

Article

Women Entrepreneurship and Sustainable Business Development: Key Findings from a SWOT–AHP Analysis

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Abstract: This study highlights the perception of women entrepreneurs in Romania regarding specific drivers for a sustainable business model. This study uses a SWOT–AHP method to assess the importance of different factors that enforce or create barriers for the success in women entrepreneurial activities. SWOT analysis was conducted based on an extended literature review. An external expert in risk analysis assessed the importance of the SWOT analysis’ four dimensions—criteria. An AHP survey of 10 women entrepreneurs was conducted to evaluate the impact of each identified factor in sustaining or discouraging the success of their sustainable business model (SBM). The main results of the study present practical implications useful for designing a gender-balanced business environment. In the final part, the paper discusses women’s preference for the sustainable business model, the perceived importance of gender-related stereotypes for the development of sustainable business models, and the relevance of the new digital economy trend to Romanian women entrepreneurship.

Keywords: women entrepreneurship; sustainable business model; multicriteria decision making (MCDM); analytical hierarchy process (AHP); SWOT analysis; digital economy



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1. Introduction

Women entrepreneurs are seen as the new promoters of growth and development, playing a crucial role in emerging countries. Current research [1–3] highlights the vital role women play in the business environment and draws attention to the “unexploited source” of innovation, expansion, and growth that women entrepreneurs foster. Furthermore, results show that higher GDP per capita is associated with a lower gender gap in entrepreneurial activity, drawing attention to the substantial impact that women entrepreneurship has on welfare. Yet, the number of female businesses is significantly lower in the total share of entrepreneurial activity. As such, building up women entrepreneurial behavior is becoming a major topic of programs and policies in developing countries, with both researchers and authorities looking for practical solutions to boost gender equality in entrepreneurial behavior.

According to Ascher [4], strengthening female businesses is contingent on policy measures adopted at the national level, with the best results obtained by targeting innovation and creativity. Moreover, the high level of education, good internet connectivity, and also women’s motivation to become independent and creative can lead to the development of more and more successful businesses.

Nevertheless, despite this increasing number of existing initiatives and resources designed to promote and expand women entrepreneurship in developing countries, women

own and lead a smaller number of businesses than men, earning less from their businesses, which develop slower and are more prone to fail, and women are likely to be more need-oriented entrepreneurs.

This paper connects two scarcely investigated streams of research: the need for building up female entrepreneurship is explored in the context of sustainable business creation. Though a lot of interest is separately observed for both these themes, there is still a large research gap in the literature that deals with the interconnections between gender and sustainable business creation. The paper is focused on identifying a ranking of relevant criteria (internal and external factors) that enable women to engage in sustainable business practices. The research strategy has two steps: the first step is about grouping internal and external factors into a SWOT matrix that underlines current literature in the field; the second step is of an empirical nature—the theoretical findings are scrutinized within a focus group and further assessed via questionnaires that finally enable a multicriteria analysis in the form of analytical hierarchical process (AHP). Three hypotheses are being tested with the aim of identifying the main factors that enable women to develop a sustainable approach to entrepreneurship.

Our paper contributes to the relevant literature in two directions: first, it aims to fill a research gap by connecting two subjects of major importance for the field of entrepreneurship that are rarely researched in conjunction, and second, it documents an empirical case-study on a European emerging economy that addresses an important topic for the European Union Agenda 2030—sustainable development.

The paper is structured as follows: the literature review section identifies similar research in the field and presents the hypothesis of the research; the method section describes the research approach and methods used; the results are presented in results section and discussed in the discussion section; then, some conclusions and limitations follow based on the results obtained.

2. Background

Worldwide, it is estimated that over 252 million women have set up or run a business [5]; however, the share of women entrepreneurs worldwide varies considerably, but is constantly below the share of male entrepreneurs. Latin America & Caribbean, where women represent 50% of entrepreneurs (Figure 1), is the example of the closest parity situation in the general offer of male and female entrepreneurs. Meanwhile, across Europe, there is a significant gap between female and male entrepreneurs, even though women make up about 51% of Europe's total population, making up only 39.4% of the self-employed and 30% of startup entrepreneurs.

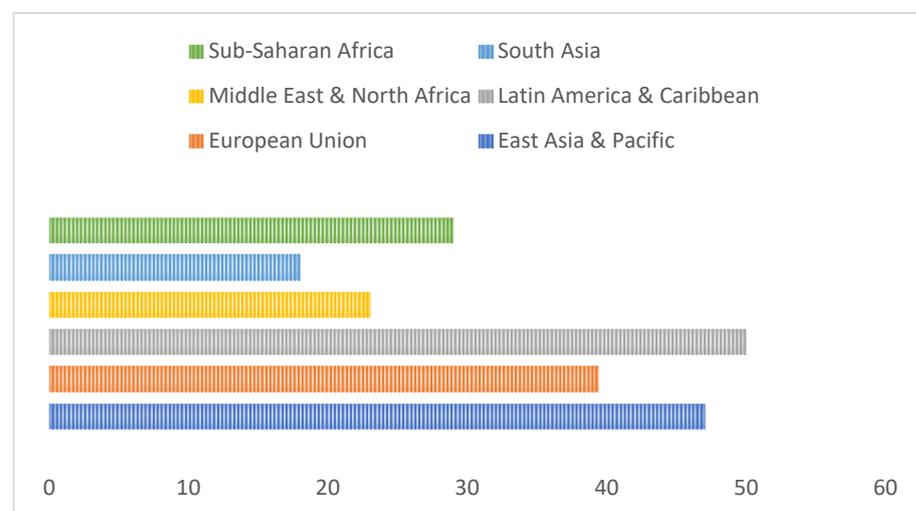


Figure 1. Share of small, medium, and large firms with a woman among the principal owners in 2020. (Source: authors' own projection based on World Bank data [6]).

