



The Woman-Entrepreneur: The State of Research on Entrepreneurship Education, Business Incubation, and Women in the Philippines

MARIA CRISTINA L. IBAÑEZ¹, ANGELICA C. FUNDAN²,
MA. CRESTIA C. BAÑARES³, JUAN MIGUEL REYES⁴,
ARIEL D. TULINAO⁵

¹Miriam College, Quezon City, Philippines, ²Santa Rosa City, Laguna, Philippines, ³Bicol University, Legazpi City, Philippines, ⁴Prince George, BC, Canada, ⁵New Lower Bicutan, Taguig City, Philippines

Corresponding author: acfundan@gmail.com

Originality 100% • Grammar Check: 95% • Plagiarism: 0%

ABSTRACT

Article History

Received: 30 Mar 2025
Revised: 29 Jun 2025
Accepted: 11 Jul 2025
Published: 31 Oct 2025

Keywords— Women Entrepreneurship, Innovation Centers, Entrepreneurial Skills, Female Students, Systematic Review, Educational Interventions

In the Philippines, entrepreneurship education is seen as essential in boosting economic growth, generating new ideas, and starting new businesses. Despite of offering BS Entrepreneurship, mandated by CHED Memorandum Order No. 18, Series of 2017, for more than two decades, wherein the program stresses the importance of entrepreneurial skills and venture development, but gaps and challenges remains, especially when it comes to fostering creativity, maintaining institutional support, and bringing together industry

collaboration. This review aims to look into the current status of entrepreneurship



© Ibáñez, M. C. L., Fundan, A. C., Bañares, M. C. C., Reyes, J. M., and Tulinao, A. D. (2025). Open Access. This article published by JPAIR Multidisciplinary Research is licensed under a Creative Commons Attribution-Noncommercial 4.0 International (CC BY-NC 4.0). You are free to share (copy and redistribute the material in any medium or format) and adapt (remix, transform, and build upon the material). Under the following terms, you must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. You may not use the material for commercial purposes. To view a copy of this license, visit: <https://creativecommons.org/licenses/by-nc/4.0/>

education in the Philippines and how it closes the economic gaps and addresses gender equality in doing business. The study observes that action-based learning, grounded on Dewey's experiential theory, Saravatsy's causation and effectuation, and Frese's action regulation theory, is a major advancement in the field of entrepreneurship education. This was built by looking at recent literature, policies, frameworks, programs, and case studies of university-based Technology Business Incubators (TBIs) and innovation centers. On the other hand, the results also showed that women are still underrepresented in the entrepreneurial landscape, specifically in scalable and innovation-driven businesses, due to systemic problems and mental blocks. The review mentions that innovation centers and TBIs have been instrumental in assisting individuals who aspire to become entrepreneurs, but transforming their programs and strategies to ensure that they are gender-responsive. It suggests that entrepreneurship education should include mentorship, soft innovation, and inclusive teaching methods to help and empower women entrepreneurs. To make the entrepreneurial ecosystem more open and focused on innovation, we need to work together with schools, businesses, and the government.

INTRODUCTION

Entrepreneurship plays a significant role in economic growth. In this process, an individual designs, launches, and manages a new business or sustains and grows existing enterprises, thus creating value not only for the entrepreneur but for the greater society. Over the years, this economic movement and recognition of entrepreneurship and its importance gave rise to establishing a formal education in entrepreneurship education and supported by various stakeholders. The recognition of entrepreneurship education worldwide encompasses a wide range of structured and unstructured learning experiences, from formal schooling and specialized training programs to personalized support, all designed to nurture individuals' capabilities and guide them in becoming successful future entrepreneurs.

The higher education system in the Philippines is overseen by the Commission on Higher Education (CHED) who which issued the CMO No. 18, Series of 2017, the formal bachelor's program in entrepreneurship. Guided by the CMO, the educational approach used in the bachelor's program in entrepreneurship primarily focuses on developing the entrepreneurial skills of the learners and promotes the creation of new ventures or startups. However, the various literature suggests that in the Philippines, entrepreneurship education lacks emphasis on developing the learner's creativity and innovation, and the support from the

academic institutions and industry in strengthening the learner's experience is limited, as well.

Over the years, aside from MSMEs (micro, small, and medium enterprises), the rise of startups in the country has grown, and academic institutions are now more proactive in innovating the curriculum and related programs in BS Entrepreneurship and making it available across the different disciplines, brought about the establishment and support of university-based technology business incubators in strengthening the entrepreneurial landscape of universities. Universities and colleges give students practical opportunities and expose them to actual business and startup situations. This helps students build key values and abilities, making their entrepreneurial mindset and innovative thinking stronger, and enabling them to create businesses that are meaningful, lasting, and welcoming to all.

On the other hand, women are becoming more active and playing an important role in both the economic growth and social innovation across the world but they remain underrepresented in business. For example, in limited liability companies, women only make up 25% of owners and directors. In the Philippines, 66% of the micro, small, medium enterprises are owned by women wherein 58% are driven by necessity and depicts that scalability and innovation is slow. Despite of having an active role in the entrepreneurial landscape, these women deals with a lot of challenges and unique because of gender. The challenges that they face are the following but not limited to, access to funding whether loans or investment because of the perceived "boys club", the presences of "confidence gender gap" that makes them doubt their skills and abilities, the "double burden" of balancing family and business responsibilities, and the big digital divide. Women who starts their businesses, are seen as flexible, adaptable and emotionally smart. Things like making a difference in the world and finding a balance between work and life often drive them. They also help "soft innovation" happen, which is when people come up with new ways to run a business, make things better, and market products. This picture shows how important it is to have laws that take gender into account, entrepreneurship classes, and business incubation programs that help women move from businesses that are only necessary to ones that focus on growth and inclusion.

