship, increasing financial expenditure on female entrepreneurship through a set of specially designed policies like financing strategies, directing the banks toward the same lending policies.

On the one hand, the government can create diverse off-campus entrepreneurship training programs for female college students with the assistance of non-governmental organizations, regional universities, colleges, and businesses. The government department forms a team of female entrepreneurship tutors and works outside campus to provide policy consultation and follow-up guidance for female entrepreneurial talents. On the other hand, provide preferential in-campus strategies to encourage female students to start their businesses. For instance, female-targeted preferential policies are characterized by enhancing digital literacy and ability.

Society- the role of balancing

The FEEE model assigns society a balancing function. The media, non-governmental organizations, and alumni networks balance social-contextual factors, including attitudes, role models, and cultural factors. One of the biggest obstacles women and girls face and are most likely to anticipate the gender-based stereotypes in business that prevent women from pursuing opportunities. Such a threat develops due to the social environment, conventional wisdom, or popular opinion. The solution to this problem lies in society's acceptance of women's role in creating new leadership models. It will take the combined efforts of various parties to create a more inclusive and diverse social environment for female college students to engage in digital entrepreneurship education by integrating social resources and offering entrepreneurial support projects. Consider the Chinese organization "Mulan Hui," which aims to promote women's entrepreneurial spirit and demonstrate their business power in the male-dominated business environment. Mulan Hui is dedicated to bringing together the most successful businesswomen in China, senior executives, and individuals from all walks of life to support the advancement of women's careers, exchange knowledge about business management and development, discuss individual life experiences and advance commercial and social welfare cooperation

(Source: Baidu (n.d.)). This organization has a big impact on Chinese women who want to start businesses, demonstrating the power of non-governmental organizations and serving as female role models for millions of female students. Additionally, the media significantly influences how attitudes are formed and how visible female role models are in society. This has a positive impact on the empowerment of women and girls.

Enterprise – the role of cooperating

In school-business collaboration, embracing the "enterprise" role is crucial. Therefore, promoting school-enterprise partnerships and viewing entrepreneurship as a turning point can aid in the high-quality growth of various entrepreneurship platforms. Regarding resources like instructors, classes, studios, modern apprenticeship platforms, student associations, etc., universities and colleges offer them to businesses. However, businesses and universities work closely together when it comes to funding, technology, enterprise training, facilities, equipment, and projects. Businesses take part in every step of setting up, screening, developing, experimenting with, and incubating entrepreneurship and entrepreneurship projects. Enterprises can assist enterprises once they locate excellent entrepreneurship projects. Businesses and colleges create a good value chain and a community of destiny. In the contemporary commercial society, platform-level businesses can empower the third party through their ecosystem. Due to the internet's recent rapid development, this effect has increased, and platform-level businesses' contributions to the promotion of employment are receiving a lot of attention. Such businesses significantly lower entry barriers to encourage more female entrepreneurs with digitization. Most women enjoy socializing, and the advent of digital social media has greatly increased this benefit by removing the geographical barrier. In addition, it is important to recognize the influence of female entrepreneurs. Numerous studies have demonstrated the positive effects of appropriate role models on entrepreneurial self-efficacy and intention because students will envision their future successes based on those of their successful role models (F. Liu et al., 2019). A powerful and influential force in role modeling education, female entrepreneurs show young people how to develop their entrepreneurial identities and future aspirations. Female businesswomen or women with entrepreneurial experience in various industries can be role models for students and inspire them with their stories. Many of these women go on to mentor female students in business.

International Community– the role of sharing

Entrepreneurship has moved to the foreground or center of globalization with the advancement of globalization, regardless of whether the entrepreneurial enterprises are created or born internationally (Mitchell, 2005). Concerning international social capital, educational resources, technology sharing, and gaining strength like having a greater vision, determination, and courage, a larger networking, a better understanding of the trends in gender equality around the world, and the women providing power from other countries, the sharing role of the international community is undeniable for female students. In addition, a variety of international female role models will emerge to point girls and women in the direction of a future more open market. Frequent academic exchanges and communication build a bridge for the exchange of novel ideas across national boundaries and disciplinary boundaries. With the help of international entrepreneurship educational workshops, sharing of female entrepreneurship education frontier knowledge, discussion of domestic female entrepreneurship education practices,

and the search for a way to create an ecosystem for entrepreneurship education that supports women and girls. In addition, there is much to be learned from other nations to create a supportive environment for female entrepreneurs. For example, in the UK, the strategic framework for women's entrepreneurship was made possible through the combined efforts of the central and local governments and numerous institutions at various levels. To encourage more nations to consider and implement plans or programs that would give female entrepreneurs a more mature entrepreneurial environment, allowing more women and girls to participate in entrepreneurship, such measures and experience are needed.

Conclusion

The study brings up the original framework of the entrepreneurial education ecosystem for women and girls, called the female entrepreneurship education ecosystem. The construction of the FEEE model is focused on the three dimensions. Consequently, the detailed linkages between digital technology and female entrepreneurial education are shown, which provides a better insight into female educational reform. The building of this female entrepreneurship education ecosystem is based on the interaction of material, information, and energy, realizing the healthy, orderly, and sustainable development of female entrepreneurship education and supporting overall educational reform and human advancement. The current study was limited in the scope of high-level education, but all educational levels need to be examined and analyzed. This research has thrown up several concerns in need of further exploration, namely how to achieve the multidisciplinary FEE - another route for future research relates to the particular and implementable methodologies.

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