At the European level, recent statistics show that women are under-represented in key leadership positions: only 37% of managers, 28% of the members of boards of listed companies, and less than a fifth of the personnel that occupy senior-executive positions are women. As such, by 2020, the average Gender Diversity Index (GDI) of European companies of 0.56 (where 1 represents equal participation in the decision-making process) points to the great room for improvement for gender-balanced leadership.

For Romania, the descriptors of women entrepreneurship fundamentals are close to the average metrics of the European Union. The percentage of women shareholders in total entrepreneurs (Figure 2) shows values of under 40%, very close to the European average. Looking more thoroughly, at the national level, statistical data on women representation are collected in rather general terms without emphasizing leadership positions. Moreover, the GDI does not cover Romanian data in its computation. Both approaches depict the same reality: lack of interest in assessing women's role in business development and decision-making.

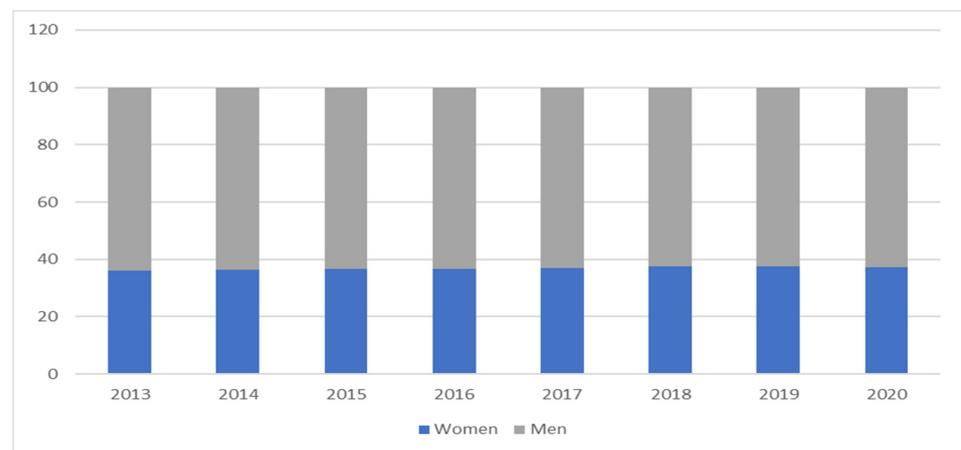


Figure 2. Percentage of women vs. men shareholders in Romania. (Source: authors' own projection based on ONRC data [7]).

Available statistics show that, the trend registered by women entrepreneurs in Romania is a positive one; in just seven years, their number increased by approximately 150 thousand (Figure 3). In addition, Romanian women entrepreneurs were much more susceptible to ideas of innovation and involvement in creating and managing new sustainable businesses compared to the European Union average (5.0%) in 2013–2017 [6].

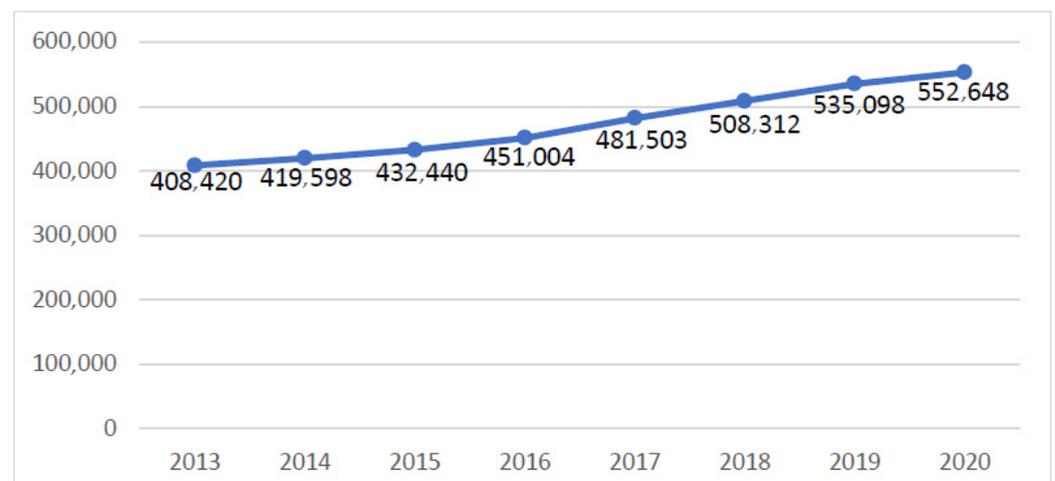


Figure 3. Number of women shareholders in Romania. (Source: authors' own projection based on ONRC data [7]).

Regarding Romanian women entrepreneurs by sector, it seems that the best representation of their business is in other activities, other service activities, and professional, scientific, and technical activities. The overall average of 29% women entrepreneurs is below the European average of 31% (Figure 4).

