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"If you want something said, ask a man, if you want something done, ask a woman."
Margaret Thatcher

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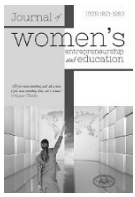

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Institute of Economic Sciences
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EDITORIAL OFFICE
c/o Institute of Economic Sciences
12, Zmaj Jovina str., Belgrade, Serbia
Tel. +381 11 2622-357; 2629-960
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Contents

Notes from of Editor-in-Chief

The Journal Women's Entrepreneurship and Education (JWEE) seems to be gaining momentum as the number of manuscripts submitted is steadily increasing. We appreciate the efforts of all authors who have sent us high quality papers that have passed peer reviews and have been published in our journal.

The invitation for new reviewers is always open. According to this policy of the journal, we look forward to your applications and welcome useful suggestions.

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We kindly ask you to quote articles from our journal correctly and to send us unpublished articles.

Best wishes and thank you in advance for your contribution!

November 2024, Belgrade

Editor-in-Chief
Acad. Prof. Mirjana Radovic-Markovic, PhD

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ORIGINAL SCIENTIFIC PAPER

The Influence of Entrepreneurial Identity and Maternal Identity Centrality on Creative Opportunity Search Strategies and Action Likelihood: Case of Mumpreneurs in Turkey

Sabina Ibrahimović İldokuz[1]
Ercan Ergün[2]
Gebze Technical University, Institute of Graduate Programs, Department of Management, Kocaeli, Türkiy

A B S T R A C T

Based on existing theoretical and empirical studies, this paper's purpose is to examine the agents relevant to the process of mumpreneurs' creative search and action likelihood toward new opportunities with an emphasis on two main identities: maternal and entrepreneurial as experienced by mumpreneurs in Turkey. The study examines the significance of both entrepreneurial and maternal identities on the use of creative strategies while searching for potential new opportunities and action likelihood toward these opportunities. Data for the study was collected using survey methodology on mumpreneurs in major urban cities of Turkey. The structural model measures entrepreneurial identity and maternal identity centrality, creative search strategies and action likelihood using a sample of 302 mumpreneurs: 169 part-time and 133 full-time mumpreneurs. Study findings reveal that between the two identities, entrepreneurial identity has a stronger positive effect on the use of creative strategies and action likelihood while maternal identity had a positive but quite low impact on the same variables. The use of

[1] Corresponding author, e-mail: sildokuz@gtu.edu.tr
[2] E-mail: eergun@gtu.edu.tr

creative strategies had a significantly positive and high impact on action likelihood. 'Years of experience' control variable has been found to have a significant negative influence on creative opportunity search strategies and action likelihood. This study helps us understand how motherhood's powerful emotions and attachment to identities, which are highly central to the self, affect the entrepreneurial decision-making process.

KEYWORDS: *mumpreneurs, identity, creative opportunity search strategies, action likelihood*

Introduction

Entrepreneurship is widely recognized as a key driver of economic growth and progress. Among women entrepreneurs, the category of "mumpreneurs" has garnered significant attention due to the unique challenges they face in balancing family responsibilities and entrepreneurial pursuits (Duberley & Carrigan, 2013). Thus, this paper aims to explore the interplay between individual and contextual factors in mumpreneurship, such as entrepreneurial and maternal identities, creative opportunity search strategies (hereinafter referred to as *creative search*) (Heinonen et al., 2011; Puhakka, 2007), and the likelihood of acting upon them (Dimov, 2007; 2020), (hereinafter referred to as *action likelihood).*

While research on the intersection of motherhood and entrepreneurship is growing, three significant gaps persist:

(1) *Gender-Centric Focus vs. Maternal Roles*: Many studies focus on gender issues in mumpreneurship, overlooking the fundamental maternal roles mumpreneurs fulfill. The 5M framework (Brush et al., 2009) highlights the transformative nature of mumpreneurial activities but does not fully address maternal role obligations (Breen & Leung, 2020).

(2) *'Doing' vs. 'Being' a Mumpreneur*: Research often emphasizes the actions mumpreneurs take in managing childcare and business operations, neglecting the aspect as 'being' a mumpreneur, not just 'doing' part of mumpreneurship (d'Andria et al., 2020).

(3) *Intentions vs. Actions*: While entrepreneurship literature often focuses on factors influencing the intention to start a business, less attention is paid to acting upon creative ideas or opportunities. Shifting the focus to intentionality regarding creative opportunities is essential (Dimov, 2007; 2020).

This research aims to address these gaps by quantitatively analyzing data from 302 mumpreneurs in Turkey, with the goal of advancing both mumpreneurship and women's entrepreneurship in developing countries.

Theoretical Development

Identity and Action Likelihood

Mumpreneurs' Entrepreneurial Identity within the Context of Entrepreneurial Intentionality

According to the identity theory, identity represents a set of meanings or standards which individuals ascribe to themselves in relation to social categories occupied (e.g. women, male), affiliated social groups (e.g. family, soccer team supporters), acting roles (e.g. student, mother), and the qualities that make them unique from others on a personal level (e.g. humorous, hardworking, trustworthy) (Burke, 2009). Burke (2009) explains how identity is composed of *identity standard*, which holds sets of meanings related to the identity, and an *individual's perception of the identity-related meanings* in a specific situation, often coming from others' feedback and self-evaluation in a role. However, literature has underlined how mumpreneurs often face difficulties while maintaining their entrepreneurial identities due to how these identities interact with their already committed roles and continuous childcare responsibilities. Landour (2020) underlines how mumpreneurs who develop efficient strategies to balance work and personal life develop an entrepreneurial mindset quickly. Moreover, Elvin-Nowak et al. (2001) propose that mumpreneurs may develop their own tactics and ways of thinking to assist them in managing family-work demands and construct an identity that best expresses their commitment to both work and mothering obligations. Lewis et al. (2021) highlight the fact that, in addition to their maternal identities, mumpreneurs will build entrepreneurial identities faster once they start developing a business. The authors performed their research on mumpreneurs with a focus on the adaptation of their feminine entrepreneurial identities while operating in a masculine entrepreneurial environment. The study stressed a critical finding: mumpreneurs, who maintain a balanced feminine entrepreneurial identity, avoiding extremely feminine characteristics, are more likely to grow their business opportunities. In a similar vein, Drakpa et al. (2022) found how, in addition to financial resources, women entrepreneurs who have confidence

in their abilities and business knowledge are more likely to take part in start-up activities. It is, thus, reasonable to conclude that when someone is confident in their skills and abilities to succeed in a particular job, it frequently shapes how they see themselves within that role, which has a significant impact on their work identity formation. After all, self-confidence is defined as being unafraid to understand and act on your thoughts. Although it has been proven how efficiently entrepreneurial identity assists in finding potential opportunities and helps organize resources (Navis & Glynn, 2011), it is still unclear whether mumpreneurs' entrepreneurial identity has a direct impact on intention to act upon potential new opportunities or action likelihood. Dimov (2007) introduced the concept of action likelihood, suggesting that the realization of planned entrepreneurial behavior is influenced by various factors such as the entrepreneur's environment, prior experience, and individual traits. He recommends focusing on individuals' actions on specific opportunities rather than on their general intention to start a business. Therefore, among the factors influencing the intention to act is entrepreneurial identity, as it motivates behavior to satisfy the need for competence (Burke and Stets, 1999). Consequently, mumpreneurs might seek validation beyond their roles as mothers by fully dedicating themselves to their goals. This essentially means that effective mothering entails actively caring for children while also acting as their primary financial provider (Ekinsmyth, 2013), mirroring their entrepreneurial identity. Therefore, it has been hypothesized that:

