TECHNOLOGY A FACTOR IN DETERMINING THE SUSTAINABILITY OF WOMEN LEAD ENTERPRISES

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Abstract

This study analyses a model proposed by the authors based on the literature review whose constructs are the factors that influence the sustainable entrepreneurship of Ecuadorian women analyzed in previous studies. The ICT construct is added with the idea of determining the role played by technology in the sustainability of these enterprises. The research methodology is located in the positivist paradigm, quantitative approach, and descriptive type with a field design; the population analyzed are women entrepreneurs in the provinces of Cañar and Azuay. The data collection technique used was an instrument divided into sections, the first consisting of dichotomous questions, while the second was a questionnaire with questions measured on a Likert scale. The results of the analysis concluded that the factors that determine the sustainability of female entrepreneurship are associated with the type of entrepreneurship and the use of technology, which was also highlighted in the context of the pandemic that caused a social distancing and has left a new way of doing business, taking advantage of the technological era that has been installed in all latitudes. Once the model has been tested, it is concluded that information technologies determine companies' sustainability.

Keywords: Women; Entrepreneurship; Sustainability; Inequality; Technology

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1. Introduction

The research stems from the research project of the Catholic University of Cuenca for the observatory of social phenomena, which belongs to this center of higher education, framed in the line of entrepreneurship and innovation. The gaps and inequalities women have faced due to the conditions imposed by societies for many years have hindered their desire for growth and self-improvement, generating a deep desire in women to initiate entrepreneurial projects.

The changes in the different areas of daily life worldwide related to the role of women and their shared responsibility for household maintenance have allowed them to have a new role in society, and their quality performance and efficiency in the productive field have generated expectations in the business world. In contrast, it has allowed them to contribute to the economic growth of their family environment. That is why the sustainability initiatives of entrepreneurship contribute to improving

their quality of life and represent today an essential means to add a constant transformation in the performance of their various roles (Avila et al., 2020, p. 98).

In this context, there are more women protagonists in the world of entrepreneurship, leaving behind the stereotypes about the sexual division of labor, understood as a socially preset mandate to perform certain activities for being of a specific sex. This division of tasks determines how roles are distributed in society, with women mainly in charge of the private space and domestic work and men devoted to productive economic tasks in the public sphere. However, since it is considered a cultural construction, it is susceptible to modification (Rodriguez González, 2017, p. 7).

In this regard, Swinney et al. (2006), cited by Santander-Astorga et al. (2016), indicate that "An unparalleled phenomenon that has developed in the last ten years has been the remarkable growth of entrepreneurship led by women around the world" (p. 64). In these entrepreneurial actions by women, they seek more significant equity and participation in public and private spaces in the world of work. The studies coincide in clearly defining the existence of a varied set of internal and external factors that have guided and driven women towards the search for the creation of their businesses. Therefore, female entrepreneurship focuses on productive, often innovative activities that contribute to their families' wellbeing, improving their quality of life and, at the same time, boosting the economic growth of their environment. Given this reality, public actors have tried to generate a set of government programs and projects that promote and maintain adequate levels of support for these segments and other sectors present in different areas of the nation in order to enhance, preserve and improve the excellent living of its citizens as a representation of the fulfillment of government plans designed to reduce existing social inequalities among people.

The dilemma arises from the diversity of analysis factors that can condition the decision to undertake by a man and a woman. These factors are relevant to the culture of each country. In addition, men have a superior vision to grasp the opportunities that the market may present, even in the long term; however, women do it out of economic necessity as an alternative to improve their purchasing power.

The gaps and inequalities between men and women continue to harm them in labor market activities and their salaries. In addition, women are related to jobs of lower profitability or associated with their family role (family care tasks), thus impeding their growth in the labor world, with informal jobs and irregular dependency relationships, which call into question their security and stability (Barbagelata Fernández, 2019, p. 13).

2. Theoretical background

Information and Communication Technologies (ICT) and their rapid reach make it possible to improve organizational processes and companies' economies since, through software and technological applications, many processes are automated, optimizing time and resources. Advertising and promotion have also become more effective thanks to computer applications and massive dissemination through social networks, achieving greater reach in less time and at lower costs.

Cárdenas et al. (2016) state that one of the limitations of the use of technologies and electronic media is the lack of academic training, which does not allow them to enhance their businesses, in addition to the absence of economic support and training programs by state agencies. Pareti et al. (2020) indicate that ICTs (both ERP and CRM) constitute a competitive advantage that offers benefits such as customer retention and loyalty, cost reduction, increased sales and profitability, improved quality of services and processes, and process optimization, among others (Montes de Oca, 2020).