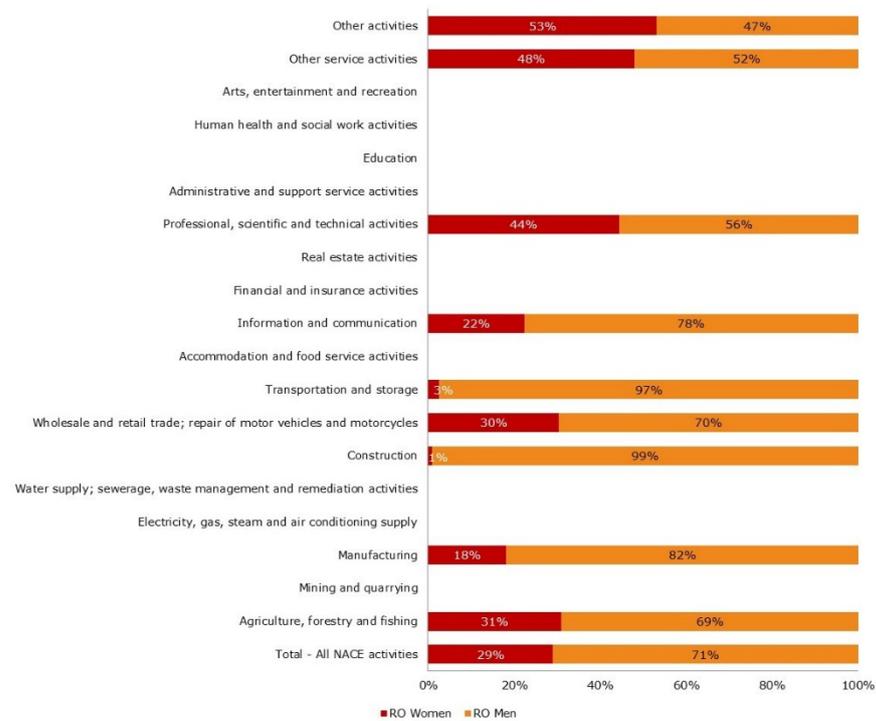


Figure 4. Percentage of women entrepreneurs of total number of entrepreneurs by sector in Romania in 2012. (Source: authors' own projection based on European Commission data [8]).

More knowledge is revealed if we look at the educational level of women vs. men that are engaged in entrepreneurial roles (Figure 5a,b). Such data are available for the year 2020 and are reported by the European Commission. The chart shows that 53% of Romanian women entrepreneurs benefited from a low level of education—ISCED levels 0–2 (red color).



Figure 5. Education level of self-employed, 2020: (a) self-employed women's education level; (b) self-employed men's education level. (Source: authors' own projection based on Eurostat data [9]).

Considering this level of education, the European average shows that only 14% of women are engaged in entrepreneurial activities.

This gap is to be observed also for the male population. In Romania, the majority of male entrepreneurs (41%) have a low level of education, whereas the European average of entrepreneurs with low educational qualifications is about 31%.

Another striking difference regards the percentage of high-level education (ISCED levels 5–6) entrepreneurial activities. In Romania, only 11% of entrepreneur women hold a high-level educational qualification, whereas the European average is about 46%. The same pattern is consistent also for males with values of 7% for Romanian men 33% for the European average.

3. Literature Review

New approaches in the literature on economic growth explore how building up women entrepreneurship enhances the development of sustainable business models [10–12]. The involvement of women in business is considered by some authors to have a beneficial impact on one country's national economy, because it contributes to the development of innovation and sustainable business and thus enhances GDP value creation [9–13].

However, Neumeyer [14] and Tsyganova and Shirokova [15] stressed that there are still gender differences in entrepreneurship, and Vossenbergh [16] argues that “gender bias” could negatively influence and affect entrepreneurship and the benefit of women entrepreneurs would not have a significant macroeconomic or social impact [17].

Although attempts are being made to eliminate gender barriers, the gender gap is still present in the economic, social, and political fields, and measures are needed to enable women's creative and investment opportunities to be exploited, especially in the realm of sustainable businesses [18]. Acquiring entrepreneurial knowledge is also important to stimulate women's empowerment [19].

Chatterjee and Ramu [20] identified several factors that can reduce women's innovative opportunities to develop sustainable businesses, such as restricted access to finance and knowledge exchange, resulting in lower laboratory equipment and facilities and less skilled research teams compared to businesses developed by men. The European Commission [21] highlights that SMEs led by women tend to have smaller growth rates in terms of productivity than the ones led by men. Coleman [22] shows that women-owned firms are smaller in size, are engaged in highly competitive, smaller returns sectors (retail and services), and tend to be active in lower growth industries. When it comes to firm profitability, education and experience play a much greater role for woman-owned firms, whereas financial capital is more decisive in the case of man-owned ventures.

According to the Global Entrepreneurship Monitor [5], women entrepreneurs are 5% more likely than men (entrepreneurs) to report working in an innovative field. While innovation is very important, because it influences the success of women entrepreneurs [23], the quality of entrepreneurial activity driven by innovation creates value [24,25], and innovation entrepreneurship will help develop the knowledge that can be used for cross-border entrepreneurship and value creation [26]. At the same time, innovative business offers opportunities and challenges, in an active and flexible framework, able to contribute to sustainable development [27].

The growing number of women entrepreneurs reveals that there is an increasing desire to involve women in business management. However, social factors (such as issues related to gender stereotypes and gender segregation) and also psychological factors may influence women to be less actively involved in running a business.

Panda [28] reviews 35 research papers that deal with the topic of women entrepreneurship in 90 developing countries. The analysis identifies seven major constraints that hinder the development of women entrepreneurship: gender discrimination arising from traditional gender roles that diminish women's credibility in the labor market; work–family conflicts that stem from the effort of balancing personal and social expectations; financial constraints via limited access to finance, as women entrepreneurs have a higher probability of being rated as high-risk customers due to lack of credit history, inconsistent work history, lower compensation, little savings, and deficient collateral; lack of infrastructural support

that makes access to technology and ancillary business services difficult, which affects women more than men; unfavorable business, economic, and political environments that tend to have a greater impact on women-owned business; lack of entrepreneurship training and education; and personality based constraints. The literature on women entrepreneurship shows that there are several motivational factors implied in the decision of becoming an entrepreneur, which are often closely related to opportunities for personal and professional development. Thus, some researchers believe that women's desire for independence, extra income, but also self-improvement (social status and self-esteem) seems to be an important reason for the development of a business by women [29–31]. Other researchers believe that, in addition to the need for independence, women tend to develop their own business out of a desire to work for an ideal [32] and to have a family balance [33], but they are also pushed to develop a business due to financial needs, job dissatisfaction, or unemployment [34]. The biggest challenges in female entrepreneurship from developing countries are those related to connections and networks and lack of financial resources or knowledge in financial planning and management [35].