In 2024, it was reiterated during the UN Conference on Trade and Development held in Geneva that innovation is the foundation of entrepreneurship that leads to a country's productivity level and economic competitiveness. In this discussion, entrepreneurship is viewed as a key driver of economic growth. With the contribution of entrepreneurship, it is essential that collaboration among academic institutions and economic players, the private and public sectors in

aligning the entrepreneurship programs, both formal and informal, with the program implementation to support the continued economic growth and development, the entrepreneurial ecosystem and culture, including the Filipinos.

OBJECTIVES OF THE STUDY

The current review aimed (1) to assess the current status of entrepreneurship education, innovation, and incubation centers, as well as the role of women entrepreneurs, and (2) to investigate the relationship between entrepreneurship education and business incubation in influencing the formation of women entrepreneurs.

LITERATURE REVIEW

On Entrepreneurship Education

As change becomes unavoidable, entrepreneurship continuously transforms and serves as a catalyst for change; consequently, entrepreneurship education has adapted to the shifting landscape. Entrepreneurship education equips learners with essential knowledge, skills, and tools to achieve entrepreneurial success, resilience, motivation, and confidence in their ventures. Entrepreneurial education equips students to develop an idea, cultivate it to fruition, and establish a profitable company enterprise. Entrepreneurship education encompasses all initiatives designed to cultivate entrepreneurial mindsets, attitudes, and abilities, addressing several elements like idea development, startup, growth, and innovation (Fayolle, 2009).

Entrepreneurship education is nurtured best in the development of the learner's key competencies through user-led inquiry and discovery. This process allows students to transform their ideas into tangible output (product, services, process and systems), an active learning, learner-centered teaching, and activities grounded in real-world context and practical learning (Guatam & Signh (2015).

Rae (2006) highlights the importance of experiential learning in entrepreneurship education, claiming that this is the most effective way in learning entrepreneurship through personal experience, reflection, and engagement with different entrepreneurial organizations. Heinonen and Poikkijoki (2006) also support experiential and action-based learning techniques, claiming that entrepreneurship education should allow students to practice recognizing business opportunities, decision-making, and innovation in real-life scenarios.

The ASEAN Common Curriculum in Entrepreneurship was developed in 2010 to give students real-world experience in the ASEAN business world,

especially in how it affects the growth of micro, small, and medium-sized firms (MSMEs) and the start-up of new businesses. This program also attempts to help students, universities, and local businesses connect and network with each other.

The Commission on Higher Education (CHED) in the Philippines gives schools the power to provide a Bachelor of Science in Entrepreneurship. This is backed up by CMO No. 18, 2017. This memorandum says that colleges and universities in the Philippines can create their curricula based on their own needs and goals, as long as they show that they can reach the same level of success in meeting the requisite minimum set of outcomes. The CMO states that the goals of the BS Entrepreneurship program, at the end of the program, students are to start a business, run and manage a business, and take on managerial roles. BS Entrepreneurship generally equips graduates with the information and skills necessary to develop and manage firms. This setting of BS Entrepreneurship is clear in the quote, “entrepreneurship education in the Philippines is heavily focused on the development of entrepreneurs in terms of encouraging startups” (Velasco, 2013). But the formal education system doesn’t do enough to help pupils be more creative and come up with new ideas. Velasco’s earlier research suggests that there is a disconnect between the program’s outcomes and how it is delivered. According to CMO No. 18, 2017, program outcomes were more focused on making business plans and analyzing businesses.

Further research shows that entrepreneurship education should not only focus on developing students’ technical business skills but also encourage entrepreneurial thinking and behavior. Nabi et al. (2017) claim that entrepreneurship education positively impacts entrepreneurial intentions, self-efficacy, and personal attitudes, particularly when the courses are interactive and contain real-world business projects. Moreover, Walter and Block (2016) emphasize the importance of the long-term impact of entrepreneurship education on the likelihood of self-employment and business creation, most especially when it involves university business collaborations and incubator participations.

Entrepreneurship education emphasizes student outcomes, encompassing the acquisition of entrepreneurial knowledge and skills, the cultivation of entrepreneurial intent, competencies, and attitudes, as well as societal engagement and venture sustainability. This is facilitated through both academic and practical experiences that foster student growth and improvement. After the program, students should be ready to be self-employed and come up with, run, and keep new firms or startups. They should also be ready to learn about entrepreneurship for the rest of their lives.

On Curriculum and Learning Environment

In the academic journey of the students, they are sometimes expected to complete on-the-job training, practicums, internships, and other forms of experiential learning that help them apply their learning to the tasks they are given in the workplace. Students keep track of what they have learned and perform different activities that help the organization. But over the years, students have had a hard time going from theory to practice. It is possible that the students had a limited duration in their experiential learning activities, or that the professor inadequately integrated theoretical and practical aspects of the curriculum in a pertinent manner. At the end of the day, the expectation is that students in the professional program can apply what they learned in the classroom to the workplace (Wrenn & Wrenn, 2009).

Consequently, current support systems for student entrepreneurship predominantly emphasize entrepreneurial training via both curricular and extracurricular avenues (Haneberg & Aaboen, 2020). “Action-based” entrepreneurship education programs are those in which students start their own businesses (Rasmussen & Sorheim, 2006). There has been a rise in the popularity of action-based programs that teach entrepreneurship, and there are numerous ways to do this.

For example, in the Philippines, technopreneurship courses are part of the engineering program. The Commission on Higher Education also makes entrepreneurship courses available as general electives. The integration of an entrepreneurship course across programs in higher education aims to provide an opportunity for students to understand the entrepreneurial journey in their field and its possibilities. With the introduction of senior high school, entrepreneurship is woven into the accounting, business, and management track in grades 11 and 12. In the corporate world, the economy, and the requirements and market change, emerging areas of entrepreneurship have changed how entrepreneurship is taught.

