



Revista Científica y Tecnológica InGenio revista de la
Facultad de Ciencias de la Ingeniería

ISSN: 2697-3642

ingenio@uteq.edu.ec

Universidad Técnica Estatal de Quevedo
Ecuador

Vásquez-Luna, Luz-Elvira; Proaño Sánchez, Fernando;
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Revista Científica y Tecnológica InGenio revista de la Facultad
de Ciencias de la Ingeniería, vol. 6, no. 1, 2023, pp. 44-59
Universidad Técnica Estatal de Quevedo
Ecuador


DOI: <https://doi.org/10.18779/ingenio.v6i1.562>

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Digital Inaccessibility of Women Entrepreneurs in Marginal Communities of Guayaquil- Ecuador

(Inaccesibilidad digital de mujeres emprendedoras en comunidades marginales de Guayaquil-Ecuador)

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Abstract: Female entrepreneurship in marginal communities presents many obstacles to its growth, one of them is the digital divide due to lack of internet access and digital illiteracy. This study presents the testimony of a group of women entrepreneurs from a marginal community in Guayaquil - Ecuador, who start businesses to cover their basic needs. The methodology used was mixed, qualitative through the use of structured and in-depth interviews using the NVivo software, and quantitative through a survey applying logistic regression in SPSS. The findings of this study demonstrate the digital illiteracy of women entrepreneurs from marginal communities, who require technological training to avoid difficulties when surfing the net, even more so in the current times when, due to the pandemic, most businesses apply digital strategies to stay in the market.

Key words: Digital Illiteracy, Digital Divide, Marginal Communities, Female Entrepreneurship

Resumen: El emprendimiento femenino en comunidades marginales presenta muchos obstáculos para su crecimiento, uno de ellos es la brecha digital por la falta de acceso a internet y el analfabetismo digital. En este estudio se expone el testimonio de un grupo de mujeres emprendedoras de una comunidad marginal de Guayaquil en Ecuador, quienes emprenden negocios para cubrir sus necesidades básicas. La metodología utilizada fue de carácter mixta, cualitativa mediante el uso de entrevistas estructuradas y en profundidad utilizando el software NVivo y cuantitativa a través de una encuesta aplicando una regresión logística en SPSS. Los hallazgos de este estudio demuestran el analfabetismo digital de las mujeres emprendedoras de comunidades marginales, quienes requieren de capacitación tecnológica para evitar dificultades a la hora de navegar por la red más aún en los actuales momentos en que debido a la pandemia la mayoría de los negocios aplican estrategias digitales para mantenerse en el mercado.

Palabras Clave: Analfabetismo Digital, Brecha Digital, Comunidades Marginales, Emprendimiento Femenino

1. INTRODUCTION

The United Nations Sustainable Development Goals call for inclusive development and the empowerment of marginalized communities [1]. Goal five (SDG5) promotes gender equality and goal eight (SDG8) promotes decent work and economic growth to eradicate poverty. According to the study by [2] in the set of middle-income economies in which Ecuador is located, the average rate of early entrepreneurial activity (TEA) is 14.9%, and Ecuador has the highest rate of

entrepreneurship at 36.3%, however the scarcity of a job is the main motivation to undertake with 82.71% in addition this same study indicates that 46.5% of those who undertake are women whose objective is to train and progress to support their families [3]. Taking into account the SDGs 5 and 8 of the United Nations, investigating how the digital illiteracy of women entrepreneurs from marginal areas in developing countries limits their possibilities of generating resources is very interesting.

During the COVID-19 pandemic and due to the confinement, the internet became the essential element of communication for all the inhabitants of the world, to be able to keep in touch with the family, work activities, study among the most important, but in the case of families from marginal and rural communities there were many people who were left without access to their jobs and studies because they did not have this resource [4] thus exacerbating their poverty levels. According to a poverty study by the [5] in December 2021 it was recorded that 27.7% of Ecuadorians were submerged in poverty, mostly hitting households with more than six members (INEC) and according to another study conducted by the [6] by disaggregating poverty by sex, women represent 33% and men 31.4%.