Given the social structure and the culture of people, on average, women entrepreneurs have more [36] family-related obligations than men (raising and looking after children, devoting time to household chores as a married woman, etc.). These facts can create time and mobility constraints when it comes to actually starting or developing a business [18]. Moreover, according to the Global Entrepreneurship Monitor [5] women tend to feel that they lack the “skills, knowledge, and experience to start a business” as compared to men's self-evaluation. Whereas half of men identified that they possess the necessary skills, knowledge, and experience to start a business, only one third of women were confident they had the necessary abilities. The report also shows that another shortcoming is given by limited access to business networks when it comes to addressing specific challenges.

These findings in the literature give support to the first hypothesis that is guiding this research design:

Hypothesis 1 (H1). *In Romania, there are gender stereotypes related to women entrepreneurship.*

Research on sustainable entrepreneurship has attained maturity as a subfield of entrepreneurship given the extensive interest manifested in the last decade. The term draws its origin from the concept of sustainable development—“development that meets the needs of the present without comprising the ability of future generations to meet their own needs” [37]. Going a step further, sustainable entrepreneurship is about creating goods and services that target three types of benefits: economic, social, and ecological [38]. The Sustainable Orientation in Entrepreneurship (SOE) is a new and scarcely studied strategic orientation of business [39] that stems from the desire to harmonize organizational economic interests (via the cognitive models of the manager) with the environmental and social challenges addressed by the products and services offered by the company. Recent studies [40,41] argue that women managers are key drivers of sustainable development, as they manifest greater social and environmental commitment due to different gender socialization circumstances. Moreover, when self-employed, women are rather motivated in their entrepreneurship endeavors by achieving family–work balance and tend to value social and qualitative aspects over economic ones, pursuing in their approach a balance between economic and non-economic objectives. Following this line of research, this paper connects sustainable and women entrepreneurship by aiming to assess if this orientation towards doing business is rather a strategic approach that is favored by women managers. The second hypothesis that is guiding the research design is:

Hypothesis 2 (H2). *In Romania, there is a high potential for sustainable business development by women.*

The phenomenon of globalization has been accelerated and facilitated by digitalization, by creating connections of local or regional sites to the global connection. In April 2016, the European Commission launched an initiative to digitize European industry [42]. This plan aims to support and complement national initiatives, focusing on digital devel-

opment and the development of local innovation centers across the EU to help the industry become more competitive. The digital revolution could not remain without impact in the economic sector. The digital economy is experiencing a rapid growth trend in developing countries such as Romania. The European industry's digital strategy covers two key issues: developing Europe's digital infrastructure and improving the framework conditions for digital innovation.

In this sense, we consider it opportune to investigate if this trend imposed by the new digital economy is perceived as valuable by women entrepreneurs, and thus could become an important source of value creation in their sustainable business approach. Thus, the third hypothesis that is guiding the research design is:

Hypothesis 3 (H3). *In Romania, women are aware of the trend imposed by the new digital economy.*

To verify our hypotheses, a multi-criteria decision-making method—analytical hierarchical process (AHP)—is used. The analysis is carried out after grouping the main findings of the literature review in a SWOT matrix as a way of summarizing the most important internal and external factors that influence the decision to develop a business by women.

4. Methods

Based on the literature review findings, we developed a SWOT analysis, which lists strengths, weaknesses, opportunities, and threats for the development of a sustainable business by women in countries with emerging economies such as Romania. The SWOT analysis results were first validated by an external expert. These preliminary findings were afterwards scrutinized in a focus group of 12 participants that established the final consensus on the internal and external factors. Important input on the factors was gathered by conducting in-depth interviews with the focus group participants. Further, we employed multicriteria analysis departing from a questionnaire that was carried out on 10 women entrepreneurs that adopted a sustainable orientation in business. The responses were used to rank the factors identified in the SWOT matrix. The results can thus be more easily interpreted.

4.1. SWOT Analysis

SWOT analysis is a strategic management tool used to align organizational objectives [43]. An organization interacts both with the external and internal environment; SWOT analysis is used to build strategies according to internal and external factors that can influence decisions within the organization. Among the advantages of using this method, we can mention (a) generating a general perspective on the formulated objective, developing the foundation of the road map that guides the solution of the raised issue, from general to specific approach; (b) applicability at organizational or even macroeconomic level and a focus on a different decision subject; and (c) emphasizing the opportunities and guiding decision-makers to tackle weaknesses and threats [44]. Although SWOT analysis was initially developed to evaluate the activity of an organization [45], if properly used, it can be extended and can provide an assessment framework for ideas, societal issues, etc., for strategic development.

In our case, we used the SWOT analysis to identify the main factors that influence the promotion of a sustainable business by women in a developing country such as Romania.

The validity of the SWOT matrix was first assessed by an external expert in risk analysis who verified, revised, and validated the main findings. The results are presented in Table 1 and comprise five strengths, four weaknesses, four opportunities, and four threats. The further step was to conduct our empirical research. The design is based on the method of the focus group. This focus group was organized within the Interreg Danube Digipower project on sustainable businesses owned by women, where a moderator presented the identified factors and discussed relevant aspects. At the focus group, 12 women entrepreneurs from the central area of Romania who manage businesses at regional,

national, or international level participated. All women who attended the focus group agreed that the SWOT matrix reflects some of the most important factors that influenced their decision to develop a sustainable business. Additionally, they agreed that the external factors generally fit the case of Romania.

Table 1. SWOT analysis for women entrepreneurship.