The internet and the web have changed how companies communicate with their stakeholders, improving their relationships and providing substantial benefits, so small and medium-sized companies have developed corporate sites to establish relationships with their target audience (Marín et al., 2016). In addition, the development of the internet has allowed entrepreneurs to integrate their

business ideas and offer their products and services online, significantly increasing their sales (Rincón et al., 2018). In the context of the SARS COV 2 pandemic, the different ventures had to reinvent themselves and adapt to a new reality, automating their production and sales processes. As a result, most companies implemented online sales systems as an alternative to the confinement situation, which has remained an alternative marketing channel that provides excellent opportunities to increase sales and profitability.

3. Factors influencing sustainable entrepreneurship among Ecuadorian women

Sustainability is the ability of an economy to maintain a defined level of economic output. Economic sustainability concepts differ according to the models in which they are included. Thus, for some, economic sustainability is understood as economic development that does not have a negative social, ecological and transgenerational impact, whereby its growth is not a function of natural or social capital. Other approaches to economic sustainability focus on economic growth, where a business, a company, or an economy is considered sustainable as long as it increases total capital.

In this perspective, this criterion can take precedence over others of an ecological nature, such as the reduction of the ecological footprint, the regeneration and preservation of ecosystems, and the rational use of natural resources. Talking about sustainability necessarily implies referring to the famous Brundtland Report of 1987, which introduced the concept of sustainable development, defining it as the ability of humanity to meet its present needs without compromising the ability of future generations to meet theirs. This concept seeks to guide an economic development conscious of the human footprint in economic activities and its future impact through a structural change in the human-nature relationship, closely related to the concept of sustainability, which seeks the balance and rational transformation of natural resources beyond mere economic growth as the basis of global economies.

However, some researchers even see the concept of sustainability as a solution to attack the possible limitation of economic growth from the increased environmental burden caused by humanity on nature. In the particular case of entrepreneurship, to speak sustainable entrepreneurship, the authors Chirinos et al. (2018) collect interesting definitions described below: Sustainable entrepreneurship Dean and McMullen (2017) is the process of discovering, evaluating, and taking advantage of economic opportunities present in market failures (when there is an inappropriate allocation of resources), which hinder sustainability, including those relevant to the environment, such as public goods, externalities, monopoly power, inappropriate government intervention, and imperfect information; for the development of sustainable entrepreneurship it is necessary to overcome the barriers to the efficient functioning of markets.

For Chirinos et al. (2018), it is a form of organization that allows economic advancement and local development, bringing with it the generation of employment and the creation of goods and services that contribute to the growth of the communities where business initiatives are developed, consequently, it provides profitability to the entrepreneur, in turn, it drives the market of competencies where supply and demand are identified. It also allows consumers to choose among several suppliers to stabilize the local economy.

While Crals & Vereeck (2005) mention that a sustainable innovation aimed at a mass market benefits a large part of society, environmental entrepreneurs and companies that make environmental progress in their core business can also be called sustainable entrepreneurs, generating new products, services, production techniques. Therefore, these organizational models substantially reduce the impact on the ecosystem and increase the quality of life.

Different researches highlight a series of elements that must be present for the achievement of sustainable entrepreneurship, among them: a) constant transformation, the adaptability capacity of companies to face changes and change itself, b) technological conditions, the rapid evolution of

technologies and their usefulness in the productive field (Chirinos et al. 2018), and c) the innovation capacity that within the company can be promoted.

In addition, it is necessary to highlight the significant injection of economic resources that the National Corporation of Popular and Solidarity Finance (CONAFIPS) and other support entities have provided in recent years through the financial sector of the famous and solidarity economy in Ecuador. However, no impact evaluations are carried out for effective monitoring and follow-up to ensure the sustainability of the enterprises. The validation of primary and secondary data indicates that entrepreneurship initiatives have to base themselves on the needs of their actors, who do not have all the necessary tools and knowledge to guarantee success in their business development and maturation stages (Castillo et al., 2022).

4. Research objective and methodology

The study was carried out in Cañar, Azuay, where the women's entrepreneurial sector is highly representative. Therefore, the minimum sample size recommendations for PLS (Partial Least Square) models have been considered to determine the number of respondents. According to the rule applicable to the model, the study requires 60 respondents as a minimum sample size to analyze the model based on SEM (this is because six independent variables are pointing to a single dependent). Additionally, the power analysis is considered with it; it is necessary that in a total of 60 cases to reach a power of 80%, the following are required at the end: 60 + 48 = 108 cases. Despite this, the random representative sample applied is 120 women entrepreneurs, which exceeds the required number and confirms the reliability of the data collected.