Poverty among Ecuadorian women is a result of the gender gap, precisely because of the lack of authority and the delimitation that they have to make use of certain economic, social and cultural resources on an equal basis with men, especially in marginalized areas where women are responsible for most of the unpaid work in the home, such as the care of the house, your family, your children, the kitchen, among others [7], which deepens the discrimination of women when undertaking because they must overcome a series of difficulties due to their responsibilities at home, but also lack knowledge about digital technologies that allow them to increase their sales, being isolated from the benefits they could obtain [8]. However, they have demonstrated their intelligence and ability to overcome multiple difficulties [9]. In Guayaquil, for example, one of the most important cities in Ecuador for its dynamism in the economy, there are many women owners of their own businesses who combine their professional and family responsibilities despite the many obstacles and barriers imposed by society [10].

On the other hand, digital technologies known as those that use computer equipment, smart cell phones to navigate websites [11], [12] have grown exponentially, according to the United Nations in just two decades technological development has reached 50% of the population of the developing world and is considered an opportunity to reduce gender gaps, however, many women are not connected and are isolated from the benefits that this field offers them, accentuating the digital divide between the sexes and further delaying female entrepreneurship in developing countries [8]. According to the multipurpose survey of [13], digital illiteracy in Ecuador is around 11.4% of its inhabitants, who are between 15 and 49 years of age, that is, who do not have a mobile phone with an Internet connection, have not used a computer and have not had access to the Internet during the last year and it is recorded that the female group has less access compared to the male group [13].

According to the theory of human capital, the more knowledge, skills and abilities an individual acquires, the greater their chances to achieve better performance, in the case of women entrepreneurship is an alternative for the development of the family economy, but facing the complexities of an enterprise with the challenge of acquiring knowledge about technologies, represents a serious obstacle to the development of their businesses, especially in marginal communities with very low family incomes, undertaking under such a situation confronts them with an accumulation of problems that women must deal with on a daily basis to get ahead [8].

Academics have recognized the potential benefit of digital technology and that its access implies the creation of value [14]. Orser et al., pointed out the importance of incorporating ICTs in education and training for entrepreneurship focused on women in order to expand their opportunities in the labor field, increase their accessibility to business training and therefore their

economic empowerment to improve their living conditions, hence the training of ICTs in women would allow progress in the Sustainable Development Goals 2030 to create value in marginalized sectors and groups [15].

2. METHODS

A mixed methodology (qualitative and quantitative) was used because it allows a better understanding of research problems than either approach alone; quantitative research discovers problems, how they are related and quantifies them, while qualitative research delves into their causes, their functioning and enriches possible changes that may occur; combining these approaches broadens the research and further understands the phenomenon of study [16]. Face-to-face interviews were conducted to eliminate barriers that could arise due to the poverty in which they live, with open questions we tried to establish better communication to expand the understanding of the subject, listen to their reflections and incorporate details that the surveys do not reflect, which was very enriching.

Table 1. Characteristics of the study participants.

Woman Entrepreneur	Level of study	Activity	Age	Marital status	Number of children	Area where they live
Case 1	Academic	Sewing and fashion	29	single	2	north zone
Case 2	Secondary	Design and Advertising	17	single	3	south zone
Case 3	Primary	Sale of various merchandise.	25	single	4	south zone
Case 4	Secondary	Pastry	30	single	4	south zone
Case 5	Academic	Sale of cleaning products	44	married	6	south zone
Case 6	Secondary	Pastry	55	married	5	north zone
Case 7	Primary	Beauty salon	21	single	2	north zone

For qualitative research, the structured and semi-structured interview was used [17]. First, an in-depth interview was conducted with the leader of the Afro-Ecuadorian Progressive Women's Group, which allowed us to understand in a global way the objectives and goals of the Group, as well as the impact and importance of technology in the development of its ventures. Secondly, a discussion group or focus group was generated with the members of the association in order to know the importance for them of the use of certain tools, techniques such as data collection in person were used through in-depth interviews with open questions, focused on 7 cases of women entrepreneurs of the group in order to deepen their thoughts and know the use of certain technological tools as an instrument to expand their business and expand their network of contacts is important for them (see Table 1). The leader of the women's group delegated 7 zone leaders to

us, as the group has 7 points located in Guayaquil where they carry out their activities. Isla Trinitaria, where the main building is located, being a conflictive and dangerous area due to the existing criminal gangs, is not easy to access for an investigation, so the ease with which the leader gave us direct access to the seven women entrepreneurs was a great help. The instrument used for the in-depth interview can be found in Appendix A.