H1: Mumpreneurs' entrepreneurial identity has a significant and direct impact on their likelihood of acting toward identifying and exploiting new opportunities in the near future

Mumpreneurs' Maternal Identity Centrality within the Context of Entrepreneurial Intentionality

According to Barnett and Baruch (1987), maternal identity refers to a woman's perception of herself as a mother and the importance she places on this role in her life. Arendell (2000) underlines how maternal identity is not a one-size-fits-all experience and how each mother's journey is distinct. Yet, even though not all mothers develop maternal identity, within the broader context, the process of forming maternal identity is thought to begin during pregnancy. Rubin (1967) emphasizes this notion, illustrating how mothers initiate the construction of their identity through imitation, role-playing, and observing role models. Despite this multidimensional nature of maternal

identity, entrepreneurship is often seen as beneficial for mothers. Although mumpreneurs' ability to pursue both entrepreneurship opportunities and embrace maternal identity has its challenges, it allows them to make independent decisions, establish a work-life balance, and engage in maternal responsibilities according to their own preferences (Kogu & Mejri, 2022; Tan & Yew, 2023). According to Landour's (2020) research, pursuing entrepreneurship is fundamentally an identity issue. Specifically, the author defines the "identity issue" as a person's search for self-actualization within a specific identity domain. From the mumpreneurial perspective, this suggests that mumpreneurs who want to benefit from their business activities are more inclined to build an identity as a means for self-actualization while gaining community credibility as an entrepreneur and a mother. This has been confirmed by Rodrigues et al. (2022), who state and we quote *"Mumpreneurship is considered a form of female entrepreneurship whose motivation, and the process of identifying opportunities, is influenced by maternity*." (p. 3429). Within these lines, we strongly believe that as mumpreneurs intentionally structure ventures around their families, the presence of an identity highly central to self-concept will increase the likelihood of action toward a particular idea (Ekinsmyth, 2013). Therefore, it has been hypothesized that:

H2: Mumpreneurs' maternal identity centrality has a significant and direct impact on their action likelihood toward identifying and exploiting new opportunities in the near future.

Identity and Creative Search

Mumpreneurs' Entrepreneurial Identity within the Creative Search

Entrepreneurial identity is success-driven; it drives passion toward implementing entrepreneurial targets by creatively scanning for opportunities, resulting in enhanced engagement in target tasks (Cardon et al., 2009). In reality, creativity may present itself in a variety of different ways, especially in the mumpreneurial sphere. In spite of the fact that mothers may have strong creative self-concepts in both the professional and personal domains, mumpreneurs' self-concept in a role and creative search for new opportunities have received relatively little attention from the field of identity research (Marsh et al., 2006). A few studies examined these components from a family and gender perspective. For example, Lebuda and Csikszentmihalyi (2020) emphasize how a family appreciation of an

idea enhances motivation for creativity, raises self-efficacy for creativity, and leads directly to creative behavior. Kemmelmeier and Walton (2016) observed how women outperformed male colleagues in the originality of their creative work in their study on gender gaps in the self-assessment of creativity. Authors also emphasize how creative women may not always develop something for their own gain; they may also do it to benefit and please those to whom they are emotionally committed. By interacting with the environment to collect important information, a mumpreneur might develop an interest in executing the role based on remarks about the feasibility of the business idea (Stryker & Burke, 2000). Positive belief in an idea implies a satisfactory condition of its feasibility, which will fuel mother entrepreneur's feeling of self-awareness as an entrepreneur and thus actively give meaning to their identity as an entrepreneur (Murnieks et al., 2014). Fundamentally, it is argued that mumpreneurs' entrepreneurial identities will boost their engagement in creative and innovative idea generation to firstly improve the quality of life and eventually fulfill maternal obligations (the basic need of 'good mothering'). If the process of acquiring a creative idea concludes successfully, it would ultimately validate entrepreneurial identity on a micro-level. Therefore, it has been hypothesized that:

H3: Mumpreneurs' entrepreneurial identity will have a significant and direct influence on creative search.

Maternal Identity Centrality within the Creative Search

Along with their constant engagement in entrepreneurial activity, mumpreneurs continue to perform behaviors attached to the mother role. In their study, Kwasniewska and Lebuda (2017) highlight the favorable effects of motherhood on a variety of characteristics and skills related to creativity. In a similar vein, Ilha Villanova and Pina e Cunha (2021) stress how creativity and a creative search for new ideas are typically required for mothers' day-to-day activities, interpersonal interactions, managing everyday responsibilities, and overcoming unforeseen obstacles. Ekinsmyth (2013) notes that when we think about mumpreneurs' daily schedules it is simple to understand how both caring for one's family and running a business may be a source of creative new ideas. Moreover, facing and overcoming sociocultural, occupational, and private barriers usually involves creative ways of thinking and organizing (Brush et al., 2009; Ekinsmyth, 2011; Lewis, 2014; Lewis et al., 2021). For example, Sonbol (2018), in her extensive examination of creative responses to gendered

opportunities, underlines how, women's absorption of "motherhood", rather than the notion of motherhood, is what gives them the potential to engage in entrepreneurship in creative and productive ways. By following the notion unrolled in these studies, understanding how mumpreneurs use their creativity to help construct and validate their maternal identities, as well as how creative search strategies help to navigate the seemingly difficult maternal and professional obligations, can help put mumpreneurs on the entrepreneurial agenda and improve our understanding of mumpreneurial creativity. Given these findings, the current study implies that when a mumpreneur's maternal identity is central to her ideal self, identity verification becomes more important and vital since it entails deep sentiments of family ties as fundamental role values. As a result, she will seriously consider pursuing a search for creative opportunities in order to meet a basic family requirement. Therefore, it has been hypothesized that:

H4: Mumpreneurs' maternal identity centrality will have a significant and direct impact on creative search.