The designed instrument items were personally applied to the sample between May and June 2021. A random sample comprised of a range of schooling: 5.0% without schooling, 25% primary, 45% high school, 20% undergraduate, and 5% postgraduate. The sample was composed of the age ranges: 10% under 18, 30% between 18 and 25, 30% between 25 and 35, 15% between 35 and 55, and 15% over 55.

The constructs were elaborated based on the literature and the design of the study, whose questions placed in the survey instrument were made by all the authors of this research and validated through four virtual focus groups. Respondents who respond according to their perception of the questions are rated using a Likert scale, which determines 1 for "strongly agree" and 5 for "strongly disagree." The survey consists of two sections: the first section obtains general information and demographic profiles of the respondent, and the second is designed to investigate entrepreneurship variables; this section consists of 28 items. The hypotheses driving the present study are described below:

H1= training is a factor that determines the sustainability of women's productive undertakings.

Training is a process that allows the expansion of knowledge, skills, and abilities that lead to improved performance in each of the activities that a person performs. Entrepreneurship, an activity that faces challenges and challenges, requires drivers such as education and training to improve its performance; this would be possible with the restructuring of government policies accompanied by the promotion of educational programs linked to educational institutions at different levels and society in general, as a builder of culture and knowledge (Higuera et al., 2019).

Various economies seek to promote entrepreneurship to generate employment, economic growth, and wellbeing, so Cancino et al. (2012) recommend that government programs should offer intellectual capital that combines economic resources with technical advice, training, and permanent monitoring since making a successful venture is not only a matter of having the economic and financial resources but also have the knowledge and skills necessary to adapt to the changing environment and market demands. Therefore, the relevance of the training and of the person in charge of transmitting technical knowledge and psychological skills, as well as the importance of making adjustments according to the type of participants (Daher et al., 2018).

Undertaking in times of pandemic has constituted an uncertainty and a threatening situation, leading people to reinvent themselves and seek strategies that enable the emergence of businesses, which is how "the need for support in technological tools, promoted by the impulse of elements such as motivation, leadership, the search for training and financial advice" (Chanto et al., 2021, p. 73). Therefore, training motivates and promotes entrepreneurial activities, as explained by Sastre (2013) in his study: Entrepreneurial Motivation and the factors that contribute to the success of entrepreneurship. In addition, Parra et al. (2017) conclude that among the essential traits that entrepreneurs have and have allowed them to position their businesses are the level of training, leadership, love of work, personal investment, infrastructure, and customer service.

Women a fundamental pillar within the home and are always willing to contribute to the family economy, carry out work, entrepreneurship, and family care activities. Although women have managed to enter the labor market, they have unstable working conditions and lower wages, which is why many women have seen entrepreneurship as an opportunity to access the labor market under favorable conditions to their employers. It should also be noted that among the motivating elements to undertake are the crisis and the increase in unemployment.

Montero et al. (2018) consider that the level of training reached by women has an essential effect on the productive specialization of their enterprises; that is, the greater the training, the greater the sectoral diversity of women's businesses. In general, entrepreneurship is an activity generated daily throughout the world and constitutes a primary factor for revitalizing the economy and progress of countries. However, each country has its particularities in terms of entrepreneurship and support; training, accompaniment, and more activities are necessary so that each of the ideas embodied in products and services is sustainable and contribute to the generation of wealth.

H2= Motivation is a factor that conditions the sustainability of women's productive undertakings since

Motivation is understood as a state of mind that inspires human beings to carry out and meet goals and objectives; that is, it is the impulse people receive to carry out a multitude of activities and persist until they achieve them. The motivating effect for any activity is made up of intrinsic and extrinsic factors, which allow them to take advantage of available resources and combine them with knowledge, skills, and abilities to obtain efficient results.

Sastre (2013), in his study, concludes that the main factors that promote motivation and starting a business are intrinsic, those that are related to the virtues of the entrepreneur, while once the business has started and experience has been gained, the extrinsic factors are the most important for its sustainability. In the same way (Suárez et al., 2020), in his study Entrepreneurial career development: Identification of profiles, competencies, and needs, he concludes that, among the reasons for entrepreneurship, a predominance of intrinsic factors is identified, those that have to do with self-realization, improvement and personal and professional growth and also oriented from family models in entrepreneurship, experiencing specific conflicts when reconciling their professional and personal life.