All the interviews were recorded for analysis and subsequent transcription in the NVivo software, then proceeded to the transcription of the audios to text of each of the interviewees to a Word file, each document was uploaded to the NVivo software, it was verified that the information to avoid subsequent errors, the cases of the interviewed groups were created so that the information collected is coded according to their answers, highlighting the most important points of the interview, the codes were grouped with the same NVivo program, the mother categories were created and the child categories were moved to the mother categories to generate the corresponding reports and the case studies were created in order to monitor the processes and carry out the analysis through graphs.

The structured survey that was applied for the quantitative methodology, aimed to analyze if there was a relationship between the economic performance of their businesses with any factor related to the knowledge and use of ICT, through the binary logistic regression method (Appendix A). The performance of the businesses of women entrepreneurs was considered as a dependent variable with two dimensions: monthly sales and whether the profits are enough to cover household expenses and as independent variables were considered dichotomous variables that indicate some knowledge or use of technology. The structured survey was applied to the 81 women members of the Association to analyze if there was a relationship between the economic performance of their businesses with any factor related to the knowledge and use of ICT.

The binary logistic regression method was selected, which is applied when the dependent variable is qualitative and dichotomous binary, as well as when the independent variables are qualitative or quantitative. As the objective of this study is not to predict but to find a causal relationship between the dependent variable and the independent ones this type of regression was selected, all the women answered the survey therefore the sample is representative. The instrument used for the in-depth interview can be found in Appendix B.

The people who participated in the investigation were 81 women who belong to the Afro-Ecuadorian Progressive Women's Group from the Nigeria neighborhood of Isla Trinitaria in the city of Guayaquil-Ecuador. This neighborhood is located to the south of the city, next to the salty estuary, in a sector that is clearly impoverished and marginalized as it is the place of settlement of Afro-Ecuadorians living in Guayaquil, who have historical problems of irregular land settlements. Afro-Ecuadorian Progressive Women's Group is a women's organization that, with more than 21 years of experience, seeks to improve life opportunities for themselves and their families through self-education and the creation of community savings and credit accounts whose. The objective is to support low-income women entrepreneurs who are exposed to some obstacles to their growth, such as racial discrimination, gender inequality, lack of financing and family support, to this is added the lack of technological knowledge, which it is an important factor for the development of their enterprises [19].

This population was selected due to the promotion that the leader of the group, Sonnia España [20], disseminates in the media, , and as a group of women entrepreneurs very well organized in impoverished sectors, is unique in Guayaquil. The total sample corresponds to that of Progressive Women from the Nigeria neighborhood of Isla Trinitaria in the city of Guayaquil-Ecuador, made up of 81 women, of which 48.1% (39) are of Ecuadorian nationality and 51.9% (42) of Venezuelan nationality, who were previously provided with a brief 45-minute training on digital marketing. For ethical reasons, the names of the participants are not disclosed.

3. RESULTS

3.1. Qualitative Results

To analyze the interviews, the NVivo program was used as a tool for exploration and analysis of information [18]. A classification of primary and secondary categories extracted from the interviews with women entrepreneurs was carried out, to better understand their discourses and draw conclusions (see Table 2).

Table 2. Categories obtained from interviews.

Primary categories	Secondary categories
<ul style="list-style-type: none"> Barriers in the digital environment. Digital divide in women entrepreneurs. Causes that cause the digital divide. Desires to expand your business. Motivation. Reduce the digital divide. 	<ul style="list-style-type: none"> Educate yourself for the proper use of technology. Lack of knowledge of new technological tools. Difficulty browsing the web. Absence of technological content. Increase the number of customers. Customer access channels.

Table 3. Hierarchical code map.