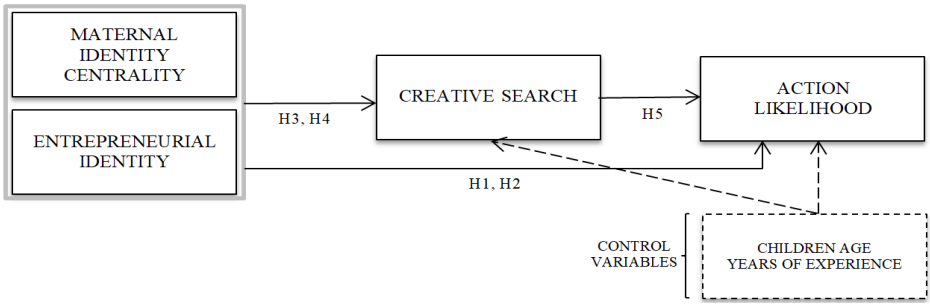
Creative Search and Action Likelihood

According to several studies, the key to successfully identifying and exploiting new opportunities—while also satisfying the need for a positive self-perception in a role—is creative search. Creative search is a kind of concept that is only focused on and concerned with the future (Pandza & Thorpe, 2009). Each mother begins the business with a more or less distinct vision of the company's future within the boundaries of sociocultural norms, professional ability, and private lifestyle. In order to find and shape viable future ideas, mumpreneurs collect relevant data in a systematic manner as they reconstruct and redefine the ideal of motherhood within entrepreneurship. Brush (1992) emphasized how creative ideas or opportunities do not always come by chance but are believed to be embedded within the roles mumpreneurs identify with. Indeed, the answer to the question of why some individuals recognize the opportunity while others do not lies in the mumpreneurs' image of themselves (Lewis et al., 2021), the identity they have embedded, and the future image of the opportunities they hold. Therefore, at the stage of the search, information processing enables a mumpreneur to establish a more accurate view of the desired self in her role as both mother and entrepreneur (Fiske & Taylor, 1991), as well as the view she holds about future market-based opportunities. Given the aforementioned, mumpreneurs will actively look

for possibilities that suit their future image of "good mothering," in which the primary objective is to provide a better future for their children and family. Hence, it is predicted that mumpreneurs' creative search will strengthen their intentionality toward action upon viable future opportunities. Therefore, it has been hypothesized that:

H5: Creative search will have a significant and direct effect on mumpreneurs' action likelihood.

Figure 1: Theoretical Model and Hypotheses



Source: Authors' own model

Methodology

Sample and Procedure

The goal of this study was to gather data from established mumpreneurs currently running businesses; however, identifying eligible mumpreneurs was quite challenging. Associations having up to 500 members each agreed to participate in our study. Despite having up to 500 members each, members of the associations were not all mothers, and not all were reachable during our data collection period. We managed to collect only 40 questionnaires. Consequently, we shifted our focus to collecting questionnaires from mumpreneurs not affiliated with any association. We reached out randomly to mumpreneurs engaged in local family businesses, including artists, chefs, and small-scale workshop owners, both part-time and full-time. Data gathering began within our own network and expanded to business networks of mumpreneurs willing to help. After deleting incomplete or inconsistent responses, we obtained 302 completed questionnaires out of the initial 347, achieving an 87% response rate. To

ensure consistency, the questionnaire was translated into Turkish by one translator and then into English by another. Any discrepancies were resolved jointly.

Table 1: The Demographic Characteristics of the Participants

Characteristics	**N**	**(%)**	**Characteristics**	**N**	**(%)**
Age			**Children activity**		
18-25	14	4.6	Yes	138	45.7
26-30	31	10.3	No	161	53.3
31-40	80	26.5	Not born yet	3	1
41-50	111	36.8	**Income**		
>50	66	21.9	5.001 – 10.000 TL	134	44.3
Education			< 10.001 TL	168	55.6
Primary or Middle School	23	7.6	**House rent**		
High school	141	46.7	Yes	122	40.4
University	122	40.4	No	180	59.6
Grad school / PhD	16	5.3	**Type of entrepreneur**		
Marital Status			Full-time Entrepreneur	133	44
Married	248	82.1	Part-time Entrepreneur	169	56
Divorced	37	12.3	**Entrepreneurial activity**		
Widowed	17	5.6	1 to 10 years	174	57.6
Children			> 10 years of activity	128	42.4
1	102	33.8	**Sector**		
2	147	48.7	Production	88	29.1
3	43	14.2	Accounting - Finance	11	3.6
>3	7	2.3	Human Resources	5	1.7
Pregnant	3	1	Sale - Marketing	140	46.4 4
Children Age					
All children are under 1 year of age	7	2.3	Other	46	15.2
All children are 1-5 years of age	44	14.6	**Answers under 'Other':**		
All children are 6-10 years of age	37	12.3	Health, Textile, Informatics, Education, Hairdresser, Beauty salon, Tourism, Media, Grocery store, Medical export, Leather accessories design, Fashion design, Translation, Language courses school, Eyebrow design, Waxing		
All children are older than 10 years of age	147	48.7			
Not born yet	3	1.0			
Children aged < 1 and 1-5	15	5.0			

Characteristics	N	(%)	Characteristics	N	(%)
years of age			salon, Cleaning company, Yoga course, Trade, Tailor, Interior design, Farmer, Stationery owner, Animation and NFT		
Children aged < 1 and 6-10 years of age	3	1.0			
Children's age is 1-5 and 6-10	15	5.0			
Children's age is1 and > 10 years of age	1	0.3			
Children's age is 6-10 and > 10	30	9.9			

Source: Authors' own calculation based on survey data

Dependent, Independent and Control Variables

In order to ensure that there is no systematic bias influencing our primary data, Harman's (1976) one-factor test was done (Podsakoff et al., 2003). After calculating Harman's test in SPSS by choosing the principle axis factoring method and a fixed number of factors 1, the results showed the presence of only one factor, which on its own accounts for less than 50% of the variance (37,36%).

Table 2: Explanatory and Confirmatory Factor Analysis

	Reflective Constructs	EFA	CFA
	Factor 1: Entrepreneurial Identity		
EIA_1	I often thought about becoming an entrepreneur.	0,830	0,690
EIA_2	I see myself as an entrepreneur.	0,752	0,900
EIA_3	Becoming an entrepreneur is an important part of who I am.	0,771	0,759
EIA_4	When I think about it, the term "entrepreneur" fits me pretty well.	0,783	0,776
EIA_5	I always thought about becoming an entrepreneur.	0,744	0,694
EIA_6	It is important for me to express my entrepreneurial ambition.	0,796	0,761
Cron.α 0.874; rho_A 0.881; CR 0.874; AVE 0.583			
	Factor 2: Maternal Identity Centrality		
MIC_1	I think about the fact that I am a mother, when I'm deciding on possible business opportunities	0,839	0,923
MIC_2	The fact that I am mother is an important part of my entrepreneurial role.	0,847	0,762
MIC_3	Being a mother is an important part of how I see myself at my job	0,883	0,757

	Reflective Constructs	EFA	CFA
Cron.α 0.857; rho_A 0.867; CR 0.857; AVE 0.668			
	Factor 3: Creative Search		
SO_1	I am trying to find a really new business idea	0,871	0,831
SO_2	I purposefully emphasize creativity when generating the business idea	0,869	0,756
SO_3	I intend to find original and really novel ideas for a business	0,748	0,959
Cron.α 0.888; rho_A 0.901; CR 0.888; AVE 0.727			
	Factor 4: Action Likelihood		
AL_1	Engage in a deliberate, systematic search for an idea for a new business opportunity.	0,781	0,916
AL_2	Think about a business idea or a number of business ideas that can potentially grow into a real business.	0,785	0,888
AL_3	Discuss ideas for a new opportunity with my friends and family.	0,664	0,713
AL_4	Talk about a new opportunity with people that I have a business or working relationship with.	0,816	0,681
AL_6	Take some classes or seminars on how to exploit e a new opportunity.	0,590	0,771
AL_7	Alone or with others, define products or services for the new business idea.	0,826	0,805
AL_8	Alone or with others, try to define the market opportunity for the business.	0,816	0,805
AL_9	Devote significant time to this business idea.	0,822	0,854
AL_10	Alone or with others, study and map out the financials for the opportunity.	0,848	0,864
Cron.α 0.945; rho_A 0.950; CR 0.946; AVE 0.663			

Source: Authors' own calculations based on survey data

As shown in Table 2 all scale items were operationalized on a 5-point Likert scale, with 1 being "strongly disagree" and 5 being "strongly agree". In order to fit our study, the wording of the items was changed by adding the words 'entrepreneur' and 'opportunities'. The effect of Children's Age variables and Years of Experience on AL and OS was controlled, as they may be significant influential factors in the decision to engage in any entrepreneurial activity.