In 2000, when a lot more people started utilizing the internet, the word “technopreneurship” became popular in the business world. Technopreneurship is the point where new technologies and business activities meet. Technopreneurship is different from starting a business on your own since it involves people who are tech-savvy, creative, and imaginative, and know how to use technology. As technopreneurship grew, new companies started that keep making old technologies better. So, entrepreneurship education, its curriculum, and its learning environment are now bringing together MSMEs, startups, and important stakeholders to make it easier for people who want to establish their businesses to do so.

With the support from the various stakeholders, entrepreneurship education is now a big part in making changes and growing the economy of the country. This means that the curriculum needs to be flexible enough to integrate changes and support the student to become skilled and build confidence as entrepreneurs and founders. The Asia SEED (2010) concentrates on enhancing the capabilities of students in making informed decisions as future entrepreneurs through the principles of innovation, creativity, business financing, and marketing learned. Nonetheless, both the Asia SEED (2010) and CHED CMO No. 18, 2017, share the primary objective of learning by doing. This is done through a variety of activities based on real-life situations, hands-on activities, and direct involvement in starting and managing a business. The ultimate goal of the Triple Helix approach is to create a stronger entrepreneurial ecosystem where students, faculty, entrepreneurs, investors, industry players, and policymakers work together towards this goal. With this, it leads to new idea generation, economic growth, and better living conditions for everyone.

The program map for the Asia SEED (2010) shows the best order for students to learn about entrepreneurship and business basics, as well as how to start a business. The Asia SEED (2010) focuses on foundational subjects, including country-specific, university-specific, co-curricular, and general business courses that contribute to the holistic development of the student as they understand the value of their environment in acquiring entrepreneurial skills and, importantly, in identifying business opportunities.

An awareness of the learning environment highlights the teacher's function, the students' roles during learning, the formality of instruction, and the learning processes themselves (Hurriyati et al., 2018). The literature reviews indicate that ongoing professional development for teachers of entrepreneurship is crucial to keep them informed about current trends in the field. Additionally, engagement and immersion with entrepreneurs will enhance teachers' ability to effectively convey concepts and theories related to entrepreneurship. An effective learning environment will yield optimal educational outcomes, ultimately enabling students to apply information to real-life situations for problem-solving.

On Experiential Learning

Using Sarasvathy's (2001) idea of impact and causality, which says that different things make people start businesses, is important for figuring out why someone wants to do business. The stages in the conceptualization of an idea or business are initiated by events and individual behavior, influenced by both internal and external stimuli.

Effectuation is a way of thinking about how entrepreneurs use the resources

and talents they already have to get the results they want. Causation, on the other hand, is about using a set of means that have already been decided on to attain a certain goal.

The core distinction between Effectuation and Causation lies in their approach to entrepreneurial endeavors. Effectuation is characterized by a means-driven approach, emphasizing the creation of new ventures with existing resources and embracing affordable loss by experimenting with strategies within predetermined limits. It also values strategic alliances and partnerships to mitigate uncertainty and reduce entry barriers, capitalizes on unplanned events, and focuses on controllable aspects of an unpredictable future. On the other hand, causation is goal-driven, aiming to achieve set objectives through optimal strategies and maximizing expected returns. This approach relies heavily on competitive analysis, particularly using Porter's Five Forces Model, and prioritizes maximizing pre-existing knowledge as a source of competitive advantage, ultimately seeking to control the predictable aspects of an uncertain future.

John Dewey's educational philosophy, on the other hand, stressed that the learning process is most meaningful when students have many chances to connect what they already know with what they are now learning.

Learning by doing is essential in teaching entrepreneurship, as it requires individuals to derive meaning from their experiences, especially when they engage in creation, iteration, and exploration. This general term can be used to describe many different types of learning situations. Some people even say it includes all types of learning. It also stands for a way of teaching where teachers try to get students to learn by doing things and being creative. Dewey's Learning by Doing theory emphasizes the importance of an individual's social environment in shaping how they acquire knowledge and build social frameworks from their experiences.

Experiential learning is crucial for cultivating concepts, reshaping current notions, and generating new and original ideas. Over time, the experiences of learners help them become more creative when it comes to addressing challenges, which leads to the creation of new and useful products and services.

Another framework supporting experiential learning in entrepreneurship education is Action Theory, developed by Michael Frese. Rooted in German action psychology, Action Theory emphasizes the structure and regulation of goal-oriented behavior in complex and uncertain environments (Frese & Zapf, 1994). The theory posits that actions are organized hierarchically, from overarching goals to sub-goals and operations, and are influenced by feedback and self-regulation mechanisms.

Frese extended this model to entrepreneurship by highlighting how

entrepreneurial success is driven not only by traits or circumstances but by structured action, such as goal setting, planning, feedback processing, and error management (Frese, 2009). For goal setting, individuals or groups establish clear, specific objectives that serve as the driving force for subsequent actions. Planning follows after goal identification, where individuals or groups engage in strategic planning, outlining the steps, resources needed, and timeline required in reaching the objectives set. The plans are then put into action through concrete behaviors and activities, and this stage of action execution is where theoretical intentions translate into practical endeavors. As actions are executed, individuals or groups receive feedback on their performance and the outcomes of their efforts. This feedback can be internal (e.g., self-assessment) or external (e.g., environmental responses, peer input). The final and crucial stage involves reflecting on the feedback received. This reflection informs adjustments to future goals, plans, and actions, adapting the iterative process. This action orientation is especially relevant in action-based entrepreneurship, where learners are expected to engage in real-world problem-solving, business planning, and venture creation.

A central tenet of Frese's Action Theory is its strong emphasis on intentional action and the critical role of feedback loops. It highlights that individuals are not merely reactive but are proactive agents who continuously monitor their progress, learn from their experiences, and adjust their strategies to achieve desired outcomes (Frese, 2006). This dynamic interplay between intention, action, and learning through feedback is what makes Action Theory particularly relevant for understanding and promoting adaptive behaviors, which has been extensively applied in the field of entrepreneurship. Frese's work underscores the importance of proactive behavior and psychological ownership of tasks, which are cultivated through experiential learning strategies.