Desire to expand their business		Digital divide in women entrepreneurs		Motivation	Entrepreneurial skills	
Promote your products on social networks	Increase the number of customers	Lack of knowledge of new technological tools	Conflicts that arise in the use of technology	Example of advertising from other businesses	Content marketing	Be more competitive
	Customer access channels	Makes it difficult to navigate on the web		Advice offered by entrepreneurs	Have business knowledge	Manage business finance
The importance of technology for entrepreneurship		Reduce the Digital Divide		Barriers in the digital environment	Causes that cause the digital divide	
Sharing information through social networks	Implementing technology in your business	Receive free technology training		Educating for the proper use of technology	Absence of technological content	
	Sell on the internet				The risks of ICTs	
						Access to inappropriate content

In addition, a comparative map of the categories and subcategories generated by NVivo was made (see Table 3) where the desire to expand their businesses, the importance of technology and the desire to reduce the digital divide through training, among others, stand out.

Primary Categories

Barriers in the digital environment: The main barriers faced by women entrepreneurs in the digital environment is the lack of technological training, in which they emphasize that not being educated in these technological issues represents an obstacle to their entrepreneurship, so they pointed out it is important that the entrepreneur is instructed so that she has the ability to take advantage of technological resources and thus generate good digital advertising and achieve the success in their business.

Digital divide in women entrepreneurs: It was found that women entrepreneurs have a large digital divide that has a negative impact on the development of their entrepreneurship. In general, it highlights the ignorance of new technological tools in the face of the conflicts that arise in the use of technology and the difficulty of navigating the web, since they find this digital system complicated and at the same time difficult to use.

Causes that cause the digital divide: One of the causes that causes the digital divide is the lack of access to technological information, so they lose the opportunity to properly merge technology and business. They pointed out that the lack of information affects them to a great extent, since they do not have the necessary knowledge to take advantage of these resources and would cause them conflicts when they want to implement the technology.

Desire to expand their business: Women entrepreneurs indicated that they want to expand their businesses, since one of the characteristics that a woman entrepreneur maintains is the illusion of reaching many people, promoting their brand and achieving business success in order to achieve the stability of their customers and provide a quality service.

Motivation: What drives them to be entrepreneurs, among the topics analyzed are the advice of entrepreneurs and examples of advertising from other businesses. For entrepreneurs it is very important to know how other entrepreneurs have achieved success in their businesses, since they take them guidance.

Reduce the Digital Divide: They express their interest in copying the new trends in technology, to carry out the same e-commerce actions that other entrepreneurs implement.

Secondary Categories

Educate themselves for the proper use of technology: For them, a good training in technology is very necessary, since today technology is widely used to boost business, in which they can increase the number of customers with the passing of the days. In addition to creating good advertising so that your products have a better reception and thus improve your economy.

Lack of knowledge of new technological tools: Regarding the subcategory lack of knowledge of new technological tools, several interviewees indicated that if they do not know how to use these technologies, how do they communicate their business? How do they make themselves known? This is a disadvantage for female entrepreneurs. When a useful tool or application comes out, which you have to take advantage of, it is very important that you know how to merge it with your business.

Difficulty navigating the web: In this topic they state that what they find more difficult on the internet, is to navigate in the different pages How to upload a publication?, if they do not know How can they sell on the internet? ... or when a new tool comes out, and they don't know how it

works, what is it for? How can these tools contribute either personally or by applying it to your business?

Absence of technological content: This subcategory arises from the need of entrepreneurs to acquire technological content, since it is essential that they provide talks, tutorials, explanatory videos, didactic material that serves a lot.

Increase the number of customers: One of the ways to promote your products is through social networks, in addition to personal use they also use it for the topic of businesses and ventures that are just beginning to gain strength in social networks. Some of the interviewees indicated that they use the social network Instagram to publicize their ventures, since many people use it and are familiar with this social network.

Customer access channels: As for this subcategory, many of them affirm that it is essential for their businesses to grow, and that their customers can reach them in a simpler way, so that they have easy access, it is important to offer them comfort and thus maintain solid communication and retain customers.

Advice provided by entrepreneurs: They indicate their desires to attend virtual talks they also have the option of following other business pages which sometimes make live workshops, conferences, simply connect to the live and can attend the class, solve at that time the doubts that arise. In addition to taking the opportunity to attend a conference with professionals, why not do it if it is for the good of your business, so you can have new ideas to apply in your business.