Findings

Evaluation of the Outer Measurement model

First, exploratory factor analysis using SPSS 22.0 was conducted to check for internal reliability and determine the factor structure of the latent variables. The AL scale containing 16 items was divided into more than one factor; AL_1 to AL_10 were loaded on the main AL factor, whereas AL_11 to AL_16 were loaded on another factor, which gave us a general picture of the factor's dimensional structure.

Table 3: Correlation Values and Discriminant Validity

		EI	MIC	OS	AL
Fornell-Larcker Criteria	Entrepreneurial Identity	**0.767**			
	Maternal Identity Centrality	0.066*	**0.817**		
	Creative Search	0.476*	0.279*	**0.853**	
	Action Likelihood	0.470*	0.422*	0.567*	**0.814**
Heterotrait-Monotrait Values	Entrepreneurial Identity				
	Maternal Identity Centrality	0.080			
	Creative Search	0.476	0.270		
	Action Likelihood	0.468	0.420	0.563	

*Note: Values written in bold are √AVE; Correlation values are presented in the Fornell-Larcker Criteria table. *p<0.001.*

Source: Authors' own calculations

Thus, we have eliminated items AL_12 to AL_16 accordingly. Further analysis suggested that the scales of MIC, EI, and OS are all one-dimensional scales. In addition, results of the analyses including Varimax-rotation with Kaiser Normalization show KMO 0.897, Bartlett's $p < 0.001$, cut-off point 0.50, Cronbach's Alpha 0.925, and factor loadings higher than 0.50 (Hair et al., 2014). The scale matches the literature's generally accepted reliability of Cronbach's Alpha 0.70 (Nunnally, 1978). After additionally dropping item four of the creative search, the exploratory factor analysis (EFA) of the 21 items indicates a four-factor model. As our study uses a reflective measurement model, SmartPLS 4 software was used for the reliability and validity testing of the constructs. CFA results indicate internal

consistency as all composite reliability (CR) values are above 0.7. Convergent reliability was achieved as well, as all average variance extracted (AVE) values are above the cut-off value of 0.5. The rho_A reliability coefficient values are all above 0.7, which is in line with the suggestions of Hair et al. (2014). Thus, discriminant validity was achieved by the Fornell-Larcker (1981) criterion, which suggests that the square root of each AVE should be higher than the correlation coefficients for each latent variable. Furthermore, the HTMT criterion for discriminant validity between reflective constructs shows a value below 0.90, as suggested by Henseler, Ringle, and Sarstedt (2015). PLS-SEM results suggested a good fit of the model (SRMR = 0.057, NFI = 0.804) according to the criteria for model fit advised by Hair et al. (2014). As SmartPLS does not provide a standard goodness-of-fit statistic aside from the NFI and SRMR values mentioned above, the model fit in CFA was additionally calculated using the GoF value ($\sqrt{\text{averageAVE}} \times \text{average}R^2$) as suggested by Cohen (1988). The GoF value of 0.579, obtained by calculating the formula, exceeds the cut-off value of 0.36 for large effect sizes of R^2. This value indicates that the model has very good prediction power.

Evaluation of the Inner Structural Model

To establish the significance of the path coefficients, the current study used a bias-corrected and accelerated (BCa) bootstrap approach using 5000 bootstrap samples with 300 maximum iterations. In addition to the explanatory power of R^2, the f^2 value represents the magnitude of each independent variable's influence on the dependent variable. When an independent variable is removed from the path model, a change in the value of R^2 indicates that the independent variable has an impact on the dependent variable. Geisser (1974), Stone (1974), and Hair et al. (2014) state that f^2 values of 0.35 show a high, 0.15 medium, and 0.02 weak influence of the independent variable on the dependent variable. As shown in Table 4, the effect sizes for MIC and EI on OS are 0.086 and 0.294, whereas the effect sizes for MIC, EI, and OS on AL are 0.158, 0.116, and 0.157, respectively. Hence, as Cohen (1988) indicated, the f^2 of all three exogenous latent constructs on OS and AL has a small and moderate effect on the value of R^2.

Table 4: Results of the Structural Model

Hypothesis	Structural relations	f^2	VIF	(β)	t-value	Path Decision
H1	EI → AL	0.116	1.300	0.309*	4.981	Significant
H2	MIC → AL	0.158	1.091	0.275*	4.552	Significant
H3	EI →OS	0.294	1.004	0.475*	7.999	Significant
H4	MIC → OS	0.086	1.004	0.181*	2.937	Significant
H5	OS → AL	0.157	1.404	0.317*	4.737	Significant
				R^2 adjusted		
		OS		0.31		
		AL		0.46		

*Note: *p < 0.05*

Source: Authors' own calculations

Table 5: Results of the Structural Model (cont.)

Structural relations	f^2	VIF	(β)	t-value	Path Decision
Children Age → AL	0.001	1.018	0.017	0.382	Not Significant
Children Age → OS	0.000	1.018	0.003	0.066	Not Significant
Years of Experience → AL	0.021	1.188	-0.234*	2.309	Significant
Years of Experience → OS	0.052	1.129	-0.404*	3.555	Significant

*Note: *p < 0.05*

Source: Authors' own calculations

According to path analysis findings, both entrepreneurial identity and maternal identity centrality variables are significantly and positively correlated to creative search (β = 0.446*, β = 0.292*, respectively), confirming hypotheses H3 and H4. Thus, both entrepreneurial identity and maternal identity centrality variables are significantly and positively correlated with action likelihood (β = 0.233*, β = 0.324*, respectively), confirming both hypotheses H1 and H2. Creative search also has a significant impact on action likelihood (β = 0.375*), so H5 is supported. Analysis for control and dependent variables indicated no effect of the children's age variable but showed a negative effect of years of experience on action likelihood and creative search.