Action Theory is well-known for explaining how successful entrepreneurs exhibit proactive behavior, self-initiative, and self-regulatory skills (Frese & Gielnik, 2014). It has significantly influenced entrepreneurial training by emphasizing the importance of deliberate, feedback-driven practice in building entrepreneurial competence (Gielnik et al., 2012). Programs that embed these elements, such as planning routines and structured reflections, are more likely to enhance students' capacity to act entrepreneurially, especially in uncertain or resource-constrained environments.

On Education Mismatch

The labor force is growing every year, as educational institutions produce thousands of students. However, for the past years, companies and industries have released studies stating that the skills and knowledge acquired by their employees

are not provided during their college years, and with this, the employers have provided additional training to perform tasks assigned. This education mismatch resulted in unemployment and underemployment in the Philippines. There is a mismatch between education and skills. The Philippines has been dealing with similar problems for a long time, with the population surge and workforce expansion consistently surpassing the employment creation (Cuadra et al., 2019).

“Skills mismatch” or “skills gap” happens when there is a disparity in the skills and knowledge acquired by an individual during the academic years with the skills needed by the industry, and with this, high rates of unemployment or underemployment happen, which hinders economic growth and development. This continues to be a challenge in the Philippines, and it’s not limited to a specific time frame. Other factors contribute to this, such as population growth and labor force expansion, which exacerbate the challenge by creating an imbalance between available jobs and qualified candidates. As such, this can hinder economic progress, wherein industries may face difficulties in finding qualified workers, and innovation and competitiveness can suffer due to a lack of specialized skills.

Mismatch in education and skills impacts the work productivity of an individual and contributes to the overall organizational productivity. Thus, the results of the tracer study provide sufficient information on how education and training developed the graduates and feedback from employers (Cuadra et al., 2019). Through tracer studies, a common methodology of higher education institutions, in identifying where their graduates are and the effectiveness of teaching and learning as applied in their workplace, either as an employer or employee. By aligning education with industry needs and promoting a culture of continuous learning, it’s possible to reduce the mismatch between education and skills, leading to better employment outcomes and economic growth.

On University-based Technology Business Incubators

Technology business incubators have been established since the 1980s, and they have altered throughout time to fit the needs of the ecosystem. The government, private individuals, or universities administer or fund these technology company incubators. Incubation of enterprises helps those who are not doing well. Company incubators provide incubatees and student teams with the necessary space for company incubation, together with strategic and value-adding initiatives specifically in incubation programs, mentoring programs, networking activities, and other activities that facilitate business growth (Lyken-Segosebe et al. 2020). The same article argues that technology company incubators bring together technology, know-how, entrepreneurial talent, and money (Lyken-Segosebe et al. 2020). Incubation provides a substantial educational opportunity

and accelerates problem-solving, as incubatees interact with fellow entrepreneurs and share personal experiences (Smilor, 1987). They learned from case studies in Italian university incubators that incubation helped establish an entrepreneurial culture throughout the university (Grimaldi & Grandi, 2005).

On the other hand, technology firm incubation promotes academic entrepreneurship by improving the entrepreneurial skills, capabilities, and mindsets of faculty members. Faculty members handling entrepreneurship courses may lack entrepreneurial competencies in relation to developing viable business opportunities, minimal or no corporate experiences, and restricted market knowledge and networks (Lyken-Segosebe et al., 2020). So, the incubation might help teachers get better at running a business and managing people.

More and more universities are helping students start their businesses, from pre-incubation to incubation to acceleration. The expected result is the development of capable and self-assured pupils who possess an entrepreneurial mentality and management competencies.

On Women Entrepreneurship

Women are vital for economic growth because they are taking on more leadership responsibilities in both commercial and public enterprises. Women make up almost half (49.58%) of the world's population in 2019 (World Bank Group, 2024). So, it makes sense to include the "significant half" of the population to promote world welfare. The UN Women organization strongly supports this idea:

"When more women work, economies get bigger. Empowering women economically leads to higher productivity, more diverse economies, and more equal incomes, among other good results. For instance, if OECD countries raised the number of women working to the same level as Sweden's, GDP might rise by more than USD 6 trillion. However, it is important to remember that growth does not always mean less gender-based inequality. On the other hand, gender discrepancies are thought to cost the economy about 15% of GDP. Women having the same economic rights as men is good for business. Companies benefit a lot from giving women more chances to work and lead. This has been proven to make organizations more productive and help them expand. Companies with three or more women in top management roles are thought to do better in all areas of organizational performance" (UN Women, 2021).

The number of women starting businesses in the Philippines is on the rise. Over the years, the government has passed laws and initiatives to help women get ahead and make sure men and women are treated equally. This has led to more Filipino women starting businesses and constantly improving their skills and

abilities. However, a closer examination reveals that most of these women-owned businesses are micro-enterprises, accounting for 58% of women-led MSMEs. These ventures are frequently initiated out of necessity, such as supplementing income or ensuring survival, rather than being primarily driven by growth aspirations.

The Gender Responsive Economic Actions for Transformation of Women (GREAT Women) is a joint project of the Philippine Commission on Women (PCW) and the Department of Trade and Industry. This project aims to empower women to be involved in economic activities (PCW, 2012). Studies indicate that women initiate businesses when acquiring sufficient knowledge and skills (Guevarra et al., 2017). The Department of Science and Technology is also part of GREAT Women by technology and technology transfer affects women (PCW, 2012). The 2018 Statista survey shows that Filipino women work in a lot of different fields. The retail or wholesale industry has the most women, with 88%, followed by the arts and culture industry with 81%, the materials or manufacturing industry with 74%, and the food processing and agriculture industries with 70% and 44%, respectively.

