



## ROLE OF DIGITAL TECHNOLOGIES FOR WOMEN ENTREPRENEURSHIP IN INDIA

**DR. JYOTI CHANDWANI**

Vivekanand Education Society's Institute of Management Studies and Research  
Mumbai, Maharashtra, India

ORCID: 0000-0001-5161-1942

**DR. SUSHMA VERMA**

Vivekanand Education Society's Institute of Management Studies and Research  
Mumbai, Maharashtra, India

ORCID: 0000-0003-2027-380X

### ABSTRACT

**Purpose:** *The increasing relevance of new business value creation coupled with growing numbers of women entrepreneurs significantly contributing to economic growth, has raised renewed research interest in women entrepreneurship. This chapter examines Women Entrepreneurship in India and highlights the role of digital technologies focusing on developing new forms of entrepreneurial actions, including networks, ecosystems, and communities, on accelerating the evolution of new ventures intertwined with women's entrepreneurial growth.*

**Methodology:** *A qualitative literature review about women entrepreneurship activities and the role of digital technologies in women entrepreneurship growth is studied.*

**Findings:** *Specifically, the contribution and impact of digital technologies would be analyzed for women entrepreneurship. A conceptual discussion on how digital technologies opportunities could play a vital role would help understand some of the barriers related to the Women Entrepreneurship process. This would further highlight the main research streams that emerge for future investigation on the theme.*

**Originality/Value:** *Even though the literature on Women Entrepreneurship is well documented, the impact of digital technologies and the intersection between the two fields remain unexplored relatively. The paper contributes in this particular direction, identifies emerging trends and future directions for the research.*

**Practical implications:** *Advancing knowledge and practice in women entrepreneurship and leveraging digital technologies would be a significant implication.*

**KEYWORDS:** Entrepreneurship, Women Entrepreneurs, Empowerment, Digital Technologies, India



**JEL CLASSIFICATION:** L26, M13

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## 1. INTRODUCTION

Entrepreneurship, and especially women entrepreneurship, plays a vital role in the growth of nations. It has three main processes, including the beginning, promotion, and distribution of wealth and services. The main motive for women to enter the entrepreneurial activity is to participate in some economic benefit for the betterment of the family (Bharathi Kollan and Indira J Parekh, 2005) in the paper "Women Entrepreneurship: A Tool for Work-Life Balance" by Bhatnagar et al. (2017).

Colaco et al. (2018) found that one of the significant factors in the country's financial development is women entrepreneurs' growing role. Empowering women has taken on various forms - improving women's participation in the workforce, reducing intolerance and wage differentials, supporting the more significant effort, and improving progressive behavior that supports talented women in leadership and management. Demartini et al. suggested that in the initial 1980s, there has been amplified attention in women managers and entrepreneurs, repeatedly due to a multidisciplinary method merging. Today, women's roles in entrepreneurship, management, and company governance are seen as one of the most prominent features in the country's progress and welfare.

Furthermore, from the additional sideways, the advent of digital technology cannot be ignored as a source of revolution, even in all of the activities mentioned above that characterize entrepreneurship (Nambisan et al. 2017). The notion of digital technology was the consequence of threesome different but related factors: digital artifacts, digital structure, and digital stages. This digital technology wave opens up novel networks and networks with the marketplace, operators, and other investors (Abernathy and Clark 1985). P. Paoloni et al. suggested that empowering women could be achieved by making a maintainable situation for the entrepreneurship procedure and movement. There is a diversity of aids that digital technology can offer in this way.

Paoloni et al. (2019) found that research on the Scopus database related to the keywords "Digital Technology" and "Women of Entrepreneurship" shows that digital technology is now extensive and moves all actions in our lives. However, some studies are immobile that is attentive to the joint of these two fields and to know the chances, assistances, and effects of digital technology on women's entrepreneurship. To this end, we are first and primary discussing the openings created by new digital technologies that are novel ways of undertaking business.