Discussion and Theoretical Contribution

A current study finds that the entrepreneurial identity of mumpreneurs significantly influences their creative search for new ideas and the likelihood of acting upon new opportunities. These findings align with prior studies by Landour (2020) and Lewis et al. (2021), emphasizing the importance of mumpreneurs' adaptability to the dynamic entrepreneurial environment and the development of an identity that reflects their commitment to work responsibilities. These results can be explained by the notion of situatedness put out by Dimov (2007), which holds that each person's intentionality is shaped by the particular situation in which it takes place. For Turkish mumpreneurs, the socio-cultural and economic environment in which they operate is expected to have a significant influence on their entrepreneurial activities and identity formation. Unlike developed economies like the UK or US, where socio-cultural norms are more individualistic, Turkey has a more family-oriented and collectivistic culture. In Turkish society, the family is the focal point of business and entrepreneurship, and mothers frequently transition from unpaid household responsibilities or corporate positions to self-employment to provide for their families (Ufuk & Özgen, 2001). However, the business culture in Turkey can create significant obstacles for women aspiring to be entrepreneurs. As a result, women may struggle to build a strong entrepreneurial identity due to self-doubt and lack of confidence. Women often face pressure to prioritize their roles as wives and mothers over their careers, making it challenging to balance entrepreneurship with family obligations. This struggle can lead to feelings of guilt and anxiety among mumpreneurs, impacting their entrepreneurial identity formation. Despite these obstacles, mumpreneurs occupy a unique position that presents opportunities for establishing a strong entrepreneurial identity. In Turkey, many mumpreneurs have access to supportive communities of fellow colleagues who offer mentorship, networking, and emotional support. This support can help them overcome challenges in male-dominated business cultures and foster a sense of identity as a successful mumpreneur. Additionally, mumpreneurs' perspectives as women and mothers may provide valuable insights into their target market's needs and preferences, giving them a competitive edge over their male counterparts. This perspective can contribute to their identity as an innovative and successful mumpreneur, enabling them to navigate challenges and find new opportunities effectively. Through the concept of situatedness regarding

creative search and its highly positive relationship with mumpreneurs' entrepreneurial identity the nature of the Turkish economy can be explained. As previously mentioned, Turkey is a rapidly developing country with a growing women entrepreneurship and increasing demand for goods and services. This creates a dynamic and fast-changing business environment, where mumpreneurs have an advantage in identifying new opportunities. Turkey, benefiting from its strategic location and access to 1 billion consumers, stands out as one of the region's fastest-growing economies. Statistical figures show a notable increase in GDP per capita, rising from $9,539 in 2021 to $13,110 in 2023 (TÜİK, 2024), accompanied by an average annual GDP growth rate of 5.4 percent between 2003 and 2022 (Presidency of The Republic of Turkey Investment Office, 2024). Despite this growth, recent figures from the 2024 Turkish Statistical Institute (TÜİK) indicate that (*from here on, if not indicated differently, all numbers in thousands*) the number of women entrepreneurs remains four times smaller than those of men in 2023 (women 1.083; men 4.878). Nonetheless, there is a consistent upward trend in the share of women entrepreneurs compared to the overall women employment rate, indicating a steady progress in women's participation in entrepreneurship (2021=10,59%; 2022=10,56%; 2023=10,76%). What's noteworthy is the rise in the number of women entrepreneurs in the agricultural sector between 2021 (185.00) and 2023 (225.00), contrasted with a decline among male counterparts (2021=1.537; 2023=1.469). This trend could be attributed to a significant increase in inflation rates, nearly doubling from 36% to 64% after 2021. This severe economic shift likely impacted the labor mobility of male entrepreneurs, prompting a transition from agriculture to non-agricultural sectors, while women entrepreneurs took over a greater share of agricultural responsibilities. Karadeniz et al. (2023) and Özar (2016) highlight the significance of individuals' perceptions and societal beliefs in shaping entrepreneurial decisions, revealing a disparity where women entrepreneurs remain somewhat disconnected from the operational and strategic aspects of the entrepreneurial sector despite positive economic growth statistics. El Kadhi and Hamrouni (2023) discovered that mumpreneurs follow the philosophy of embracing unexpected surprises. Authors underline that when confronted with unexpected obstacles, they actively seek solutions to overcome them, as these negative events, in particular, help business growth by triggering new ideas on how to solve them. Furthermore, their entrepreneurial identity and mindset may give them the flexibility and creativity needed to adapt to changing market conditions and identify new

opportunities for growth. Furthermore, while present in the findings, mumpreneurs' construction of entrepreneurial identity in a male-dominated structure of business and society remains a mystery. Despite the supportive community of other women entrepreneurs and the unique perspective they have, Turkish mumpreneurs may be unable to develop a strong entrepreneurial identity with a feminine appearance, but a more masculine one. Ultimately, mumpreneurs' success in Turkey will be determined by their ability to handle many challenges that they confront and take advantage of the possibilities accessible to them in masculine settings. The evidence supporting the influence of maternal identity centrality on the creative search for new ideas and mumpreneurs' likelihood of action toward novel opportunities was not as strong as expected. Specifically, while it was assumed that mumpreneurs in Turkey would have strong maternal identification and hence conduct their economic activity primarily on the basis of maternal identity, this was not the case in our study. This can be related to a variety of facts. Firstly, the low influence of maternal identity on both creative search and action likelihood may be attributed to their identity as a mother not being directly related to their entrepreneurial domain. While motherhood may have an effect on their beliefs and objectives, it may not have an impact on their capacity to perceive and act on new possibilities, which is in line with the study by King (2020), who found how women in her study did not demonstrate a strong desire for growth. Secondly, while motherhood may impact a mumpreneur's understanding of market shifts and customer requirements, it may not necessarily provide an edge in spotting new possibilities (Dimov, 2020). Finally, mumpreneurs may have developed techniques to distinguish between their parental and entrepreneurial duties. For example, they may set aside particular periods for work and others for caring for their children. Study results highlighted the significance of the experience period on future action intention as well as on the use of creative search strategies. Interestingly, years of experience had a negative impact on future intention to action, supporting previous studies findings of Hmieleski et al. (2015) and Seletkova et al. (2021). These studies underline the fact that more experienced entrepreneurs shifted their focus beyond mere material comfort, toward fulfilling occupation and professional self-realization facilitated long-term success in entrepreneurship, sustaining and developing businesses effectively. Moreover, the negative impact of years of experience on the use of creative strategy in the search for new opportunities confirms the complexity of the interpretive lens experienced mumpreneurs might have. This process is heavily influenced by the degree

of assistance, obstacles, and motivation that a mumpreneur receives, providing her with encouragement and space to concentrate on growing her business and focusing on sector-specific opportunities (Newhouse, 2018). This might be due to the fact that mumpreneurs have attained a satisfying degree of self-actualization and self-fulfillment, and as a result, they may be less active and ambitious in terms of future action.