But women who want to start their businesses often face things that make them less likely to do so. For instance, women-led businesses get a lot less money from investors because of the “boys club” ethos (Hassan et al., 2020). Women entrepreneurs experience “confidence gender gap,” wherein women think less of themselves than men do when they are in competitive settings. This makes them look “less sure of themselves” to potential investors (Carlin et al., 2018). Because of this, women entrepreneurs need tailored support that gets them ready for both the commercial side of their enterprise and the gender-based problems that come up in their company.

Women entrepreneurs want tailored help that includes direct finance, mentoring, networking, business and entrepreneurial skills, access to funding, visibility and credibility, and access to other entrepreneurs - mentors (Global Accelerator Learning Initiative, 2020). Even while joining an acceleration program supports entrepreneurs to make money and get funding, this does not mitigate the gender gap.

Women entrepreneurs possess several characteristics that contribute to their business success (Reynolds, 2018; Kawamura, 2021): dynamic, adaptable, high emotional intelligence, calculated risk-taking, greater retention rate, strong motivation, interest in growth and expansion, and enthusiasm in initiating new ventures.

Women’s entrepreneurship is being recognized as a driver of economic growth and social innovation. Women in entrepreneurship are catalysts for social

change; women bring social impact wherein female-led enterprises often focus on solving social problems and giving back to their communities; women bring diversity and gender equality and help close the gender gap in the business world; and women bring harmony to society by creating inclusive work environments and promoting work-life balance because of their differentiated leadership styles. However, women continue to be underrepresented in entrepreneurial ventures, facing unique challenges and barriers (Brush et al., 2009). Educational interventions, particularly those within innovation centers, hold promise for empowering female students with the necessary skills and competencies to succeed as entrepreneurs.

On the Philippine Entrepreneurial Landscape

In the Philippines, the entrepreneurial landscape is dynamic and evolving, with significant support from the government, the growing startup ecosystem, and the presence of a cultural inclination to do business that gives Filipinos an overall positive view on entrepreneurship.

As the entrepreneurial landscape in the Philippines continues to grow, studies on the role of small and medium enterprises with the large manufacturing firms are being established. MSMEs can pioneer technological breakthroughs, as they become channels in developing innovation and adapting technologies (Gamundoy et al., 2020). The value-added contributed by the small and medium enterprises provides an increase in competitiveness and innovation of the locality and of the country.

According to the study conducted after the COVID pandemic, some SMEs responded to the crisis by applying creativity to problems to obtain opportunities (Nasser, 2022). This statement provides the impression that pivoting while embracing creativity is important for an entrepreneur to find opportunities amidst challenges.

The Philippine government has started programs to help entrepreneurs and startups in the past few years. These include funding programs like the Startup Research Grant Program of DOST-PCIEERD and DICT, which help researchers in improving their business model and getting early-stage technology ready for the market. Namely, the Kapatid Mentor Me Program from DTI and PCE helps MSEs by giving them business advice, sharing facilities, and establishing business models that work for everyone. The Go Lokal Program from DTI helps and promotes products created in the area and speeds up their entry into the general market. The Women Helping Women Innovating Social Enterprises (WHWise) Program of DOST-PCIEERD helps women social entrepreneurs who need access to technology, early-stage finance, and support that is tailored to their gender.

The following policies were put in place to help the government's programs: Innovative Startup Act: allows local startups to get venture capital, grants for travel, research and development, training, and other strategies for growth. The Philippine Roadmap for Digital Startups wants to help local businesses flourish and push for new ideas related to the internet.

These changes show that the Philippine government is willing to help new businesses and entrepreneurs grow the economy and create jobs. Helping young business owners deal with those difficulties helps them become better at running their businesses and makes them more money (Llamasares, 2023). All government programs and activities are designed to enhance the entrepreneurial environment and culture among Filipinos, particularly among women in startups as entrepreneurs.

Overall, the Philippine entrepreneurial landscape is known to have a vibrant spirit, with the increasing support from the government and academe and a growing number of individuals embracing digital transformation. Encompassing all these characteristics, the ecosystem is working to address the systemic challenges and psychological barriers in order to foster a more scalable, innovation-driven economy and inclusive growth.

RESEARCH GAPS AND DIRECTION FOR FURTHER STUDY

This literature review examined entrepreneurship education, business incubation, and the progress of female entrepreneurs, highlighting both significant findings and existing gaps and challenges. The findings shall build the foundation for a gender-responsive and action-oriented procedures manual for entrepreneurial initiatives; on the other hand, gaps and challenges remain. Succeeding studies should focus on validating the effectiveness of the manual across several educational and incubation settings in the Philippines. Research may also examine the impact of mentorship frameworks and experiential learning approaches on the development of women entrepreneurs and their enterprises. It is essential to assess the successful incorporation of policy reforms suggested in the handbook and integrate them into the existing frameworks used by the government and institutions, and a feedback and evaluation mechanism to ensure their relevance.

LITERATURE REVIEW METHODOLOGY

The literature review served as the foundational stem for the research, a systematical mapping of the existing body of knowledge in women

entrepreneurship, entrepreneurship education, and business incubation grounded on inclusive innovation that is connected directly to the objectives

This comprehensive review was directly connected to the objectives of assessing the current status of entrepreneurship education, innovation, and incubation centers, as well as the role of women entrepreneurs, and the interplay of factors in influencing the formation of women entrepreneurs. It aimed to identify trends, highlight existing research gaps and synthesize the finding that would be essential in the succeeding studies and in the development of a gender-responsive framework.

An extensive literature review was conducted by thorough searches throughout academic databases utilizing designated keywords related to women's entrepreneurship, entrepreneurship education, business incubation, and inclusive innovation. The review focused on literature from 1987 to 2024, this 37-year range reflects both foundational theories and contemporary developments in entrepreneurship education, innovation ecosystems, and gender inclusion, providing historical depth and current relevance to the analysis. A total of 40 literature sources were cited in the review that include 27 peer-reviewed journal articles, one book chapter, six government and institutional policy documents and reports, four web-based sources, and one organizational web page that explore various dimensions of entrepreneurship education, gender and innovation, startup ecosystems, business incubation, and action-based learning. Collectively, these sources form a comprehensive foundation for analyzing the current state, challenges, and opportunities within Philippine entrepreneurship education and innovation, with particular attention to gender inclusion and systemic support.