## LITERATURE REVIEW

Chandwani (2015), Entrepreneurship is directed to be the primary agent in progress, which is the main reason individuals, areas, and groups aggressively encourage entrepreneurship. It leads to high levels of education and appropriate university levels in development. This results not only in the prosperity of communities but also nations.

Lee-Gosselin and Grise's (1990) studies revealed that income and development are essential for the entrepreneurs' description. Instead, they originate that women entrepreneurs had very unlike fundamentals for achievement, including opening small, even governments. Studies have found that women entrepreneurs know accomplishment in all kinds of ways, including secluded and capable development. They were realizing stability between work and life, pursuing certain beliefs and standards, and a pledge to "give" something posterior to society.

For women, in particular, the added value of self-employment is that it offers the flexibility to combine work and family. Self-employment is said to have resulted from a recession in Atlantic Canada (ACOA 1996) 1996). Women, it has been stated somewhat than existence omitted from this trend, are at the lead of machine evolution in Canada (Cohen 1996).

Harper (1996) has linked entrepreneurs' perceptions of having a robust inner state of management. Promoting entrepreneurship and self-employment can stimulate people's will and ability to support and sustain themselves (Kupferberg, 1998).

Das (2000), female entrepreneurs' initial difficulties are somewhat similar to those confronted by women in Western nations. However, Indian women entrepreneurs who experienced lower work-family conflict levels were different from their Western counterparts.

Jalbert (2000), in his studies, discovered the character of women entrepreneurs in the universal economy. The study has revealed that women's possessors contribute a great deal to international economic health, the nation's competitiveness, and business in the community by bringing many assets to the world market.

Bulsara et al. (2009) Innovation is an overview of new thoughts, products, amenities, and practices. The main driving strength for innovation is often the bravery and vigor to improve the world. A necessary component of innovation is its profitable use. Innovation has shocked and changed the history of humanity.

Tambunan (2009) found that in emerging nations in Asia, SMEs are of supreme standing; more than 95 percent of all businesses in all industries on usual in each country. The study originates that most women entrepreneurs in small and medium-sized trades are from compulsory businesspersons looking for an improved domestic salary.

Buhalis and Main (1998, p. 201) argued that the Internet is ahead of all businesses. It is moneymaking and especially appropriate for small trades, as it allows them to have entrances open around the clock, with minimal cost to customers around the biosphere.

Commercial systems have been recognized as an immaterial resource for occupational success (Ade & Slavec 2012). Such a network helps companies lessen their working budgets (Gupta, Seetharaman & Raj 2013), cooperate with other communal net entrepreneurs and direct associates, and create a stage for knowledge (Gubbi et al., 2013).



Siganul et al. (2015) recommended that some stores in Labuan, Malaysia, used the Net to endorse their commercial name, creation, and service since of its efficacy. Idris (2008) reported the connection between women's business entrepreneurship and their phase, schooling, place, commercial, yearly income, and workers' number. Although innovations are a motivation to bring about physical change and development in the economy, innovation organization is quite stimulating. The requirement for the need for original and creative employees who would create new ideas that are energetic to the activity's labor force and sustained achievement in the forthcoming (Shavinina, 2003).

Addo (2017) studied whether non-economic wealth is vital for the existence of female micro-enterprises or not. He found that most of the regular guests and owners of micro-enterprises were extremely capable and cultivated. They were highly engaged in advanced commercial activities involving the former-translation process and the mutual translation process to manage social and cultural wealth.

From the literature review conducted, we could find that not much extensive research, particularly in Women Entrepreneurship and the role of digital technologies in India, has been studied. However, the literature review has shown that research has been conducted on Women Entrepreneurship in general, in other portions of the nation and the biosphere. The literature review gave insight into specific problems and factors related to Women Entrepreneurship. This could guide the research in this area. From the Literature Review following is evident: No such significant research has been found in the area of Women Entrepreneurship and the role of digital technologies in India.