Conclusion

In conclusion, this study in Turkey focuses on mothers' involvement in entrepreneurship. It finds that Turkish mompreneurs' creative and innovative thinking is strongly influenced by their self-perceived roles as "good" mothers and "successful" entrepreneurs. Given the close relationship between entrepreneurship and family, families often serve as sources and resources for mumpreneurs' idea development. However, Turkish women still face economic and social dependence on their families and are predominantly viewed as caregivers. This societal norm limits women's career choices and opportunities for further business development. Therefore, recognizing and supporting women who pursue entrepreneurship is crucial for fostering a more inclusive business environment in Turkey and encouraging women to pursue their entrepreneurial goals. In this context, policymakers play a critical role. Although mumpreneurs face challenges such as well-known limited social support and interference from family members (Rodrigues et al., 2022), as well as gender gaps in financial inclusion and low financial literacy (Antonijević et al., 2022), the policymakers can support mumpreneurs by also recognizing the cognitive aspects of their involvement in entrepreneurial endeavors. First, governments might create peer support centers where mumpreneurs can interact to seek guidance and prospective collaborations, establishing a sense of belonging and supporting mumpreneurs' behaviors attached to the role. Second, authorities should encourage mumpreneurs to exercise self-care to maintain their physical, mental, and emotional health while juggling many duties. This might include developing activities that promote self-acceptance and self-esteem, thus improving their positive self-perception as entrepreneurs and mothers. Third, by adopting integrated supporting programs, policymakers may meet both entrepreneurial and maternal requirements. These programs may include specifically developed childcare services customized to mumpreneurs' work schedules and financial aid such

as tax reductions or daycare discounts based on the number and age of their children. Finally, the last and most important role of policymakers is giving much-needed recognition and validation of mumpreneurs' unique contribution to the entrepreneurial ecosystem. This can be done by highlighting their success and achievement, as well as the use of their creativity in balancing entrepreneurial and maternal roles on a daily basis.

Limitations and Future Research

Our study has a few limitations: data was obtained concurrently, which may pose a risk to validity, as occurs during cross-sectional survey design with self-reporting data collection. Furthermore, while the focus of this study was on employing measures utilized in prior studies, we recognize that there are additional forms of behavior and identity characteristics that may be important in the decision-making process for entrepreneurs. Finally, the applicability of our findings to a large sample size remains a pending subject matter. Future studies concentrating on the creative search and action likelihood inside the opportunity nexus, in comparable settings as in Turkey, may use these findings as a starting point for better understanding motherhood from cognitive and emotional perspectives.

Ethics Statement

The study received approval from the Human Research Ethics Committee on March 28, 2022, with the approval number E-43633178-050.02.04-53319.

References

[1] **Antonijević, M., Ljumović, I., & Ivanović, Đ**. (2022). Is there a Gender Gap in Financial Inclusion Worldwide?. *Journal of Women's Entrepreneurship and Education*, (1-2), 79-96.

[2] **Arendell, T.** (2000). Conceiving and investigating motherhood: The decade's scholarship. *Journal of marriage and family*, *62*(4), 1192-1207.

[3] **Barnett, R. C., & Baruch, G. K.** (1987). *Mothers' participation in childcare: Patterns and consequences*. Yale University Press.

[4] **Breen R. H., & Leung A.** (2020). Choosing mothering and entrepreneurship: A relational career-life process. *International Journal of Gender and Entrepreneurship*, *12*, 253–271.

[5] **Brush, C. G.** (1992). Research on women business owners: Past trends, a new perspective and future directions. *Entrepreneurship theory and practice*, *16*(4), 5-30.

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

[7] **Burke, P. J., & Stets, J. E**. (2009). *Identity theory*. Oxford University Press.

[8] **Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M.** (2009). The nature and experience of entrepreneurial passion. *Academy of management Review*, *34*(3), 511-532.

[9] **Cohen, J.** (1988). Statistical Power Analysis for the Behavior Science. Hilsdale.

[10] **d'Andria, A., Bourgain, M., Le Loarne-Lemaire, S., & Gnan, L.** (2020). La parentalité en entrepreneuriat: une dimension oubliée?. *Revue de lEntrepreneuriat*, *19*(3), 13-21.

[11] **Dimov, D.** (2007). From opportunity insight to opportunity intention: The importance of person–situation learning match. *Entrepreneurship Theory and Practice*, *31*(4), 561-583.

[12] **Dimov, D.** (2020). Opportunities, language, and time. *Academy of Management Perspectives*, *34*(3), 333-351.

[13] **Drakpa, D., Loday, S., & Yangchen, K.** (2022). Factors Affecting Entrepreneurial Intention of the Female Students of Business Colleges of Bhutan: Applying the Theory of Planned Behaviour. *Journal of Women's Entrepreneurship and Education*, (1-2), 170-186.

[14] **Duberley, J., & Carrigan, M.** (2013). The career identities of 'mumpreneurs': Women's experiences of combining enterprise and motherhood. *International small business journal*, *31*(6), 629-651.

[15] **Ekinsmyth, C.** (2011). Challenging the boundaries of entrepreneurship: The spatialities and practices of UK 'Mumpreneurs'. *Geoforum*, *42*(1), 104-114.

[16] **Ekinsmyth, C**. (2013). Managing the business of everyday life: The roles of space and place in "mumpreneurship". *International Journal of Entrepreneurial Behaviour & Research*, *19*(5), 525-546.

[17] **El Kadhi, N. N., & Hamrouni, A. D.** (2023). Mumpreneurship in an Effectual Dynamic: Entrepreneurial Logic and Motivations of Mumpreneurs. *Journal of Enterprising Culture*, *31*(01), 1-24.

[18] **Elvin-Nowak, Y., & Thomsson, H.** (2001). Motherhood as idea and practice: A discursive understanding of employed mothers in Sweden. *Gender & society*, *15*(3), 407-428.

[19] **Farmer, S. M., Yao, X., & Kung–Mcintyre, K.** (2011). The behavioral impact of entrepreneur identity aspiration and prior entrepreneurial experience. *Entrepreneurship Theory and practice*, *35*(2), 245-273.

[20] **Fiske, S. T., & Taylor, S. E.** (1991). *Social cognition*. Mcgraw-Hill Book Company.

[21] **Fornell, C., & Larcker, D. F.** (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.

[22] **Geisser, S.** (1974). A predictive approach to the random effect model. *Biometrika*, *61*(1), 101-107.

[23] **Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L.** (2014). Pearson new international edition. *Multivariate data analysis, Seventh Edition. Pearson Education Limited Harlow, Essex*.

[24] **Harman, H. H.** (1976). *Modern factor analysis*. University of Chicago press.

[25] **Heinonen, J., Hytti, U., & Stenholm, P.** (2011). The role of creativity in opportunity search and business idea creation. *Education+ Training*, *53*(8/9), 659-672.

[26] **Henseler, J., Ringle, C. M., & Sarstedt, M.** (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*(1), 115-135.

[27] **Hmieleski, K. M., Carr, J. C., & Baron, R. A.** (2015). Integrating discovery and creation perspectives of entrepreneurial action: The relative roles of founding CEO human capital, social capital, and psychological capital in contexts of risk versus uncertainty. *Strategic Entrepreneurship Journal*, *9*(4), 289-312.

[28] **Ilha Villanova, A. L., & Pina e Cunha, M.** (2021). Everyday creativity: A systematic literature review. *The Journal of Creative Behavior*, *55*(3), 673-695.

[29] **Karadeniz, E., Kunday. Ö., Schott. T., & Gizer. G.** (2023). Impact of the pandemic on entrepreneurship in Turkey GEM 2021/2022. *Yeditepe University Press.*

[30] **Kemmelmeier, M., & Walton, A. P.** (2016). Creativity in men and women: Threat, other-interest, and self-assessment. *Creativity Research Journal*, *28*(1), 78-88.