Furthermore, on the other hand, some extrinsically motivated entrepreneurs are satisfied with their career and professional trajectory in entrepreneurship, experiencing a high degree of conjuncture between the personal and the professional. Simón et al. (2012) consider that the Motivation to undertake; in many cases, can significantly influence the survival of businesses, especially when they were created out of necessity rather than an opportunity. In general, the generation of enterprises constitutes a fundamental engine for the growth and development of nations and arises as a response to the increase in unemployment, poverty, and the need to improve income levels and living conditions. Thus, entrepreneurship is linked to cultural factors such as skills, social norms, perception of opportunities, and the Motivation to undertake (Fernández et al., 2017).

Entrepreneurship is an activity that demands creativity, a strong desire to excel, and the ability to face challenges and overcome obstacles. The entrepreneurial spirit can be innate or acquired through professional training and preparation. An entrepreneur is creative, innovative, and enthusiastic and seeks to do something different and demonstrate their skills and abilities embodied in a product or service that meets the needs of a population, a market segment, or a group of people. However, the rural woman is a case of entrepreneurship where she does not seek to be recognized or admired; she does so mainly out of economic need and the improvement of her and her family's living conditions (González et al., 2019).

The motivations and interests for starting a business in women are diverse and are related to the desire for self-realization, autonomy, freedom, economic independence, the possibility of managing time and space autonomously, and being able to combine family and work activities; therefore, they enjoy the moment of having consolidated their project, because they know that they are doing something that they always dreamed of and that in many cases they are passionate about it. After all, it is related to their hobbies. Despite the challenges and risks a venture entails, the satisfaction of having achieved what they always dreamed of and being protagonists of diverse projects and initiatives motivate them to continue innovating and offering original and unique products (Briseno et al., 2016). "Having what is mine, being an author, being seen, being happy and being creative make up a complex pentagon that defines the creative processes developed by the women interviewed" (Elisondo, 2018, p. 50).

H3 = The domestic market is a factor that conditions the sustainability of women's productive enterprises.

The internal market is a system for exchanging goods and services, which can be focused or globalized, and the demand for goods and services governs it. In other words, it is nothing more than commercial, industrial production, services, among others, carried out in Ecuador and that allows its population to acquire them, but at the same time achieve their respective production and thus finally offer it to a public, in other words, entrepreneurship represents within the internal market a profitable way for the organization, production, distribution, and commercialization of different products or services that help them generate their income to reverse their living conditions. In this context, female enterprises must be aimed at meeting the demands of consumers so that they are successful.

It is important to remember, as Polanco Tomalá (2021) and Ávila et al. (2020) indicate that female entrepreneurship is born from the scarcity of opportunities in the laborious market and the dissatisfaction with needs, which force women to quest to generate income. Despite this, women have significant challenges since, according to studies carried out over the past few years on this subject, women undertake for economic needs, which indicates that they are short-term, unlike men, and this has, as a consequence, lower profitability and growth in the world of work. This represents one of the first challenges (Barbagelata Fernández, 2019; Contreras et al., 2020). In this order of ideas, Chavez et al. (2020) and Velasquez Alva (2019) argue that what will determine the success of female entrepreneurship in domestic markets is the ability of women to identify and take advantage of opportunities, their experiences and knowledge, the network of contacts, financial resources and necessary own and third-party assets.

This analysis is associated with why a venture can fail in an internal market, to which Villamar Briones (2020) lists a series of essential elements to consider when undertaking and entering the market, such as 1. Enter in sectors that are not liked or are unknown, 2. Choose sectors of activity that are not very productive, and 3. Create business models that do not provide benefits quickly and sustainably. However, according to Cañarte-Quimis et al. (2020), the sustainability of entrepreneurship in labor markets depends not only on the entrepreneurs and the market itself but also on the support of the State.

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Regarding the relaxation of the tax burden, tax reforms, education and training programs, opening of the internal market, and financial support, among others. For all the above, the hypothesis is verified. If the market is not known, if the enterprise is not directed toward consumer demand, and if the State does not promote the enterprises with tax policies and coherent measures, they will succumb to the internal markets.

H4= Financial profitability is a factor that conditions the sustainability of women's productive enterprises.