Examples of advertising from other businesses: Another of their motivations is to see the web pages of other entrepreneurs to follow these businesses and see how they are managed, what their strategies are, how they advertise these pages, this catches their attention, since this way they attract more customers and make themselves known.

Receive free training in technology: Because they do not have money to pay for training courses in digital marketing, they request that the trainings they receive be free. They express their desire to educate themselves, but because of the little they earn from their ventures, they cannot afford a paid course.

3.2 Quantitative results

In view of the fact that the 81 women surveyed do not have records that demonstrate their sales or financial gains, it was defined as a dependent variable whether or not the venture allows to cover household expenses to better understand the benefits obtained in their businesses. As independent variables, the dichotomous variables that indicate some knowledge or use of technology were considered, however, of this group of variables, those that presented responses with frequencies were not considered (see Table 4).

The use of WhatsApp has 100%, therefore, it really stops being a variable to be a constant. Other variables such as the use of email, if you have a mobile phone, the use of social networks, use of tablets and possession of printers, were not considered because they do not have these resources.

In order to determine the level of precision of the applied model, the Hosmer and Lemeshow test was performed, that shows the p-value of 0,24 which according to the theory being greater than 0.05, indicates that the statistical model fits well, which means that the expected values with the model are similar to those observed (see Table 5).

Table 4. Categorical independent variable encodings.

		Frequency	Parameter coding
• Do you use Word, Excel, Power Point?	Yes	36	1,000
	No	39	,000
• Do you use the Internet on a daily basis?	Yes	70	1,000
	No	5	,000
• Do you have a phone with internet?	Yes	52	1,000
	No	23	,000
• Do you have a computer at home?	Yes	22	1,000
	No	53	,000
• Do you have paid +Internet at home?	Yes	54	1,000
	No	21	,000
• Do you use the Municipality's Internet in your work area?	Yes	10	1,000
	No	65	,000
• Do you use USB devices (Flash drive)	Yes	31	1,000
	No	44	,000
• Do you do video conference? (For example, with Zoom)	Yes	48	1,000
	No	27	,000
• Do you know about Commerce through the Internet?	Yes	41	1,000
	No	34	,000

Table 5. Hosmer and Lemeshow test

Hosmer and Lemeshow test						
Step	Chi-Square	Gl	Sig.			
1	9,173	7	,240			
Contingency table for the Hosmer and Lemeshow test.						
		Entrepreneurship is enough to cover Family Expenses=No		Entrepreneurship is enough to cover Family Expenses =Yes		
		Observed	Expected	Observed	Expected	Total
Step	1	7	7,779	1	,203	8
	2	6	7,079	2	,921	8
	3	6	5,877	2	2,123	8
	4	7	6,032	2	2,968	9
	5	7	4,899	1	3,101	8
	6	5	4,550	3	3,450	8
	7	3	3,537	5	4,463	8
	8	2	1,930	5	5,070	7
	9	0	1,299	11	9,701	11

Another test called global percentage is applied which shows that the model is correct in 78.7% of cases (see Table 6). The theory indicates that a value greater than 50% fits the model well.

Table 6: Testing the overall percentage of binary logistic regression.

		Predicted			
		Entrepreneurship is enough to cover Family Expenses			
	Observed		No	Yes	Correct percentage
Step 1	Entrepreneurship is enough to cover Family Expenses	No	38	5	88,4
		Yes	11	21	66,5
	Overall Percentage				78,7

a. The cut value is ,500

The table 7 presents the level of relationship that exists between the selected independent variables (9) and the variable dependent on whether the profits of the business cover their household expenses. It can be observed that the level of significance of the relationship between the variables, there are two independent variables that meet this criterion and that are: question 15 Do you know about commerce through the Internet?, and question 28 Do you have paid Internet at home? In question 15 it can be seen that the level of significance is 0.025 and question 28 is 0.053. In question 15 the significance level is less than 0.05 and question 28 coincides with 0.05.