The inclusion criteria for selecting literature were: studies explicitly focusing on women's entrepreneurship, entrepreneurship education, business incubation, innovation centers, and the concept of inclusive innovation; empirical studies (quantitative, qualitative, or mixed-methods) and comprehensive literature reviews; and publications written in English that provided insights into global contexts, with a particular emphasis on developing economies, Southeast Asia, and the Philippines. On the other hand, non-academic publications, unless these are official reports from government bodies, studies that are not directly related to the theme of the review, were excluded in the criteria of selection. This systematic approach ensured that the review was comprehensive, reliable and aligned with the objectives of the review and also considering the ethical standards in selecting sources that do not extend gender bias or stereotypes.

ETHICAL CONSIDERATION

This review evaluated several ethical elements necessary for a gender-responsive, inclusive, and socially responsible evaluation of Philippine entrepreneurship education and company incubation. Fair research representation was first acknowledged in the review. The sources chosen should not perpetuate gender bias or stereotypes and depict women entrepreneurs as strong leaders and innovators. Second, corporate and educational incubation settings have systematic inequities and power imbalances; ethics were present. The assessment views gender gaps in entrepreneurship as systemic barriers, such as limited access to financing, mentorship, and innovation networks, that require institutional and societal change. Third, the review only discussed data and literature using published, peer-reviewed, or acceptable grey literature. This ensured its findings were reliable. This review involved no human participants; therefore, informed consent and confidentiality were not necessary. However, correct citation and academic integrity showed ethical use of intellectual property. Finally, the evaluation will aid inclusive, empowering, and nondiscriminatory research and teaching. It helps women in business ethically through education and innovative ecosystems.

RESULTS AND DISCUSSION

The major findings of the review and discusses their implications in the following: first, the relation to the current status of entrepreneurship education, innovation and incubation centers in the Philippines; second, the role of women entrepreneurs, and lastly, the relationship between entrepreneurship education and business incubation in influencing the formation of women-led ventures.

The Current Status of Entrepreneurship Education, Innovation, and Incubation Centers

In the Philippines, the entrepreneurship education was formalized through the CHED Memorandum Order No. 18, Series of 2017, wherein it standardizes the delivery of entrepreneurship degree programs across the different higher education institutions. The CHED CMO strengthens the recognition of entrepreneurship at a key driver of inclusive economic growth, new business creation and job generation. However, the curriculum and pedagogy of delivering the program remains traditional in structure, providing basic framework for understanding entrepreneurial processes, several studies reviewed in the literature highlight a persistent lack of emphasis on creativity, innovation, and practical

application within the academic setting.

This gap between curriculum design and entrepreneurial practice is significant, especially in molding the entrepreneurial mindset. The students may graduate with all the theoretical knowledge that they need but lacks innovative mindset in pushing forward or has limited experiential learning needed to thrive in dynamic entrepreneurial ecosystems. Central to innovation process, exposures and opportunities outside the classroom that provides interdisciplinary collaboration, feedback, and iterative learning is missing in some academic institutions.

In response to these limitations, there has been a notable rise in university-based Technology Business Incubators (TBIs), innovation centers, and startup accelerators. These spaces function as learning spaces wherein entrepreneurial competencies are strengthened and nurtured through hands-on learning experiences through the various programs and activities offered such as: co-working spaces, mentorship programs, business, technology, operational development services, funding programs, and networking activities. All of these programs and activities are grounded on experiential learning theories - John Dewey and Michael Frese - that emphasize learning by doing, reflection and adaptive action.

The establishment of these incubators marks a shift in the educational paradigm from purely academic instruction to application-oriented entrepreneurship support. However, their success varies widely based on institutional capacity, regional infrastructure, and the availability of public and private support. In many cases, TBIs are still underutilized, or poorly integrated into the core academic experience of entrepreneurship students. This disconnect suggests the need for stronger institutional alignment and policy coherence to maximize the impact of innovation centers on the formation of viable ventures.

The Role of Women Entrepreneurs in the Philippine Landscape

The role of women in entrepreneurship is increasingly gaining attention both globally and in the Philippines. While women constitute a significant portion of the country's entrepreneurial sector, especially in the micro, small, and medium enterprise (MSME) category, they remain underrepresented in high-growth and innovation-led businesses. According to reviewed data, 66% of MSMEs in the Philippines are owned by women. However, 58% of these are micro-enterprises, many of which are necessity-driven rather than growth-oriented. This trend suggests that while women are active in business, they often do so out of economic need, and face structural barriers to scaling up.

Several persistent challenges were identified in the literature. Access to

capital remains a significant constraint. Women-led businesses often receive less investment, face higher expansion costs, and report greater difficulty in navigating formal financial systems. Only 17% of women-owned MSMEs use business bank accounts compared to 39% of their male counterparts. This financial exclusion not only limits their access to credit and investment but also undermines their potential for formalization and growth.

Beyond structural issues, psychological and social challenges also limit women's entrepreneurial potential. The "confidence gender gap" is a recurring theme, with women tending to undervalue their skills and hesitate in competitive and high-risk scenarios such as pitching to investors. This self-doubt is compounded by fear of failure, internalized gender norms, and a lack of role models. Additionally, the burden of unpaid care work continues to fall disproportionately on women, restricting their time and mobility—both of which are critical for networking, continuous learning, and strategic business development.

The digital divide further reinforces these inequalities. Globally, 327 million fewer women than men have access to smartphones, and in the Philippines, only 28% of women-led MSMEs use digital financial services compared to 44% of men-led MSMEs. This digital exclusion limits market access, efficiency, and competitiveness.