There is a stigma or misconception that a business cannot be profitable and, at the same time, generate a social impact (De León, 2018). As social enterprises have already been studied, they are born to give a social, environmental, and economic response to the territories. Taking into account that one of the most critical aspects of these approaches is financial profitability, without it, they would be projects that would remain on paper, and if they managed to materialize, their life would be short (Murillo et al., 2021). Ávila et al. (2020) indicate that financial profitability is closely related to the sustainability of female entrepreneurship since it is the investment capacity that provides benefits higher than those invested in a period, which is fundamental in the economic and financial planning of any enterprise.

Based on this analysis, Paucar et al. (2019) and Valderrama (2020) indicate that enterprises are essential since they generate jobs, satisfy consumer needs, and are vital for their permanence over time. Then, the access and availability of credit are essential since it allows access to working capital and meets the economic needs that society demands increased productivity (Navas et al., 2019). Even though entrepreneurial activity has been stimulated in Ecuador in recent years, this has not translated into a high generation of employment since many ventures fail to materialize; this is because seven pillars are analyzed at the time to materialize a venture, and one of them is financing because the State generates the most regulatory framework. However, if all these pillars are not aligned, there is no possibility of success for a venture (Rueda-Granda, 2019).

Continuing with this analysis, Loor Pivaque (2020) argues that another of the fundamental pillars of financial sustainability and profitability is that entrepreneurs need people on their team who can understand the economic environment that surrounds them. The enterprises' profitability is a potential opportunity for commercial development since small enterprises encounter many weaknesses and disadvantages when they begin their production process. For Salazar et al. (2020), for an enterprising woman, it is essential: the results obtained, the security received through advice, and the aid received through social capital. The hypothesis planted is verifiable, a business must have the capacity to generate income for its sustainability over time, and it can generate profitability for the partners (this is part of the financial self-efficacy proposed by Salazar et al., 2020). The correct identification of the market to undertake and the minimum knowledge in financial matters are essential when starting a venture, as well as the excellent administration of the resources generated from its activity or as obtained through private or public credit.

H5 = support from government programs, which conditions the sustainability of women's productive enterprises.

One of the barriers to the sustainability of the enterprises is due to the little importance that public policy has given to these processes, which also have different characteristics depending on the region and the community or country (Shinnar et al., 2012), even seen from a gender perspective (Bruni et al., 2017). That is why Queiroz et al. (2011) highlight the value that the entrepreneurial agent has under the characteristics of their environment since the actions of an entrepreneur impact not only their economy but also contribute to opportunities and improvement in local development, integrating all agents that make up the circle of entrepreneurship.

Carrying out a business, in most cases, requires a loan; therefore, responsible and sustainable financial inclusion must be perpetuated (Banco Muldial, 2014). From 2000, many underserved sectors began to

be included in the banking system, becoming the government agenda; the Alliance for Financial Inclusion was created (Roa, 2013), applying simplified banking processes, minimum costs, preferential interest, bond issuance, and subsidies in accounts (Allen et al., 2012; Franklin et al., 2016).

Worldwide studies show that women's ability to generate an enterprise is lower than men's due to the greater degree of responsibility within the home, lack of access to their own or financial resources, and gender disparity in the face of risk (Carranza et al., 2018). Despite this, there is an increase in women's empowerment thanks to social innovations, contributing to countries' progress and poverty reduction (Microfinanzas, 2021; Maguirre et al., 2016).

So far in Ecuador, according to the Ministry of Economic and Social Inclusion, the State promotes credit lines to generate incentives for effective programs that contribute to overcoming poverty levels, especially for beneficiaries of the Human Development Bond and pension beneficiaries. Furthermore, these mechanisms help companies diversify by gender, especially companies of women in extreme poverty (Ministerio de Inclusión económica y social). In addition, public policies have begun to consider incentives to develop technological innovations that focus on market studies and regulations that allow agreements and mutual benefits between the public and private sectors (Navas et al., 2019).

These types of policies are not enough in Ecuador, which, concerning the degree of entrepreneurship at a global level, is limited, as indicated by the report (Zambrano, 2017), and is due, on the one hand, to the scarce government policies and financial support, and, on the other hand, to the absence of a market of values that give movement to capital, the lack of entrepreneurial culture, and financial education (Lasio et al., 2020). As mentioned in Maldonado et al. (2016), economic growth made up of enterprises is the sum of several factors and contextualized actors in the national, social, political, and cultural environment; this corroborates the fact that the lack of favorable public policies, the economic empowerment of enterprises will remain incomplete (UN WOMEN, 2018). Therefore, the hypothesis supporting government programs are a factor determining the sustainability of women's productive enterprises is fully supported.