Table 7. Regression coefficients and their statistical significance

	B	Standard Error	Wald	Gl	Sig.	Expo
15.Do you know about Internet Commerce?(1)	-1.438	0.643	5.003	1	0.025	0.237
22. Do you use the internet(1)	1.078	1.316	0.671	1	0.413	2.938
25. Do you have a telephone with Internet?(1)	0.633	0.600	1.110	1	0.292	1.882
Do you have a computer at home?(1)	-0.375	0.646	0.337	1	0.561	0.687
28. Do you have paid Internet at home?(1)	1.501	0.775	3.756	1	0.053	4.488
29.Do you use the Internet in your Municipality in your work area?(1)	-0.578	0.832	0.482	1	0.487	0.561
32.Do you do video (For example, with Zoom?(1)	0.475	0.576	0.680	1	0.410	1.608
33. You use devices USB(Pendrive)(1)	0.347	0.569	0.372	1	0.542	1.414
35. Do you use Word, Excel. Power Point? (1)	0.756	0.591	1.638	1	0.201	2.131
Constant	-2.717	1.387	3.838	1	0.050	0.066

Being less than 0.05, the independent variable of question 15 contributes significantly to the dependent variable at a level of 95%. On the other hand, the independent variable of question 28 being between 0.05 and 0.10 contributes significantly to the dependent variable at a level of 90%. The coefficient of regression and statistical significance was also applied (see Table 7).

In the table it can be seen that the rest of the questions other than 15 and 28 have a level of significance higher than 0.05 so their independent variables are not considered significant for the dependent variable. It can be deduced from question 28 that investing a monthly payment on the internet at home has a positive impact on the performance of their ventures, measured based on whether the profits reach them to cover their expenses at home. As for question 15 on internet commerce and performance, the beta regression coefficient (B) is -1.438, once the reverse transformation is carried out it can be concluded that there is a 0.237 possibility of generating profits or benefits in the business to know of electronic commerce. All results can be taken into account with caution since the sample size (81) is relatively small for the number of independent variables.

4. DISCUSSION

This study confirms what [10] pointed out that the gender difference limits the use of women's economic resources and deepens discrimination against women when it comes to entrepreneurship, especially in marginal communities with very low family incomes, where women must overcome a series of obstacles and difficulties including their responsibilities in the home in charge of their family, their children, food among others.

Access to digital technology involves the creation of value [14], however the role imposed by society on women, limits the time they can devote to their business and to obtain knowledge about digital technologies, which prevents them from improving their sales volume and the growth of their businesses, being isolated from the benefits that this knowledge entails [8], and undertaking under these schemes represents for women an accumulation of problems with which they must deal daily to get ahead, however, there are many women entrepreneurs who manage to get ahead [10].

The study revealed similarities in the analyzed cases of the women entrepreneurs of the Afro-Ecuadorian Association Progressive Women of Trinitaria Island in the city of Guayaquil, given that most of the women interviewed were not familiar with the digital system.

As for the main motivations for women to become entrepreneurs in the context of poverty in Guayaquil, it was found that most of them are motivated by the advice they can receive from other entrepreneurs, since, as the interviewees themselves reported, they consider it very important to know the practices they must follow to establish themselves as entrepreneurs and how to create a good marketing plan. While in the rest of the cases they are motivated to see how other businesses advertise their products through digital media to be more competitive.

In the same way, it was possible to determine that for them technology is very important in their businesses, since they consider that by using it they will have the possibility of sharing information and promoting their products on social networks, given that currently most people are familiar with these technological tools, it is easier for them to know and be interested in their brand and get to sell on the internet in order to have economic independence.

It is important to note that a group of women said that it is only handled with the free internet offered by the municipality of Guayaquil in their jobs. Although at the level of the middle and upper class in Guayaquil it could be considered common, however, in marginalized sectors such as in the Nigeria neighborhood of Isla Trinitaria where the study was carried out, it does represent a very representative investment of their family budgets. What could be argued is that there is a

strong relationship between such investment in the internet and the good performance of their ventures.

This research addresses a topic that has not been previously studied in the marginal sectors of the city of Guayaquil, so it is expected to complement with more quantitative studies in the future for a better understanding of the reality of women who undertake in these conditions, these results can be taken as a reference for future research, but without providing conclusive results.

5. CONCLUSIONS

It is important to note that women entrepreneurs present difficulties when undertaking such as lack of access to credit, abandonment by their partners, living in marginal areas, in addition to racial discrimination for being Afro-Ecuadorian women, to this is added the lack of technological knowledge.