Despite these barriers, women entrepreneurs bring distinctive strengths to the ecosystem. They are often highly motivated, emotionally intelligent, and socially conscious. Women also tend to lead in "soft innovation"—non-technological improvements in products, services, marketing, and customer engagement. These innovations, while less visible than technological breakthroughs, contribute significantly to the sustainability and differentiation of businesses.

The Relationship between Entrepreneurship Education and Business Incubation in Influencing Women Entrepreneurs

The review underscores a critical relationship between entrepreneurship education and business incubation in shaping women's entrepreneurial outcomes. Education that focuses narrowly on business plan development, financial modeling, and case analysis may not fully equip women to navigate the complex, often gendered realities of entrepreneurship. Without exposure to experiential, confidence-building environments, many women remain confined to informal or necessity-based ventures.

Business incubation fills this gap by providing spaces where women can safely test ideas, build networks, and gain confidence through actual entrepreneurial practice. Incubators serve as empowering platforms where female entrepreneurs can learn to pitch, access mentorship, and develop strategies in an inclusive and

supportive environment. When these incubation experiences are intentionally gender-responsive, they can help dismantle psychological and systemic barriers. For example, mentorship from successful women entrepreneurs, tailored business training, and access to childcare and flexible scheduling are interventions that can significantly improve participation and outcomes for women.

The integration of these gender-sensitive approaches into both entrepreneurship education and incubation is essential. Rather than operating in parallel, academic programs and incubator initiatives must be aligned to reinforce each other. For instance, entrepreneurship courses can embed incubator participation into the curriculum, while TBIs can offer targeted support for students from underrepresented groups, including women. Such coordination creates a seamless pipeline from education to enterprise, particularly for women who may otherwise lack confidence, exposure, or opportunity.

Furthermore, these findings validate the importance of multi-sector collaboration as outlined in the Triple Helix model. Government agencies can offer grants, regulatory support, and policy incentives to promote gender-inclusive entrepreneurship. Industry stakeholders can invest in women-led startups and serve as mentors. Meanwhile, higher education institutions must revise their curricula, offer inclusive pedagogy, and establish partnerships with incubators to ensure practical alignment.

In summary, the relationship between education and incubation is not merely complementary—it is foundational in transforming women's entrepreneurship from survival-based micro-enterprises to innovation-led, growth-oriented ventures. The findings suggest that without intentional design, current systems risk reinforcing inequality. However, when properly aligned, these systems can unlock the full potential of women entrepreneurs, contributing not only to economic productivity but also to social equity and national development.

CONCLUSION

The review looked at the current state of entrepreneurship education, the function of innovation and incubation centers, and how they contribute to the growth of women-led firms in the Philippines. The results of the review showed that it is important to develop gender-inclusive policies, real-world business experience, and academic training.

CHED Memorandum Order No. 18, Series of 2017 states that entrepreneurship is a way to help the Philippines thrive in a way that includes everyone. Schools teach it. But the way existing programs are set up is still mostly traditional, focusing on business planning and academic knowledge and not

much on creativity, innovation, and hands-on learning.

The growth of university-based innovation centers and Technology Business Incubators (TBIs) is a good sign that experiential learning is becoming more popular in the Philippines. These spaces help individuals to start businesses and grow as entrepreneurs by providing them with opportunities to network, access to funding, and mentorship. However, engagements in these spaces are not often included in academic programs. Thus, streamlining, integrating, and collaborating is essential to provide more experiential learning by integrating incubation with the entrepreneurship program.

Women entrepreneurs, who make up a large part of the country's MSMEs, confront many systemic and social problems such as "confidence gender gap," digital marginalization, unpaid care work, and limited access to financing. Despite the challenges, women have strong motives, emotional intelligence, and a commitment to making a difference in society, traits that can lead to inclusive and long-lasting innovation if they are given the correct support.

The review stresses how crucial it is to deal with these problems by offering gender-responsive entrepreneurial education and incubation. Incubators give women a secure place to try out ideas, build confidence, and get help, a safe space and a support mechanism. They develop a powerful environment that helps women go from subsistence to scalable, innovation-driven businesses, together with education.

The review ends by talking about how important the Triple Helix approach is. This strategy links government, business, and academia to create an inclusive entrepreneurial ecosystem. By working together on curriculum reform, incubator design, and supporting public policy, stakeholders can assist women entrepreneurs reach their full potential. A coordinated, gender-sensitive strategy is needed to make education and incubation institutions work for resilience, innovation, and inclusive economic growth.

TRANSLATIONAL RESEARCH

This literature study has investigated the current landscape of entrepreneurship education, business incubation, and female entrepreneurs by analyzing several elements ranging from formal education to the advancement of women entrepreneurs. These studies yield significant insights, although they also reveal deficiencies and opportunities for enhancement in the cultivation of women entrepreneurs. The findings of this study can be utilized to create a gender-responsive and action-oriented procedures manual for entrepreneurial initiatives. This manual is meant to help teachers, academics, mentors, innovation center

coordinators, and politicians improve the entrepreneurial environment in the Philippines, encourage an entrepreneurial attitude, and help businesses run by women. This includes lessons on how to be a mentor, how to learn by doing, and how to create an innovation ecosystem that includes women entrepreneurs. To keep this manual useful, relevant, and effective, different groups of people should be allowed to look it over and make it more responsive and complete for women entrepreneurs. This translation of research into a usable tool makes sure that the study assists with growing capacity and aligning policies so that everyone may benefit from economic progress.

LITERATURE CITED

Asia SEED. (2010). Common Curriculum for Entrepreneurship in ASEAN. <https://asean.org/wp-content/uploads/2012/05/8.-Common-Curriculum-for-Entrepreneurship-in-ASEAN.pdf>

Brush, C. G., De Bruin, A., & Welter, F. (2009). A gender-aware framework for women's entrepreneurship. *International Journal of Gender and entrepreneurship*, 1(1), 8-24.

Carlin, B. A., Gelb, B. D., Belinne, J. K., & Ramchand, L. (2018). Bridging the gender gap in confidence. *Business Horizons*, 61(5), 765-774.