Internal Factors	
Strengths	Weaknesses
<ul style="list-style-type: none"> - S1: The Entrepreneurial Environment indicators that best describe Romanian society in terms of ‘entrepreneurial spirit and culture’, as well as the presence of institutions to support entrepreneurial start-ups, are equal legal rights and completion of secondary education. - S2: Romanian women and men are equal in terms of capacity, propriety rights, and employment. - S3: A high percentage of women have completed secondary education, making further assimilation of start-up skills likely and desirable. - S4: Number of self-employed women entrepreneurs in Romania is rising. - S5: Women entrepreneurs activate the most in fields of activities that are sustainable—sustainable business models are preferred by women entrepreneurs. 	<ul style="list-style-type: none"> - W1: Considering the entrepreneurial environment and the entrepreneurial eco-system data shows that strongest shortcomings relate to lack of connections (networking) among women entrepreneurs and the underdevelopment of tech sector business. - W2: Moreover, lack of information and access to business networks decelerates reaching success and a position in society wanted by women entrepreneurs. - W3: Additionally, by looking at the aspirations, opinions expressed by women entrepreneurs show that a high percent are unwilling to spend money in research and development activities. - W4: Consequently, women entrepreneurs have more obligations than men. Balancing work and private life can be very demanding, resulting in fewer women entrepreneurs.
External Factors	
Opportunities	Threats
<ul style="list-style-type: none"> - O1: Data shows that for Romania competition is a key driver of the Eco-System. This means that female business has only few competitors for the same product or service. - O2: Entrepreneurial aspirations focus on the individual entrepreneurial characteristics as well as resource availability needed for ‘high potential’ female entrepreneurship to prosper and contribute to economic growth. - O3: Digital Transformation strategies aim at improving and stimulating the business environment. - O4: The EU developed many strategies to support sustainable business models and the digital economy. 	<ul style="list-style-type: none"> - T1: In general, woman-owned businesses start with lower levels of capitalization and ratios of debt financing than man-owned businesses; hence, there is a low rate of accessibility of external financing. - T2: Gender stereotypes are still powerful in Romanian society both in urban and rural areas. For that reason, women do not obtain enough support to persist in their business idea. - T3: Social segregation is still a societal issue in developing countries. - T4: Women have the same or higher level of education than their colleagues, but normally they are not educated in entrepreneurship. Lack of experience with leading an enterprise is also concerning.

Source: authors’ own projection based on literature review findings.

Although SWOT analysis, through internal and external analysis, can generally highlight the current situation of an addressed issue, the output obtained is often insufficient to develop useful strategies, as the qualitative approach of this method does not offer a clear view of the importance of each factor [46]. This limit can be overcome by applying multicriteria decision-making methods (MCDM) that infer a hierarchical structure on the SWOT matrix with the purpose of identifying the factors that influence the strategy formulation.

4.2. Analytical Hierarchy Process (AHP) Method

The AHP method is based on MCDM principles and is widely used to measure different strategic objectives at macroeconomic level [47–50] being highly efficient in identifying, analyzing, and solving complex decision problems. Often, the AHP method is used in the literature to prioritize the criteria and sub-criteria that influence a woman to become an entrepreneur or to innovate through business models. For example, Matroushi et al., in 2018 [51], determined culture, innovation, strategy, motivation, financial and technological resources, recognition of opportunities, and government policies as the main criteria for innovative women entrepreneurship. By applying the AHP method, the innovation and motivation strategy are at the top of the ranking. Similar results have been obtained by other researchers [52,53]. Other studies show that the most important factors influencing sustainable entrepreneurship are behavioral and business factors [54,55].

The combination of SWOT and AHP methods can offer results that mark a strong starting point to developing specific strategies for the most important factors identified through the SWOT matrix. Thus, SWOT–AHP method results are both qualitative and quantitative and aim for future directions both in the planning of strategies and in the decision process.

To capitalize on the SWOT analysis and establish a hierarchy of identified factors, we employed a multicriteria analysis using the AHP method. AHP results offer a clearer picture of the factors (either internal or external) considered most important for the development of a sustainable business by women. The structure of our model, as shown in Figure 6, consists of assessing the internal and external factors (identified through the SWOT analysis) that determine/influence the purpose of our analysis.

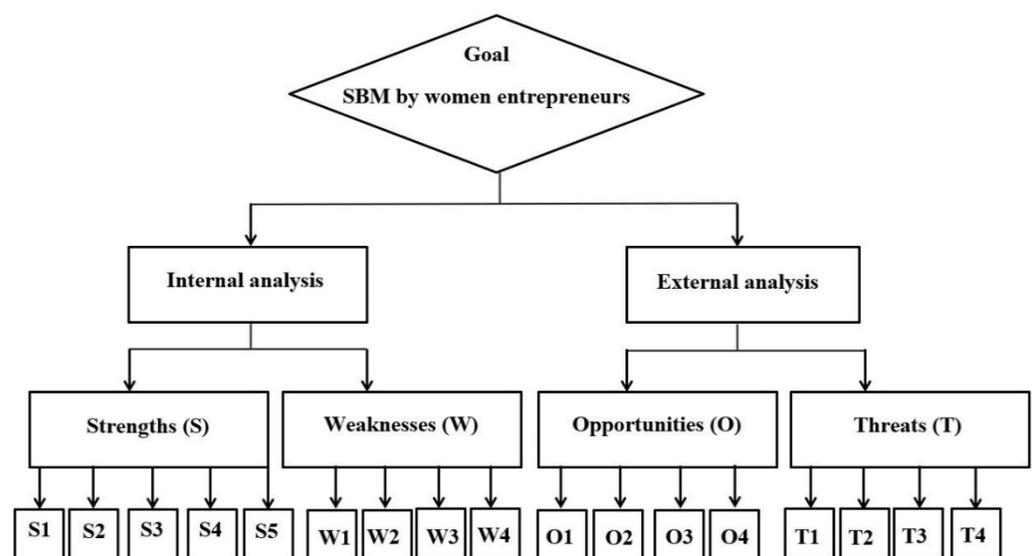


Figure 6. SWOT–AHP hierarchical structure.