[31] **Kogut, C. S., & Mejri, K.** (2022). Female entrepreneurship in emerging markets: Challenges of running a business in turbulent contexts and times. *International Journal of Gender and Entrepreneurship*, *14*(1), 95–116.

[32] **King, K.** (2020). Networks, aspirations, and outcomes of mom entrepreneurs. *Journal of Women's Entrepreneurship and Education,* (1-2), 1-21.

[33] **Kwaśniewska, J. M., & Lebuda, I.** (2017). Balancing between roles and duties–The creativity of mothers. *Creativity. Theories–Research-Applications*, *4*(1), 137-158.

[34] **Landour, J.** (2020). Mompreneurs. Economics, Parenting and Identity. *Travail et Emploi*, (Hors-série), 121-142.

[35] **Lebuda, I., Jankowska, D. M., & Karwowski, M.** (2020). Parents' creative self-concept and creative activity as predictors of family lifestyle. *International Journal of Environmental Research and Public Health*, *17*(24), 9558.

[36] **Lewis, P.** (2014). Postfeminism, femininities and organization studies: Exploring a new agenda. *Organization Studies*, *35*(12), 1845-1866.

[37] **Lewis, P., Rumens, N., & Simpson, R.** (2022). Postfeminism, hybrid mumpreneur identities and the reproduction of masculine entrepreneurship. *International Small Business Journal*, *40*(1), 68-89.

[38] **Marsh, H. W., Trautwein, U., Lüdtke, O., Köller, O., & Baumert, J.** (2006). Integration of multidimensional self-concept and core personality constructs: Construct validation and relations to well-being and achievement. *Journal of personality*, *74*(2), 403-456.

[39] **Martire, L. M., Stephens, M. A. P., & Townsend, A. L.** (2000). Centrality of women's multiple roles: Beneficial and detrimental consequences for psychological well-being. *Psychology and Aging, 15*(1), 148–156. https://doi.org/10.1037/0882-7974.15.1.148

[40] **Navis, C., & Glynn, M.** (2011). Legitimate distinctiveness and the entrepreneurial identity: Influence on investor judgments of new venture plausibility. *Academy of Management Review*, *36*(3), 479-499.

[41] **Newhouse, F.** (2018). Mompreneur immunity: An exploration of meaning-making and relational support of self-employed women with children.

[42] **Nunnally, J. C.** (1978). Psychometric theory (2nd ed.). New York: McGraw-Hill.

[43] **Özar, Ş.** (2016). Women entrepreneurs in Turkey: Obstacles, potentials, and prospects. In *Women, Work and Welfare in the Middle East and North Africa: The Role of Socio-demographics, Entrepreneurship and Public Policies* (pp. 235-262).

[44] **Pandza, K., & Thorpe, R.** (2009). Creative search and strategic sense-making: missing dimensions in the concept of dynamic capabilities. *British Journal of Management*, *20*, S118-S131.

[45] **Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P.** (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, *88*(5), 879.

[46] **Presidency of The Republic of Turkey Investment Office** (2024). Guide to state incentives for investments in Türkiye. https://www.invest.gov.tr/en/library/publications/lists/investpublications/guide-to-state-incentives-for-investments-in-turkiye.pdf

[47] **Puhakka, V.** (2007). Effects of opportunity discovery strategies of entrepreneurs on performance of new ventures. *The Journal of Entrepreneurship*, *16*(1), 19-51.

[48] **Rodrigues, M., Daniel, A. D., & Franco, M.** (2023). What is important to know about mumpreneurship? A bibliometric analysis. *International Journal of Organizational Analysis*, *31*(7), 3413-3435.

[49] **Rubin, R.** (1967). Attainment of the maternal role: Part I. Processes. *Nursing Research*, *16*(3), 237-245.

[50] **Seletkova, G. I., Lazukova, E. A., Stegnii, V. N., & Tulieva, K. V.** (2021). Values of Entrepreneurs and Supervisors and Their Socio-professional Identity. *Journal of Women's Entrepreneurship and Education*, (1-2), 37-55.

[51] **Stone, M.** (1974). Cross-validation and multinomial prediction. *Biometrika*, *61*(3), 509-515.

[52] **Stryker, S., Serpe, R. T., & Hunt, M. O.** (2005). Making good on a promise: The impact of larger social structures on commitments. In *Social identification in groups*. Emerald Group Publishing Limited.

[53] **Sonbol, D.** (2018). Women entrepreneurs in Saudi Arabia: Creative responses to gendered opportunities. In *The Palgrave Handbook of Creativity at Work* (pp. 361-384). Palgrave Macmillan, Cham.

[54] **Tan, J. D., & Yew, J. L. K.** (2023). Women entrepreneurship: Mumpreneurs cruising the COVID-19 pandemic in Indonesia. *Business and Society Review*, *128*(1), 133-168.

[55] **TÜIK.** (2023). Statistics According to Topic. Employment statistics.

[56] **Ufuk, H., & Özgen, Ö.** (2001). Interaction between the business and family lives of women entrepreneurs in Turkey. *Journal of Business Ethics*, *31*, 95-106.

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ORIGINAL SCIENTIFIC PAPER

A Gender Perspective Analysis of the Interaction between Public and Private Sector Employment – A Study of Western Balkan Countries

Bernard Dosti[1]
Donald Vullnetari[2]
University of Tirana, Faculty of Economics, Department of Economics,
Tirana, Albania

A B S T R A C T

This paper examines the connection between expanding public-sector employment and its impact on private-sector job growth. Our focus is on understanding whether public hiring "crowds in" or "crowds out" private jobs, and further, if crowding out occurs, whether it leads to "partial crowding out" (reducing unemployment), "full crowding out" (no change in unemployment), or "more than full crowding out" (increased unemployment). This paper uses data from 2006 to 2022 from five Western Balkan (WB) countries: Albania, Bosnia & Herzegovina (BiH), Montenegro, North Macedonia, and Serbia. The findings show a strong negative link between public and private sector job growth. Similar to the unemployment model, the results suggest "full crowding out," meaning each new job in the public sector leads to roughly one fewer job in the private sector. This implies that adding public jobs does not create new jobs overall, but simply shifts them from one sector to another. Also, traditional gender roles shape labor markets in the WB, leading to lower labor force participation rates for women

[1] Corresponding author, e-mail: bernard.dosti@unitir.edu.al
[2] E-mail: donald.vullnetari@unitir.edu.al

compared to men and influencing the dynamics between public and private employment sectors.

KEYWORDS: *labor markets, public sector employment, private sector employment, gender*

Introduction

The Western Balkans (WB) region has experienced a unique trajectory in its labor market dynamics. Following the dissolution of Yugoslavia in the 1990s and the fall of the communist regime in Albania, these nations underwent significant political and economic transformations, leading to diverse challenges in their labor markets. The transition from centrally planned economies to market-oriented systems marked a pivotal period, with the restructuring process impacting employment patterns and job availability. Shifts in industries, privatization efforts, and the restructuring of state enterprises have contributed to the complexities characterizing the labor markets in the region.