Commission on Higher Education. *Memorandum Order No. 18, 2017*. <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-18-s-2017.pdf>

Cuadra, L. J., Aure, M. R. K. L., & Gonzaga, G. L. (2019). The use of tracer study in improving undergraduate programs in the university. *Asia Pacific Higher Education Research Journal (APHERJ)*, 6(1).

Department of Science and Technology. (2012). GREAT Women Project and the Department of Science & Technology: Embarking on Impact Assessment of Gender-Responsive Technologies and Technology Transfer Services. Manila: Philippine Commission on Women.

Department of Trade and Industry. Philippines explores opportunities to link startup ecosystem with Canada. August 6, 2021. <https://www.dti.gov.ph/overseas/toronto/toronto-news/philippines-explores-opportunities-to-link-startup-ecosystem-with-canada/>

Fayolle, A. (2009, June). Entrepreneurship education in Europe: Trends and challenges. In *Presentation on OECD LEED Programme Good Practice Workshop*.

Frese, M. (2006). The Role of Action Regulation Theory as a Grand Theory for Understanding Active Work Behavior. In J. R. Baum, M. Frese, & R. A. Baron (Eds.), *The Psychology of Entrepreneurship* (pp. 1–28). Psychology Press.

Frese, M. (2009). Towards a psychology of entrepreneurship—an action theory perspective. *Foundations and Trends® in Entrepreneurship*, 5(6), 437-496.

Frese, M., & Gielnik, M. M. (2014). The psychology of entrepreneurship. *Annu. Rev. Organ. Psychol. Organ. Behav.*, 1(1), 413-438.

Frese, M., & Zapf, D. (1994). Action as the core of work psychology: A German approach. *Handbook of industrial and organizational psychology*, 4(2), 271-340.

Gamundoy, L. A., Bucal, R., & Em, F. (2020). Challenges of Small and Medium Enterprise towards Progress. *JPAIR Multidisciplinary Research*, 42(1), 75-88.

Gautam, M. K., & Singh, D. S. K. (2015). Entrepreneurship education: concept, characteristics and implications for teacher education.

Gielnik, M. M., Frese, M., Graf, J. M., & Kampschulte, A. (2012). Creativity in the opportunity identification process and the moderating effect of diversity of information. *Journal of business venturing*, 27(5), 559-576.

Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation*, 25(2), 111-121.

Guevarra, L., Millares, G., Ramel, M., & Pascua, M. (2017). APEC Women as Prime Movers of Inclusive Business. Hong Kong: Asia-Pacific Economic Cooperation. <https://tinyurl.com/3rmpfc2r>

Haneberg, D. H., & Aaboen, L. (2020). Incubation of technology-based student ventures: The importance of networking and team recruitment. *Technology in Society*, 63, 101402.

Hassan, K., Varadan, M., & Zeisberger, C. (2020). How the VC pitch process is failing female entrepreneurs. *Harvard Business Review*.

Heinonen, J., & Poikkijoki, S. A. (2006). An entrepreneurial-directed approach to entrepreneurship education: mission impossible?. *Journal of management development*, 25(1), 80-94.

Hurriyati, R., Ana, A., Hassan, R., & Lai, C. S. (2018). Technology-based business incubator model as efforts to improve the learning process. *International Journal of Engineering and Technology (UAE)*, 7(4), 186-190.

Kawamura, Y. (2021, March 3). Why Women Entrepreneurs Are the Future of the Startup Ecosystem. <https://www.entrepreneur.com/article/366440>

Llamasares, S. M. (2023). The The Rise of Start Up of Young Entrepreneurs in Time of COVID-19 Pandemic in the Economic Growth Center of Legazpi City. *JPAIR Multidisciplinary Research*, 51(1), 140-151.

Lyken-Segosebe, D., Montshiwa, B., Kenewang, S., & Mogotsi, T. (2020). Stimulating Academic Entrepreneurship through Technology Business Incubation: Lessons for the Incoming Sponsoring University. *International Journal of Higher Education*, 9(5), 1-18.

Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of management learning & education*, 16(2), 277-299.

Nasser, A. T. (2022). Competitiveness of Micro, Small and Medium Entrepreneurs during Economic Disruption. *JPAIR Multidisciplinary Research*, 49(1), 81-105.

Philippine Commission on Women. [PCW]. (2012). Building Women-led Enterprises Through Gender-Responsive Interventions. Manila: Philippine Commission on Women. <https://tinyurl.com/bddmm7d8>

Rae, D. (2006). Entrepreneurial learning: A conceptual framework for technology-based enterprise. *Technology Analysis & Strategic Management*, 18(1), 39-56.

Rasmussen, E. A., & Sørheim, R. (2006). Action-based entrepreneurship education. *Technovation, 26*(2), 185-194.

Reynolds, K. (2018). Women in business: advantages, challenges, and opportunities. <https://www.hult.edu/blog/women-in-business-advantages-challenges-and-opportunities/>

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of management Review, 26*(2), 243-263.

Smilor, R. W. (1987). Managing the incubator system: critical success factors to accelerate new company development. *IEEE transactions on Engineering Management, (3)*, 146-155.

UN Women. (n.d.) Facts and Figures: Economic Empowerment. Retrieved June 7, 2021, <https://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures>

Velasco, A. L. (2013). Entrepreneurship Education in the Philippines. *DLSU Business & Economics Review, 22*(2).

Walter, S. G., & Block, J. H. (2016). Outcomes of entrepreneurship education: An institutional perspective. *Journal of Business venturing, 31*(2), 216-233.

World Bank Group. (2024). Population, female (% of total population). <https://data.worldbank.org/indicator/SP.POP.TOTL.FE.ZS>

Wrenn, J., & Wrenn, B. (2009). Enhancing learning by integrating theory and practice. *International Journal of Teaching and learning in higher education, 21*(2), 258-265.