## **DISCUSSION**

### **WOMEN ENTREPRENEURSHIP IN INDIA**

The Government of India (2014) has defined a woman entrepreneur as "an enterprise owned and controlled by a woman having a minimum financial interest of 51 percent of the capital and giving at least 51 percent of employment generated in the enterprise to women". What is evident from this definition is that a woman is expected to have substantial financial control.

In the present era of globalization, coupled with digitalization, the country is experiencing a revolution concerning women entrepreneurship. Presently Women entrepreneurs constitute 20 percent of total Entrepreneurship in India, with the total number of women-owned enterprises being 13.5-15.7 million. This is up from 14 percent until the last decade. Women entrepreneurs have shifted from their traditional fields like pickles and papads to engineering (Munshi, S et al., .2011). States of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and West Bengal boasts of having the maximum number of women entrepreneurs in India. The sector-wise analysis states that the education sector sees the maximum number of women entrepreneurs. Other preferred sectors are financial services, insurance, livestock, forestry, and lodging (A report on Women Entrepreneurship in India, 2017). Much credit goes to the Government for coming up with various schemes for promoting Women entrepreneurship in India. The government introduced a chapter on "Integration of women in development" in the seventh five-year plan. Trade-Related Entrepreneurship Assistance and Development.



(TREAD) was a significant step by the Ministry of Small industries to help rural, semi-urban, and urban women develop entrepreneurial skills by providing technical support. Schemes such as Annapurna, Udyogini, Cent Kalyani Scheme, Mudra Yojana Scheme, Dena Shakti Scheme, Bharatiya Mahila Bank Business Loan aimed at providing Financial Assistance to Women Entrepreneurs. For providing support to rural women, the Ministry of Women and Child Development launched STEP (Support to Training and Employment Programme for Women). However, a lot needs to be done with various cutting-edge policies to promote women entrepreneurs.

In India, though women constitute, fair 50 percent of the total population, but their share in entrepreneurship is significantly less. This gender disparity in entrepreneurial activity is observed globally (Global Entrepreneurship Monitor report, 2015-16). However, this situation is significantly worst in India. Today India is considered to be a country with the fastest-growing startup ecosystem. Despite these women, participation is significantly low. Considering the traditional customary role of women in India, they are still discriminated against. India Ranks 52 out of 57 countries in the Index of Women Entrepreneurship, 2019. This dismal ranking shows that India is much behind other countries in being a female entrepreneurship friendly country.

Entrepreneurship is a process of creating job givers rather than job seekers. The role of Entrepreneurs in the Socio-Economic development of the country is undisputed. A study by the IMF (2018) states that increasing women's participation in entrepreneurship can increase India's GDP by 6.8 percent. These statistics highlight the significance of Women Entrepreneurship in helping India in its endeavor to become a \$ 5 trillion economy. As per the World Bank report (2014), more investment needs to be done in women's business compared to men for greater development. However, in a developing country like India, the role of women entrepreneurs goes beyond economics in terms of social significance. It also relates to curbing inequality and breaking taboos and contributing towards a broader goal of women empowerment.

In a traditional developing conservative country like India, Women Entrepreneurs face several gender-specific challenges in addition to gender-neutral challenges. Indian Women Entrepreneurs have to face various challenges right from the idea stage until successfully running an enterprise. Reasons coming in the way of the growth of women entrepreneurship are financial and personal. In 2018, out of 1.3 billion \$ raised by Indian Entrepreneurs, only 0.63 percent was the share of all women-owned entrepreneurship firms. This skewed pattern of funding is a big challenge in the way of development of women entrepreneurs. Women Entrepreneurs face too many problems like inadequate training and a lack of technology (Chhichhia V,2004). What is clearly understood in the academic circle is that access to finance (Chandra,91; Singh S. & Saxena, S. C. 2000 Sinha, P,2003) and inadequate technical expertise (Dhameja, S.K,2002) are two significant challenges faced by women entrepreneurs in India. A report on the status of Women Entrepreneurship in India, 2017 says 80 percent of women entrepreneurs are using self-financing for funding their ventures.