H6=The use of ICTs is a factor that determines the sustainability of women's productive enterprises.

Globalization, together with technological advances, has managed to shorten distances, reduce cultural gaps and also improve economies and businesses. In this way, entrepreneurs have easily accessed new digital tools to boost their businesses and reach new customers, who go from local to national and often even international. In this line, the arrival of ICTs (Information and Communication Technologies) has also allowed stores to become digital, and sellers bet on being producers, administrators, and advertisers of their brands. Currently, a store or an office can be simply a mobile phone, making it easy to serve customers from anywhere in the world. In addition, communication has become efficient, thanks to platforms such as Facebook, Twitter, WhatsApp, and even online sales pages. In this way, technology and entrepreneurship invite entrepreneurs to develop innovative and creative processes that allow them to improve, reduce prices and optimize their resources.

The digital gender gap is evident, and both in the formal workplace and in the start-up of entrepreneurial projects, women often face a series of obstacles to joining the business world based on their digital skills; for this reason, this document focuses on reviewing the particularities of the digital divide and its variables to counteract this situation of inequality and exclusion in the workplace.

In the perspective of a sustainable world, the need arises to use these technologies to solve problems such as poverty, exclusion, and economic and social development, among others (Ziemba, 2017). In this regard, Sustainable Development Goal 8, target 8.3 (UN, 2016), highlights that ICT management skills have become a prerequisite for almost all jobs; therefore, the ability to use technologies should be prioritized in youth employment and entrepreneurship strategies. Moreover, it is not simply that

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most jobs and businesses now require ICT skills but that these technologies are transforming the way business is done everywhere and creating new job opportunities.

Among the main limitations women face when starting an enterprise, the OECD points out cultural stigmas, low educational level, lack of work experience, little or no ability to handle information and communication technologies, and gender discrimination (García, 2019). In addition, they are usually an "extension" of your activities at home; are located in subsectors with low added value, and have little use of technology, either because they are not prepared to develop a business or because of a lack of resources and training for their access, use and management of technology.

In this sense, Cabrera (2005) refers to the technological component, specifically to ICTs, as a factor that generates exclusion that slows down the incorporation of people into a society based on their economic situation and their gender, emphasizing that there is an "inequality of gender that makes women access ICTs to a lesser extent and for different uses" (p. 14). In this regard, Arenas (2011) points out that not all citizens have access to new technologies or use them in conditions of equality and that in the future, individuals who are not qualified will be more likely to be marginalized, highlighting that the female gender is the most affected

New technologies facilitate the dissemination of information and innovation and could also boost personal contact networks, a fundamental factor in small businesses (SMEs) and, particularly, important for female entrepreneurs (Hill, 2001). this new reality starts from a new communicational logic, which also makes use of visual elements and links that extend the conventional visionof the world and reality (Reyes Reinoso et al., 2018). With all the above, there is no doubt that the use of information and communication technologies within companies, and in this case, in women's enterprises, is a determining factor for their sustainability.

5. Proposed model

The constructs measured in this model are part of the author's previous publications (Castillo et al., 2022), and a new construct is added to determine whether using ICTs is a determining factor for sustainable entrepreneurship.

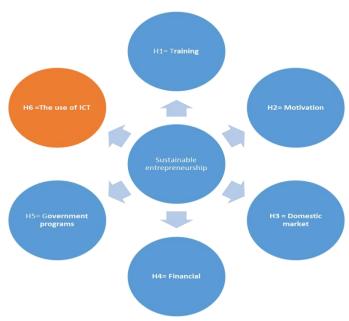


Figure 1. Proposed model.



6. Results and discussion

Demographic data analysis

The survey determined that 68% of the women entrepreneurs have high school and undergraduate education, and 77% are located in the age range of 26 to 55 years; the sector where they chiefly are the cities of Azogues and Cuenca; these provinces' capitals have the most significant number of inhabitants compared to other cantons of the provinces of Cañar and Azuay respectively.

The support networks are undoubtedly an indispensable element for the sustainability of the enterprises; 83% of the women surveyed said that the support of their family is a decisive factor in the development and maintenance of their enterprise.