To conduct the AHP method, we developed a questionnaire that was applied to 10 women that activate in different industries and own well-established businesses that follow the sustainable business model. We consider that the number of respondents is sufficient (optimal) based on the literature review findings [42] that showed that a large sample can affect the results, as some respondents may tend to provide arbitrary answers that would

generate a problem of inconsistency in the application of the method. The in-depth analysis has 10 answers that are considered relevant for further analysis by applying multi-criteria methods. The profile of the respondents is described in Table 2.

Table 2. Respondents' profile.

Industry	Number of Respondents	Experience (Years)
Manufacturing	2	5, 10
Beauty	2	3, 5
Financial consultancy	2	3, 10
Hospitality	2	3, 5
Health services	1	5
IT	1	5
Total	10	

Source: authors' own projection.

The questionnaire addresses the research topic by comparing two by two the factors identified in the SWOT analysis. Questions were constructed for pair-wise comparison of the sub-criteria from each criterion (S1: S2; S1: S3; S1: S4; S1: S5; ... ; W1: W2; W1: W3; ... etc.) according to the example in Figure 7. Saaty's [56,57] appreciation scale with values from 1 to 9 was used.

I. Through pair-wise comparison, which factor that compose the "Strengths" criterion do you assess is more important?

Strengths criterion																		
Factor	More important			Equally important						More important			Factor					
S1	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S2
S1	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S3
S1	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S4
S1	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S5
S2	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S3
S2	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S4
S2	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S5
S3	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S4
S3	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S5
S4	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	S5

Figure 7. An example of pair-wise comparison question for the "strengths" criterion (Source: authors' own projection).

The women interviewed emphasized the importance of conducting such a study at national level, considering that there are insufficient data on the topic addressed and that such a study would raise public awareness and contribute to the development of the national strategies to combat identified weaknesses in the SWOT analysis, which, from the respondent point of view, represents "negative aspects that significantly influence the decision not to become an entrepreneur" (A.-D.M.—respondent).

After collecting the answers given by the women entrepreneurs interviewed, the geometric mean was used to balance the answers received. These results were further used to calculate priorities using the AHP method.

The importance of the criteria matrix was determined by the authors, based on the results found in the literature, discussions with the women interviewed, and professional reasoning.

A pair-wise comparison matrix was constructed for each criterion, resulting in symmetric matrices $A = (a_{ij})$ — the judgement matrix —, whose elements represent the geometric mean of the answers given by the interviewed women.

To determine the scores obtained by each factor of the SWOT analysis and, implicitly, to determine their hierarchy, we normalized each matrix obtained as Saaty suggests [57]. The score of each factor is given by the average of the line of the matrix corresponding to it.

Due to the limitation of human rationing to assign ideal weights in complex judgment matrices, some consistency issues may arise. Testing the consistency of comparison matrices becomes extremely important for establishing viable results through AHP method application. According to Saaty [57], the judgment matrix may have inconsistencies, which can be accepted up to a maximum of 10%. To test the possible inconsistency problems, we determined the consistency ratio (CR) based on the consistency index (CI) and random index (RI), according to the following mathematical formula:

$$CR = CI/RI \quad (1)$$

where:

$$CI = (\lambda_{\max} - n)/(n - 1) \quad (2)$$

λ_{\max} = largest eigenvalue.

The values of RI are calculated by Saaty and presented in Table 3. The values for $n = 4$ and $n = 5$ were used in our analysis, depending on the order of the matrices.

Table 3. RI values for $n_{\max} = 5$.

n	1	2	3	4	5
RI	-	-	0.58	0.90	1.12

Source: authors' own projection using Saaty scale [28].

After verifying that each matrix has a CR below the accepted level of 0.1, the results were centralized using the SWOT matrix. Each score obtained by each factor was multiplied by the score obtained by the criterion to which it belongs. With the help of the weighted mean, we determined the importance of each factor of the SWOT analysis, which can then be ranked.

5. Results

A first step in our analysis was the assignment of weights to the factors that lay at the ground of sustainable business development. This step was carried out by an external expert, taking into consideration two decision criteria: first, a review of the relevant literature in the field, backed by the professional reasoning developed in years of experience. The expert appointed the criteria "strengths" and "weaknesses" as having the most influential impact on the outcome (the weight of 0.455 and 0.263, respectively) whereas "opportunities" and "threats" were considered as being equally (less) important (weight of 0.141).

The AHP analysis of the SWOT factors shows the weights attributed to each factor as assessed by the primary decision of the expert (Table 4). This data is then corroborated with the answers obtained by applying our questionnaire to the subjects of the study. By aggregating the first layer of decision data with the answers obtained after applying the questionnaire to the selected subjects, we obtain a ranking of the factors that impact sustainable business development. The best ranks are obtained by the factors that describe the criteria "strengths" and "weaknesses", whereas the grouping of factors that describe "opportunities" and "threats" occupy the last ranks (Table 5).

Table 4. Criteria matrix results (CR = 0.004).

Criteria	Strengths	Weaknesses	Opportunities	Threats	Weight
Strengths	1	2	3	3	0.455
Weaknesses	1/2	1	2	2	0.263
Opportunities	1/3	1/2	1	1	0.141
Threats	1/3	1/2	1	1	0.141

Source: authors' own projection using Saaty's calculations [56].

Table 5. SWOT–AHP results.

Criteria	Weight	Factors	Local Weights	Global Weights	Rank
Strengths (S)	0.455	S1	0.111	0.050	7
		S2	0.175	0.080	4
		S3	0.135	0.061	6
		S4	0.286	0.130	2
		S5	0.294	0.133	1
Weaknesses (W)	0.263	W1	0.478	0.126	3
		W2	0.240	0.063	5
		W3	0.129	0.034	15
		W4	0.153	0.040	11
Opportunities (O)	0.141	O1	0.124	0.018	16
		O2	0.272	0.038	12
		O3	0.291	0.041	10
		O4	0.313	0.044	9
Threats (T)	0.141	T1	0.346	0.049	8
		T2	0.268	0.038	14
		T3	0.115	0.016	17
		T4	0.272	0.038	13

Source: authors' own projection.