This opens up new research venues being that up to now, the researches focusing on linking the Women Entrepreneurship and Digital Technologies is almost lacking. In the following



sections, we delineate some of the most crucial research streams that could guide future research.

## **ROLE OF TECHNOLOGIES AND WOMEN ENTREPRENEURSHIP**

In the present day of coronavirus pandemic, the significance of digital technologies, as a critical component of the nation's collective effort to control the virus spread and support novel ways of living and work, has conspicuously increased. Digital technologies empower, enhance productivity, social life, and support, leading to inclusive global economic growth. Digital technologies include Information and communication technologies (ICTs) comprising of computers/laptops, mobile phones, and the internet, which are necessary tools for business operation and competitiveness (Hussain & Chen, 2018). The advance of digital technologies has contributed immensely to digital transformation (Data-Driven Innovation, 2015). Digital transformation denotes the societal and economic effects of digitalization and digitization ("Going Digital: Shaping Policies, Improving Lives," 2019). New digital technologies include Artificial Intelligence, the Internet of Things, Big Data, Cloud Computing, Blockchain, and Next-generation Wireless Networks. These technologies are accelerated by the exponential growth in computing power with a simultaneous decrease in its cost. Digital transformation is radically changing the landscape of methods by which businesses function and enhance production. Digital entrepreneurship, which denotes the starting up of digital businesses and the adoption of various digital technologies by the existing entrepreneurs, may contribute to more inclusive entrepreneurship.

The potential benefits of using digital technologies in entrepreneurial activities can be summarized in two categories: innovation growth, crafting novel opportunities for entrepreneurs, and boosting self-employed productivity. They include improved access to business intelligence, market research trends in the market, networking, broader reach, lower marketing, and operational costs, e-creation of value, stronger and broader customer base through social media, new sales channels through platform transformations, and economies of scale creation (OECD, 2015).

## **DIGITAL GENDER DIVIDE**

The enhanced availability and affordability of digital technologies focused on innovations. The exponential increase in mobile technology adoption presents all entrepreneurs with outstanding opportunities, notwithstanding gender, to commence and nurture businesses. The variation in accessibility and exploitation of critical digital technologies has resulted in the digital gender divide in favor of men, putting women at a disadvantage (UN Women, 2015). Digital connectivity is more critical than ever in 2020. Accessibility of the internet opens up enormous possibilities to important information, opportunities, and services. Despite its significance, mobile access and exploitation remain unequal. Across low- and middle-income countries (LMICs), 300 million fewer women than men use mobile internet. In terms of smartphone ownership, women lag behind men by 20 percent lower (GSMA, 2019). Fifty-four percent of women in LMICs utilize mobile internet by reducing the gender gap. With the reduction in the cost of online access and present-day "digital natives" become adults later,