The results of the interview highlighted that one of the barriers to access to the use of digital marketing presented by women entrepreneurs is the lack of technological training to which they are exposed, since by not being educated about these new technologies they will not be able to make adequate use of ICT and would be losing the opportunity to take advantage of these technological resources. In addition, the lack of knowledge of new technological tools brings with it conflicts in the use of these and affects them to a large extent, since they have difficulties navigating the web, which translates into the interruption of the progress of their venture.

For them, the issue of technology is closely related to their desire to expand their businesses, because its use will allow them to increase the number of their customers, in addition to providing them with access channels to have better communication to address them and vice versa.

It is essential that they have the opportunity to receive free technological training, since their income is insufficient to enroll in specialized courses offered by different institutions in exchange for economic value.

REFERENCES

- [1] Organización de las Naciones Unidas, “Informe de los Objetivos de Desarrollo Sostenible 2019,” 2019.
- [2] V. Lasio, A. Amaya, J. Zambrano, and X. Ordeñana, “Global Entrepreneurship Monitor Ecuador 2019/2020,” *ESPAE: Guayaquil, Ecuador*, 2020.
- [3] S. Delgado-Estrada, R. Carrasco-Reyes, J. Chabusa-Vargas, and C. Mackay-Castro, “Emprendimiento femenino por necesidad en Ecuador,” *Rev. Venez. Gerenc.*, vol. 25, no. 91, pp. 1221–1233, 2020.
- [4] A. T. Torres, Á. F. B. Álava, and R. P. Moncayo, “La afectación de los emprendedores en época de pandemia,” *Rev. Publicando*, vol. 8, no. 32, pp. 51–60, 2021.
- [5] Instituto Nacional de Estadísticas y Censos de Ecuador, “Encuesta Nacional de Empleo, Desempleo y Subempleo 2021,” 2021.
- [6] Banco Central del Ecuador, “Reporte de pobreza, ingreso y desigualdad. Resultados a junio de 2021,” 2021.
- [7] Consejo Nacional para la Igualdad de Género, “Lineamientos del Consejo Nacional para la Igualdad de Género frente a la crisis sanitaria, para su implementación en las instituciones del,” 2020.

- [8] M. Karyotaki, L. Bakola, A. Drigas, and C. Skianis, "Women's Leadership via Digital Technology and Entrepreneurship in business and society," *Tech. Soc. Sci. J.*, vol. 28, p. 246, 2022.
- [9] H. P. Segarra, J. L. Chabusa, C. M. Legarda, and E. I. Espinoza, "Perfil de la Mujer Emprendedora en Latinoamérica: un marco referencial para Ecuador," *Rev. Espac. ISSN*, vol. 798, p. 1015, 2020.
- [10] R. G. Aquino Reyes and A. J. Castaño Vargas, "El emprendimiento femenino y su incidencia en la zona urbana de la ciudad de Guayaquil," Universidad de Guayaquil Facultad de Ciencias Administración, 2019.
- [11] S. Nambisan, M. Wright, and M. Feldman, "The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes," *Res. Policy*, vol. 48, no. 8, p. 103773, 2019.
- [12] F. von Briel, P. Davidsson, and J. Recker, "Digital technologies as external enablers of new venture creation in the IT hardware sector," *Entrep. Theory Pract.*, vol. 42, no. 1, pp. 47–69, 2018.
- [13] Instituto Nacional de Estadísticas y Censo INEC, "Encuesta multipropósito - TIC 2019," 2019.
- [14] J. Zeng and Z. Khan, "Value creation through big data in emerging economies: The role of resource orchestration and entrepreneurial orientation," *Manag. Decis.*, 2018.
- [15] B. Orser, A. Riding, and Y. Li, "Technology adoption and gender-inclusive entrepreneurship education and training," *Int. J. Gend. Entrep.*, 2019.
- [16] C. Teddlie and A. Tashakkori, "Overview of contemporary issues in mixed methods research," *Sage Handb. Mix. methods Soc. Behav. Res.*, vol. 2, pp. 1–44, 2010.
- [17] S. Tracy, "Calidad cualitativa: ocho pilares para una investigación cualitativa de calidad," *Márgenes Rev. Educ. la Univ. Málaga*, vol. 2, no. 2, pp. 173–201, 2021.
- [18] B. Palacios Vicario, A. Gutiérrez García, M. C. Sánchez Gómez, and others, "NVIVO una herramienta de utilidad en el mundo de la comunicación," 2013.
- [19] M. Progresistas, "Quienes somos – Mujeres Progresistas," 2021. [Online]. Available: <https://mujeresprogresistas.com/quienes-somos/>.
- [20] U. S. E. Ecuador, "Empoderamiento femenino y tenacidad," 2020. [Online]. Available: <https://www.facebook.com/USEmbassyEC/videos/141825500770028/>.