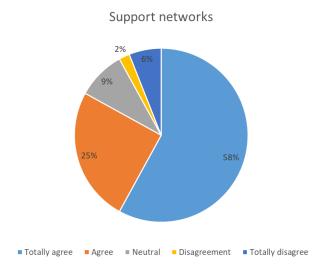


Figure 2. Support networks

Analysis of the model results with the PLS technique through the Smart PLS 3.3.3 software

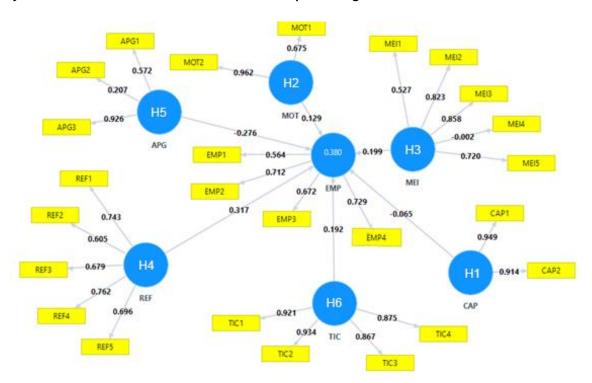


Figure 3. Results of the structural model in Smart Pls Source: The author.



The proposed model was subjected to analysis through two phases:

Validity and reliability of the measurement model This part analyzes whether the theoretical concepts are correctly measured through the observed variables and whether the measurement model of this research is reflective. Figure 3 illustrates the results of the structural model, and Table 9 summarizes this evaluation.

Table 1. Reliability of the measurement model.

Parameters	Values Obtained						
Individual reliability	All loads are NOT above 0.7, some indicators have lower values, so these						
of the item.	questions should be reviewed.						
	The Cronbach's alpha values for the AGP, CAP, REF, and TIC constructs						
Reliability of each	exceed 0.7, which gives validity to these constructs. However, some						
construct	values do not exceed the value of 0.7 but are close, as in the case of						
	EMP, MEI, and MOT; they can, as shown in Table 2.						
	In the composite reliability analysis, all the model constructs present						
	values higher than 0.6, thus confirming their internal consistency, as						
	shown in Table 3.						
convergent validity	The convergent validity of the constructs used was the average variance						
	extracted (AVE). The values of the AVE indicator exceed or reach the						
	minimum recommended value of 0.5. This criterion is met, as shown in						
	Table 4.						
	For the present model, for the constructs, the square root of AVE is						
discriminant validity	greater than the correlation between them. For this reason, it can be						
	concluded that the model meets the discriminant validity criterion and						
	that the latent variables are differentiated, as show in Table 5.						

Source: The authors

Table 2. Construct reliability

	<u> </u>		
	Cronbach's		
	Alpha		
AGP	0.729		
CHAP	0.851		
PMS	0.AGE		
MEI	0.677		
MOT	0.619		
REF	0.748		
TIC	0.923		

Source: The authors

Table 3. Composite reliability

	Composite Reliability
AGP	0.621
CHAP	0.930
PMS	0.AGE
MEI	0.754
MOT	0.812
REF	0.826
TIC	0.944

Source: The authors



Table 4. Convergent validity

	bird
AGP	0.500
CHAP	0.868
PMS	0.AGE
MEI	0.500
MOT	0.691
REF	0.500
TIC	0.500

Source: The authors

Table 5. Discriminant validity

	AGP	CHAP	PMS	MEI	MOT	REF	TIC
AGE	0.640						
CHAP	-0.156	0.932					
PMS	-0.291	0.267	0.672				
MEI	-0.141	0.517	0.429	0.665			
MOT	-0.100	0.701	0.279	0.442	0.831		
REF	0.008	0.205	0.444	0.411	0.157	0.699	
TIC	0.069	0.161	0.288	0.195	0.157	0.211	0.900

Source: The authors

After analyzing the measurement model, when all its parameters are fulfilled, it can be affirmed that the instrument is valid and that the theory is supported.

Assessment of the structural model is based on evaluating the weight and magnitude of the relationships between the different variables. Table 6 contains the data from this evaluation, including the R 2 index, the f 2 effect, the standardized path coefficients B, and the Bootstrapping analysis.

Table 6. valuation of the structural model.

Parameter	Values obtained from the model
R ² index	The R ² index determines the predictive power of the model for the latent
	dependent variables; these exhibit moderate and substantial values and are
	more significant than 0.1, which ratifies the predictive character of the
	model, as shown in Table 7.
f ² effect	Which measures the impact on a dependent construct of a latent variable,
	for the model values in the permissible range are presented, as shown in
	Table 8.
Coefficients path	The beta values for the model are shown in Table 9.
standardized B	
Bootstrapping Analysis	Bootstrap also calculates the standard error of the parameters and Student's
	t-values; in this area, indicators whose student's t-values are more
	remarkable than 1.96 are considered significant. Not all values are greater
	than 1.96, as shown in Table 9.