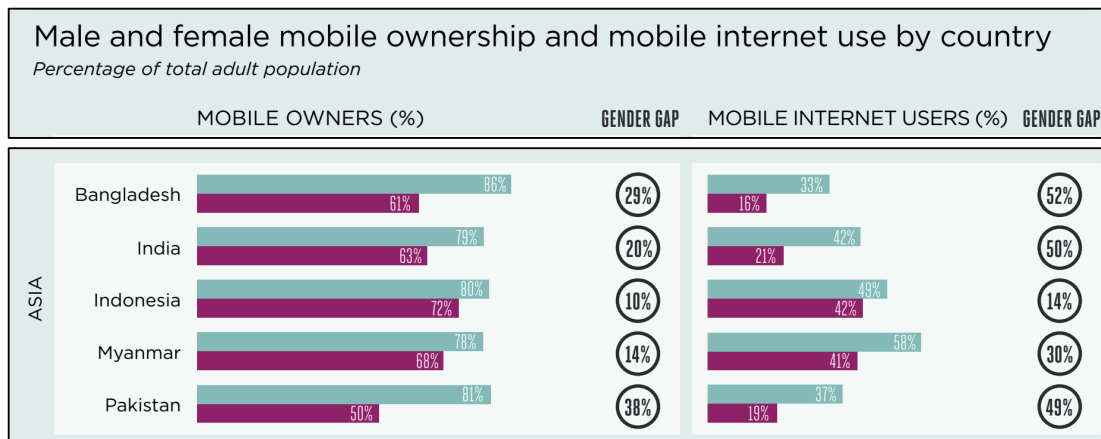




narrowing of the gender gap may be estimated (OECD, 2017). Affordability, literacy and skills, safety, and security and a family does not approve significant barriers, in varying degrees, for women about mobile phone ownership and internet usage (GSMA, 2019).

In India, gender-based digital exclusion is three main factors: education and digital skilling, access, affordability, and socio-cultural norms. The gender gap in mobile owners and internet users in India is depicted in Figure 1. The high cost of access to new technologies combined with low female purchasing power has contributed to this digital gender divide (Sorgner et al., 2017).

**Table 1: The gender gap in mobile ownership & mobile internet use in Asian countries**



Source: GSMA, 2019

Gender biased social customs, beliefs, and cultural systems are potential factors. Twenty-three percent of girls drop out of school with an unequal load of housework, patriarchal boundaries to mobility, and inadequate toilet facilities in schools (Gurumurthy and Chami 2014: 35). Limitations to mobility also affect women losing access to various training centers and employment opportunities (Desai, 2014).

## WOMEN DIGITAL ENTREPRENEURSHIP

A lack of necessary digital skills hinders women entrepreneurs in their skills at creation and running digital businesses. This includes the ability to identify technology-enabled business opportunities and exploit them (van Welsum, 2016).

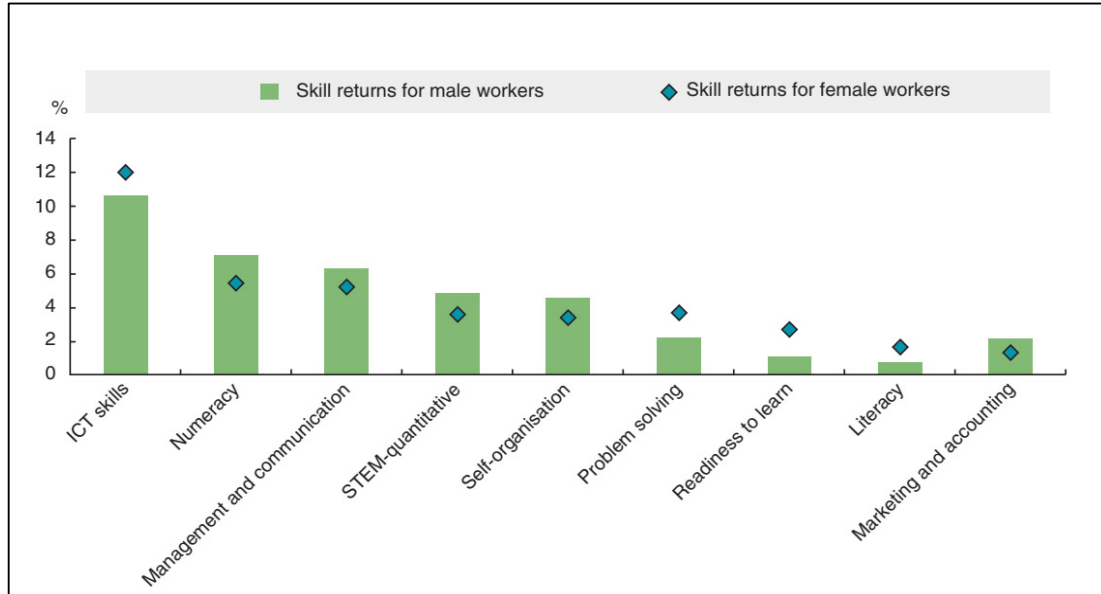
Digital technological advances are contributing immensely towards the engagement of women in digital entrepreneurship. However, women find themselves in the unbridled and baffling multitasking whirlpool (Kamberidou, 2020). Women digital entrepreneurs experience "contradictory pulls" due to societal messages or social expectations concerning multiple roles across public and private spaces (Malik, 2017).