APPENDIX

A. SURVEY

1. What is your First and Last Name?

2. What is your Gender?

Male ☐ Female ☐ Other ☐

3. Level of studies?

No studies ☐ Secondary education ☐

Primary education ☐ University Studies ☐

4. What is your Entrepreneurship?

5. How many people make up your Entrepreneurship?

6. How much money do you make in a sales day with your Entrepreneurship?

7. What you earn from your Entrepreneurship is enough to cover family expenses?

Yes and no more ☐ Yes and money left over for other things

No ☐

8. Do you help with Extra Income in your home? (For example, the salary of your Spouse, or the salary of a son)

Yes ☐ No ☐

9. What is your age?

10. Where do you live? (Do not specify your address, only the Area where you live)

11. Where do you have your entrepreneurship?

12. Do you have your business at home?

Yes

☐

No

☐

13. What is your nationality?

14. How do you find out about news, advertisements, or business opportunities?

TV

☐

Radio

☐

Internet

☐

15. Do you know about trading through the internet?

Yes

☐

No

☐

16. Do you have email?

Yes

☐

No

☐

17. Do you use email?

Yes

☐

No

☐

18. Since when have you used Email?

19. Do you have a mobile phone?

Yes

☐

No

☐

20. For what purpose do you mostly use the phone?

Leisure

☐

Work

☐

21. Do you know or know how to use the Internet?

Yes

☐

No

☐

22. Do you use the internet every day?

Yes

☐

No

☐

23. How often do you use the internet?

Between 1 and 4 hours

☐

Between 5 to 8 hours

☐

Between 10 and 12 hours

☐

All day

☐

24. For what purposes do you usually use the Internet?

To use email

☐

Chat

☐

Use social networks (Facebook, Twitter, Instagram)

☐

Watch video or photos

☐

Videoconferencing via Skype

☐

Download music

☐

25. Do you have a phone with internet?

Yes ☐ No ☐

26. Do you have a computer at home?

Yes ☐ No ☐

27. If you have a computer at home, who taught you how to use it?

28. Do you have paid Internet at home?

Yes ☐ No ☐

29. Do you use the municipality's internet in your work area?

Yes ☐ No ☐

30. Do you use the municipality's internet at home?

Yes ☐ No ☐

31. Do you have a personal account on the social network? (Facebook, Instagram, Twitter)

Yes ☐ No ☐

32. Do you do video conferencing? (For example, with Zoom)

Yes ☐ No ☐

33. Do you use USB devices (pen drive)?

Yes ☐ No ☐

34. Do you use tablets?

Yes ☐ No ☐

35. You use Word, Excel, PowerPoint?

Yes ☐ No ☐

36. Do you use WhatsApp?

Yes ☐ No ☐

37. Do you have a printer?

Yes ☐ No ☐

38. Please write down your phone number (it is to contact you later to know the benefits of the training we will give you):

B. INTERVIEW

1. Have you previously received Technology trainings?
2. If yes, on what issues specifically?
3. If that is affirmative, who trained them?

4. How valuable have you found the technology training provided by us?
5. Do you dare to use Instagram from now on?
6. Are they afraid or doubtful of its use?
7. What other technology tools would you like to learn?
8. Would you like us to contact you 3-4 months later to ask how you did with the use of Instagram?
9. What do you find most difficult to understand about the Internet?
10. What proposals would you give so that they could access the Internet more easily?
11. Which pages do you visit most frequently on the Internet?
12. Why do you visit those pages and not others?
13. What do you like about the page you visit the most?
14. When you get some important information do you share it with your friends or family?