However, the SWOT factors seem well-balanced, as internal factors (strengths and weaknesses) and external factors (opportunities and threats) have a symmetrical distribution, as shown in Figure 8.

The highest weight was attributed to the criterion “strengths”. The factors describing this criterion obtain scores between 0.050 and 0.133 with the following order of importance: $S5 > S4 > S2 > S3 > S1$. This order may imply the following interpretation: women tend to become entrepreneurs of sustainable businesses as a result of preferring this type of approach in business and already having experience with sustainable business practices. Further, as the number of self-employed women rises, the respondents consider that sustainable businesses are to be developed with greater prevalence. Equality in terms of capacity, propriety rights, and employment is perceived as third in order of importance, suggesting that this issue is crucial in fostering an entrepreneurial environment that enables women to become active and involved. The least important factors relate to access to education: the rising percentage of women finalizing secondary education as a means for business skills appropriation and gender equality for entrepreneurship education. The explanation of this result is simple, as most of the entrepreneurial education is gained through tertiary education, and in general, women that already have a business perceive they have equal access to entrepreneurial education. Additionally, as Choi and Gray [58] show, most sustainable entrepreneurs, having little business experience, approach business differently, and in most cases at the core of their businesses lies scarce knowledge about the complexities and trade-offs of profit.

The criterion “weaknesses” is the second ranked in importance. The factors describing this criterion obtain scores between 0.034 and 0.126 with the following order of importance: $W1 > W2 > W4 > W3$. The order reveals that lack of connections, poor networking, and underdevelopment of the tech sector followed by late success achievement are the predominant factors that hinder the development of sustainable business. Having a busy life with the pressing need to balance private and personal dimensions is also perceived as consequential to impacting in a negative way the outcome of sustainable business development. Regarding the lack of spending for research–development activities, the respondents rank this factor as unessential for the development of their business. These findings described by the order of the ranking suggest that the decision to become entrepreneurs has a more pronounced personal dimension in the case of women.

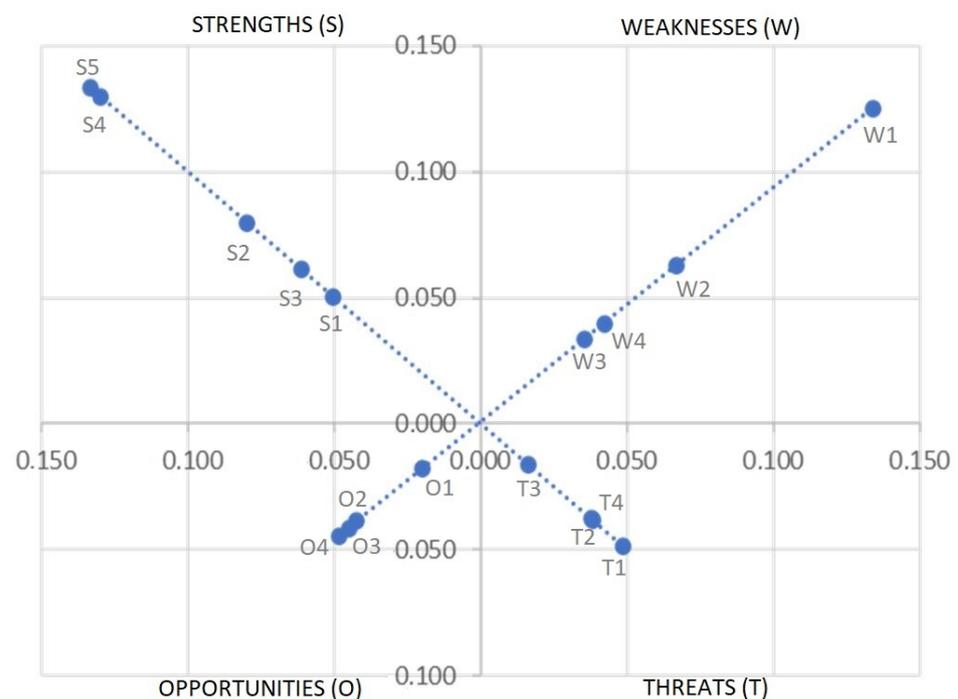


Figure 8. SWOT-AHP results (Source: authors' own projection).

The criterion “opportunities” is the third ranked in importance. The factors describing this criterion obtain scores between 0.018 and 0.044 with the following order of importance: $O4 > O3 > O2 > O1$. The order reveals that the greatest opportunity for sustainable business development is provided by the programs developed by the European Commission followed by existing strategies that foster digital transformation. The least relevant opportunities are perceived in poor competition between female businesses targeting the same product or service and female entrepreneurial aspirations. A great number of the respondents stated that even though sustainable businesses may have high financing opportunities, there are still a lot of unknowns of this process, and circumstances remain unclear for potential beneficiaries.

The criterion “threats” is seen as the least important in determining sustainable business development. The factors describing this criterion obtain scores between 0.016 and 0.049 with the following order of importance: $T1 > T2 = T4 > T3$. The order is relevant for describing the situation in which access to external financing sources is one of the crucial problems that sustainable women entrepreneurship must deal with. This situation is correlated with the high-risk potential that women may bear that is a consequence of lack of credit history, inconsistent work history, lower compensation, little savings, and deficient collateral. Research shows that women do not consider social segregation as an important threat for their business.