A review of comparative skill levels of workers on gender basis spanning 31 developed. Developing countries displayed that women entrepreneurs generally have learned basic digital technologies, accounting, and marketing skills. In contrast, men have higher management and



communication skills, though, in readiness to learn, women were ranked higher in this category (Irene, 2019).

**Figure 2: Skill returns for Male & Female workers**



Source: (Irene,2018)

NITI Aayog has launched a Women Entrepreneurship Platform (WEP) for providing an ecosystem for budding & existing women entrepreneurs across the country. SIDBI has partnered with NITI Aayog to assist in this initiative. As an enabling platform, WEP is built on three pillars- Iccha Shakti, Gyaan Shakti & Karma Shakti. Iccha Shakti represents motivating aspiring entrepreneurs to start their business. Gyaan Shakti represents providing knowledge and ecosystem support to women entrepreneurs to help them foster entrepreneurship. Karma Shakti represents providing hands-on support to entrepreneurs in setting-up and scaling up businesses.

In addition to providing services such as free credit ratings, mentorship, funding support to women entrepreneurs, apprenticeship, and corporate partnerships. WEP will encourage entrepreneurs to share their entrepreneurial journeys, stories & experiences to nurture mutual learning. WEP platform, as a driver of change, will also promote offline initiatives and outreach programs to promote entrepreneurial spirit among potential women entrepreneurs, in collaboration with partner organizations.

WEP offers incubation and acceleration support to women-founded / co-founded startups through its various partners. They handhold women entrepreneurs registered with WEP and provide the necessary support to help them start and scale-up.





## CONCLUSION

Women entrepreneurship and digital technologies go hand in hand for the growth and development of the enterprise. Government and businesses can help women entrepreneurs with the opportunity and relevant guidance on digital technologies. Digital presence permits women to overcome some of the explicit limitations that are enforced on them. It reduces the standing of both time and space restrictions where women lack time due to double accountability to acquire revenue and satisfy family responsibilities. This can form the basis of agreements that limit their mobility in the public domain. Digital technologies have also been a dominant force for the development of women-owned enterprises. It provides and nurtures communication than enhances the exchange of relevant information for marketing, purchasing, creativity, and communication, to name the few. The findings of this research could be used for future practitioners and researchers whose aim is to study women entrepreneurs in general and the role of digital technologies in their enterprise

## REFERENCES

1. Abernathy, W. J., & Clark, K. B. (1985). Innovation: Mapping the winds of creative destruction. *Research Policy*, 14(1), 3–22.
2. ACOA (Atlantic Canada Opportunities Agency) (1996). *The State of Small Business and Entrepreneurship in Atlantic Canada*. Halifax: ACOA.
3. Addo, P.-A. (2017). Is it entrepreneurship, or is it survival? Gender, community, and innovation in Boston's black immigrant micro-enterprise spaces. *Societies*, 7(3), 20. <https://doi.org/10.3390/soc7030020>.
4. Adle, R. V., & Slavec, A. (2012). Social capital and business incubators performance: testing the structural model. *Economic and Business Review*, 14(3), 201-222.
5. Bhatnagar, A., Bhardwaj, B. & Mittal, V. (2017). *Women Entrepreneurship: A Tool for Work-Life Balance*. International Conference on Technology and Business Management. BVIMR.
6. Buhalis, D., & Main, H. (1998). Information technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors. *International Journal of contemporary hospitality management*, 10(5), 198-202.
7. Bulsara, H. P., et al. (2009). Techno-Innovation to Techno Entrepreneurship through Technology Business Incubation in India: An Exploratory Study. *Asia Pacific Journal of Innovation and Entrepreneurship*, 3(1).
8. Chandwani, J., Bulsara, H. P., and Gandhi, S. (2015). Women Entrepreneurship in India: A Case Study of Jaishree Kabra of Kothari Silk Mills. *International Journal of Business and Management Invention*, 4(1), 8-13.
9. Cohen, GL (1996). *Women Entrepreneurs, Perspectives on Labor and Income*. Ottawa, Statistics, Canada, Spring 75-001-XPE.
10. Colaco, V. & Hans, V. B. (2018). Women Entrepreneurship in India- Changes & Challenges. *Sahyadri SJOM Journal of Management*, 2(2). ISSN No. 2456 - 9151.
11. Das, S. K. (2012). Entrepreneurship through Micro Finance in North East India: A Comprehensive Review of Existing Literature. *Information Management and Business Review*, 4(3), 168-184.
12. Demartini, P. & Marchegiani, L. (2019). *Born to Be Alive? Female Entrepreneurship and Innovative Start-ups*. Advances in Gender and Cultural Research in Business and Economics. Springer Proceedings in Business and Economics. pg 219-235. [https://doi.org/10.1007/978-3-030-00335-7\\_15](https://doi.org/10.1007/978-3-030-00335-7_15).