Source: The authors

Table 7. R^2 of the latent dependent variables.

	R Square			
EMP	0.380			

Source: The authors

Table 8. f^2 of the latent dependent variables

	AGP	CAP	EMP	MEI	MOT	REF
AGP			0.118			
CAP			0.003			
EMP						
MEI			0.039			
MOT			0.013			
REF			0.131			
TIC			0.055			

Source: The authors

Table 9 shows the relationships between the model's constructs through the standardized beta paths, the standard error, the student's t value, the significance level, and the acceptance or rejection of the hypothesis.

Table 9. Relationships between constructs

Hypothesis				Values	Significance	acceptance or
relationships		Standard		р	level	rejection
between constructs	В	error	t- student			
H1 : AGP -> EMP	-0.276	0.219	1,319	0.188	not significant	Refused
H2 : CAP -> EMP	-0.065	0.151	0.427	0.669	not significant	Refused
H 3 :MEI -> EMP	0.199	0.125	1971	0.002	**	Accepted
H 4 :MOT -> EMP	0.129	0.126	1,017	0.310	not significant	Refused
H 5: REF->EMP	0.317	0.101	3,150	0.002	**	Accepted
H 6: ICT -> EMP	0.192	0.094	2,042	0.042	*	Accepted

***p<0.001; ** p< 0.01; *p<0.05

Source: The author

From the relationship between constructs, it is determined that hypothesis three (H3) shows a moderately significant relationship between the internal market and entrepreneurship with a beta value of 0.199; hypothesis five (H5) also shows a moderately significant relationship between financial profitability and entrepreneurship with a beta value of 0.317; hypothesis six (H6) also shows a significant relationship between information and communication technologies and entrepreneurship with a beta value of 0.042. On the other hand, hypothesis one (H1) does not imply a significant relationship between government program support and entrepreneurship; hypothesis two (H2) does not imply a significant relationship between training and entrepreneurship; nor does hypothesis four (h4) show a relationship between Motivation and entrepreneurship.

Based on the proposed model and the correlation analysis between the constructs, it is evident that the type of entrepreneurship and the use of ICTs are the factors for the companies' sustainability. Among the most relevant data from the survey analysis, it is highlighted that 74% of the women surveyed consider that training is a fundamental factor in achieving success in entrepreneurship, and 36% of the women surveyed started their entrepreneurship motivated by necessity. These data are corroborated by the GEM reports where it can be seen that women, in a higher percentage, compared to men, start their entrepreneurship motivated by necessity, mainly by sources of employment in the public and private sector, corroborating in the same way the data from the National Survey of Employment, Unemployment, and Underemployment (Enemdu). which indicates that adequate employment in Ecuador stood at 33.1% in January 2022.

Regarding the domestic market, 85% of the women entrepreneurs consider the possibility of expanding their business to new markets; the women entrepreneurs surveyed consider that there is intense competition, so they try to be innovative in order to obtain a degree of differentiation. However, 53%

of the women surveyed indicated that they had not conducted a previous study to identify unsatisfied demand.

Concerning financial profitability, it can be seen that according to the experiences of the entrepreneurs, the interest rates of financial institutions are not optimal. They also indicate that the results generated by their enterprise do not cover the debts acquired in the financial institutions.

7. Conclusions

Based on the analysis of the proposed model, it was determined that the factors that contribute most to the sustainability of women's enterprises are: training, government support, and the use of ICTs, while to a lesser degree of contribution are: internal market, Motivation and financial profitability

In conclusion, it is determined that the use of information and communication technologies, training and government support are determining factors for the sustainability of the enterprises, in addition to the other constructs analyzed in this model. Therefore, it is necessary to reinforce the expertise of women entrepreneurs in using ICTs, so that it becomes a tool that allows them to expand their market and improve their sales and profitability in this study. In this sense, it is necessary to reinforce the expertise of the women who lead the enterprises in using ICTs, in such a way that it constitutes a tool that allows them to expand their market and improve their sales and profitability. Furthermore, in terms of government support, it is essential to have a public policy that promotes these entrepreneurship initiatives and assesses their impact to take corrective measures.

For future research, an analysis of the impact of information and communication technologies on women's entrepreneurship is recommended.

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