The results of the AHP method presented in Tables 5 and 6 show that strengths and weaknesses are more important in the decision to become a women entrepreneur for sustainable business, as most of the factors that make up these criteria have the first ranks in the overall classification. Opportunities and threats are of a secondary importance looking at the overall standings. Respondents believe that internal factors are the ones that act in the first instance, as they directly affect both the business idea and the positions that women entrepreneurs want to have in society. External factors, although they can significantly influence the decision (access to funding sources, gender stereotypes, digital transformation strategies, etc.), are considered important only if the internal influencing factors can be/are “solved”. For example, one respondent believes that “if a woman has completed at least secondary education, she is also likely to know about funding and may be aware of the risk she takes when investing in a business idea” (TE, female entrepreneur,

3 years' experience). Another respondent states that "the lack of connections and limited access to information related to the business environment, even if equal opportunities are intensely promoted and respected in Romania, leads to feeding gender stereotypes and discouraging the start of a sustainable business" (TS, female entrepreneur, 10 years' experience).

Table 6. Factors' ranking.

Factor	S5	S4	W1	S2	W2	S3	S1	T1	O4	O3	W4	O2	T4	T2	W3	O1	T3
Rank	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Source: authors' own projection.

6. Discussions

The AHP method was used to identify the hierarchy of importance deriving from the different factors that sustain/discourage the sustainable business orientation of Romanian women entrepreneurs. The results present a consistent pattern of perceptions that describe how Romanian women entrepreneurs assess the importance of each factor, enabling a further discussion the hypothesis that guided this research.

Analyzing the overall ranking, we observe that the most important factor that facilitates the sustainable business orientation in Romania is women's preference for the sustainable business model rather than the traditional, profit-oriented model. This is further strengthened by the second ranked factor stating that as the number of self-employed women rises, sustainable businesses are to be developed with greater prevalence. As these are the two most relevant strengths that characterize the perception of Romanian women entrepreneurs, the obtained results are in favor of accepting H2, which asserts: *In Romania, there is a high potential for sustainable business development by women.*

Another hypothesis that guided the research design is concerned with gender-related stereotypes. These types of cultural norms, traditions, ideas, and beliefs encapsulate the roles ascribed to men and women, creating different expectations and opportunities that determine challenges for women entrepreneurship. The item describing this issue, T2—*"Gender stereotypes are still powerful in Romanian society both in urban and rural areas. For that reason, women do not obtain enough support to persist on their business idea"*—obtained a low overall importance, ranking in the 14th place from a total of 17 positions. Moreover, the next best ranking items of the overall line-up are more specific to formal institutional frameworks that shape the business environment than to gender-specific (informal) institutions. Romanian women entrepreneurs lack connections, networking structures, and tech capabilities; in other words, they lack important means and knowledge that can improve market appropriation. Further, women entrepreneurs perceive equality in terms of capacity, propriety rights, and employment as an important source for the proper development of a gender-balanced business environment. Analyzing these findings in conjunction, the data support the rejection of H1: *In Romania, there are gender stereotypes related to women entrepreneurship.*

The third hypothesis that guided the research design is concerned with the positive impact that the new digital economy has in generating value via increasing efficiency and competitiveness. The digital transformation of businesses can become a distinctive competitive advantage [59,60], giving (early adopters) women entrepreneurs an edge in developing their sustainable business models. The pairwise comparison of factors generated a low overall ranking for the items that capture Romanian women entrepreneurs' attitudes toward digital transformation. The perception of the respondents shows insufficient knowledge of the pillars of the digital economy and lack of understanding for the elements that foster digital transformation in business models. Thus, H3, the third hypothesis that guided the research design, cannot be admitted.

7. Conclusions

The results of the SWOT analysis should mark a starting point in the strategic management of an organization. Through a typical SWOT analysis, the effect of each factor on the proposed goal is not quantified, making it a qualitative method. To cope with this limitation, multi-criteria analysis, which is often used to help solve decision-making problems, can be performed in order to transform the SWOT matrix into a hierarchical structure. In this paper, we used the SWOT–AHP method to rank the factors of the SWOT analysis performed to prioritize the strengths, weaknesses, opportunities, and threats in sustainable female entrepreneurship in an emerging economy country.

The main results can have practical implications, as they provide empirical guidance on what women entrepreneurs consider relevant for developing a gender-balanced business environment, and thus further policy formulation. Our main findings highlight that the decision to engage in sustainable business ventures is mostly influenced by internal factors, such as strengths and weaknesses, rather than external factors, such as opportunities and threats. The interviewed women entrepreneurs consider that most women that have in mind developing sustainable businesses, as the guiding principles for such endeavors are rather specific to women aspirations. Significant support is given in this direction by the growing number of self-employed women that are active in this type of endeavor. Another crucial factor for sustainable business development is given by advancements in expanding connections, networking structures, and tech capabilities that finally result in more market appropriation. Creating a gender-balanced business environment is realized by enforcing equality in terms of capacity, propriety rights, and employment, as such sustainable businesses derive great benefit from such an institutional context. However, women entrepreneurs are not aware of the importance of digital transformation and do not believe that the digital economy can significantly influence female entrepreneurship, placing the opportunity factor given by digital transformation strategies only on the 10th place in the final ranking.

The limitation of the SWOT–AHP method comes from the inherent subjective approach that the method implies. Therefore, the framework of the analysis relies on the experience and training of the researchers that oversee the process. For minimizing the subjectivity of the method, but also to avoid biased results, the preliminary desk research was validated by an external expert in risk analysis. This solution was adopted in order to obtain unbiased weights that assess the importance of strengths, weaknesses, opportunities, and threats. Furthermore, we interviewed 10 women entrepreneurs and used their responses to assess the importance of each factor within each criterion. The geometric mean of those responses considerably reduced the inconsistency in the responses and increased the trust in the results. The research design was guided by three hypothesis, for which the SWOT–AHP method provided evidence of acceptance (H2)/rejection (H1 and H3). As such, connecting women entrepreneurship with sustainable business creation, this research paper fills a research gap in the existing literature, providing reasonable evidence of the interconnection between the two streams of study.

New research perspectives have emerged through our analysis. Further research could be focused on determining the impact of digital transformation of female-owned SMEs in Romania.

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