13. Gubbi, J., Buyya, R., Marusic, S., & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. *Future Generation Computer Systems*, 29(7), 1645-1660.
14. Gupta, P., Seetharaman, A., & Raj, J. R. (2013). The usage and adoption of cloud computing by small and medium businesses. *International Journal of Information Management*, 33(5), 861-874.
15. Harper, D (1996). *Entrepreneurship and the Market Process: An Inquiry into the Growth of Knowledge*.
16. Idris, A. (2008). A profile of innovative women entrepreneurs. *International Business Research*, 1(2), 3–10.
17. Irene, Bridget. (2019). *Technopreneurship: A Discursive Analysis of the Impact of Technology on the Success of Women Entrepreneurs in South Africa: Challenges, Opportunities, and Prospects*. 10.1007/978-3-030-04924-9\_7.
18. Jalbert, S. E. (2008). *Women Entrepreneurs in the Global Economy*. *Education Research*. <http://research.brown.edu/pdf/1100924770.pdf>.
19. Kupferberg, F (1998). Humanistic Entrepreneurship and Entrepreneurial Career Commitment. *Entrepreneurship and Regional Development*, 10(3) 171-188.
20. Lee-Gosselin, H and Grise, J (1990). Are Women-Managers Challenging our Definition of Entrepreneurship? An in-depth Survey. *Journal of Business Ethics*, 9, 423-433.
21. Paoloni, P., Secundo, G., Ndou, V. & Modaffari, G. (2019). *Women Entrepreneurship and Digital Technologies: Towards a Research Agenda*. *Advances in Gender and Cultural Research in Business and Economics*, Springer Proceedings in Business and Economics. pg 181-194. [https://doi.org/10.1007/978-3-030-00335-7\\_12](https://doi.org/10.1007/978-3-030-00335-7_12).
22. Rippa, P., & Secundo, G. (2017). *Digital academic entrepreneurship: The revolution of digital technologies on academic entrepreneurship*. Paper presented at the AIG 2017 Meeting, on the Digital.
23. Rzak, A., & Song, M. (2017). Digital innovation management: Reinventing innovation management research in the digital world. *MIS Quarterly*, 41(1), 223–238.
24. Shavinina, L. (2003). *The international handbook on innovation* (1st ed.). Kidlington, UK: Elsevier Science Ltd.
25. Siganul, R. S., Yoag, A., Tanakinjal, G. H., Jiony, M. M., & Gom, D. (2015). An Exploratory Study on the Usage of Technology among Retailers in Labuan, Malaysia. *American Journal of Economics*, 5(2), 217-221.
26. Tambunan, T. (2009). Women entrepreneurship in Asian Developing Countries: Their Development and Main Constraints. *Journal of Development and Agricultural Economics*, 1(2), 27-40.