The region is facing a series of internal and external issues, such as significant outward migration fuelled by high unemployment, low wages, and limited opportunities. This "brain drain" underscores persisting socioeconomic hurdles. Notably, public sector employment plays a crucial role, offering stability and benefits to a large segment of the workforce. However, its impact extends beyond job creation, influencing private sector dynamics and overall unemployment rates.

The objective of this paper is to investigate the relationship between growth in public-sector employment and growth in private-sector employment. Specifically, we are investigating whether recruitment in the public sector leads to an increase ("crowding in") or a decrease ("crowding out") in private sector employment. If the results show that there is a crowding out effect, we aim to distinguish if this effect constitutes a "partial crowding out", resulting in a reduction in unemployment; or otherwise "full crowding out", where unemployment remains unchanged; or "more than full crowding out", leading to an increase in unemployment levels.

Based on the context of the WB, particularly in the earlier years of their transition to market-based economies, the public sector was often considered one of the most preferred employers. Public sector jobs were perceived as offering greater job security compared to the private sector

during times of economic uncertainty and transition. Government jobs were seen as more prestigious and respectable, especially in fields like education, healthcare, and civil service, while the lack of development in the private sector influenced skilled individuals to seek public-sector employment.

The transformation of ownership through privatization, the emergence and expansion of small businesses, the inflow of foreign direct investment, the transfer of technology and innovation, shifts in foreign trade patterns, and regional development have all influenced the demand for skills in Western Balkan nations (Barlet, 2007). Kovtun et al. (2014) explain that the ongoing reforms facilitated the growth of the private sector, which ultimately contributed to lowering unemployment rates, while the influx of external capital, particularly through greenfield FDIs, played a crucial role in fostering the emergence of fresh enterprises and even entirely new economic sectors. This influx also offered opportunities for individuals previously laid off from declining industries to reintegrate into the workforce through participation in these new economic endeavors.

Despite the fact that the efficiency of the private sector was increasing in the WB (Reiter et al., 2020), the average wages in the public sector appeared to stay higher than those in the private sector, but also the highly skilled workers were more inclined to work in the public sector and were more frequently employed there (Vladisavljević et al., 2017). With this in mind, the history of private sector development in Eastern European countries shows that with the rise of private sector productivity, the shift of higher wages and high-skilled workers will shift to the private sector, as currently stands in developed countries (Lausev, 2014).

Building on existing research, we aim to explore the potential for public-sector employment to crowd out private-sector jobs. We want to contribute to the broader economic literature on transitioning economies, shedding light on the nuances of labor market shifts during periods of transition (or prolonged transitions). Lastly, we think that understanding whether public-sector expansion positively or negatively affects private-sector employment can guide policies in both private and public-sector development of labor markets.

Despite variations among individual countries, unemployment remains a key concern in the WB, particularly among youth and women. The lack of adequate job opportunities, structural mismatches in skills, and insufficient integration into global value chains have contributed to elevated unemployment levels. In general, during this period, there has been a

notable trend of fluctuation and decline in unemployment rates from the initial years to the most recent period. Most of the countries have experienced a decrease in unemployment rates, indicating improvements in their respective labor markets. Notably, BiH has reduced unemployment from 31.1% in 2006 to 12.7% in 2022 and North Macedonia from 36.4% in 2026 to 14.4% in 2022 (see Annex Figure 1).

There has also been progress in the reduction of the youth unemployment rate (see Annex Figure 2). In BiH, the youth unemployment rate decreased from 62.1% in 2006 to 33.5% in 2022; in North Macedonia, it decreased from 59.6% in 2006 to 34.9% in 2022; in Montenegro, it decreased from 46% in 2006 to 28.3 in 2022; in Serbia decreased from 48% in 2006 to 24.8% in 2022. The youth unemployment rate in Albania peaked in 2015 at 39.9%, while it decreased to 27.8% in 2022. Notwithstanding the progress, the youth unemployment rate remains high.

Limited opportunities within the labor market dissuade numerous young individuals from engaging in workforce participation. Prolonged exposure to such conditions places these young individuals at a heightened risk of enduring prolonged disadvantage within the labor market, a phenomenon known as "labor market scarring", while this effect can precipitate significant and enduring consequences over the long term (Mojsoska-Blazevski et al., 2017).

The WB region experiences significant levels of outward migration, encompassing various forms such as temporary and permanent migration, the emigration of highly skilled individuals, commonly referred to as "brain drain", and transit migration. Despite progress in improving economic and social prospects over the past decade, enduring structural obstacles and socio-economic hardships continue to significantly motivate emigration from Western Balkan economies. These challenges include high levels of unemployment, relatively low wages, poor educational outcomes, inadequate social security, and pervasive corruption, all occurring simultaneously. Established migration networks, sustained labor needs, and migration policy initiatives explicitly designed for WB labor migrants have reduced the obstacles to emigrating to various destination countries (OECD, 2021).

Employment within the public sector has played a substantial role in the labor market of the WB. Government entities, state-owned enterprises, and various public institutions have traditionally been prominent employers, offering job stability and benefits. In 2022, Montenegro had the highest

public employment rate, at 23.7% of the total labor force, followed by BiH with 23.3%, Serbia with 22%, North Macedonia with 18.8% and lastly Albania with 12.6% (see Annex Figure 3). Although there is a slightly decreasing trend for Albania, North Macedonia and Montenegro, the trend is rather steady for BiH and Serbia.

Gender Differences in the Labour Market

Traditional gender roles play a significant role in shaping labor market dynamics in the Western Balkans. These roles are often deeply entrenched in social norms, cultural beliefs, and historical practices, which can have a direct impact on women's participation in the workforce. Looking at the figures (see Annex Table 5), in 2022, the labor participation rate for women is lower in all the WB countries. Particularly, in Albania, the participation rate of women is 52.9% while the participation rate of men is 60.3%; in BiH, the participation rate of women is 40.3% while the participation rate of men is 50.2%; in Montenegro, the participation rate of women is 49.2%, while the participation rate of men is 56.3%; in North Macedonia, the participation rate of women is 42.2%, while the participation rate of men is 53.0%; and in Serbia, the participation rate of women is 51.3%, while the participation rate of men is 59.1%. Considering this, the participation rate of women is, on average, 8.6 percentage points lower in the observed WB countries.

Looking at the historical data (see Annex Table 5), there was a slight improvement since 2006. In 2022, compared to 2006, the labor market participation rate of women in Albania increased by 6.4pp, in BiH by 9.2pp, in Montenegro by 6.8pp, in North Macedonia it increased by 0.5pp and in Serbia by 6.7pp. However, the labor force participation rate for men also increased, sustaining the gender difference, reflecting the ongoing influence of traditional gender roles and the need for continued efforts to promote gender equality in the workforce. Support is required to overcome labor mobility challenges faced by women, including balancing family responsibilities with work commitments and addressing gender stereotypes in occupations (Jevtić et al., 2023). There is also evidence that an increase in digital competencies can lead to increased inclusion of women in the labor market (Lazić et al., 2023).

This difference is, however, less evident when considering the unemployment rate. Although women generally have a higher

unemployment rate than men across all countries and throughout the 2006 – 2022 period (see Annex Table 6), differences are small. Also, for the latest data in 2022, the unemployment rate is lower for women in Albania, Montenegro, and North Macedonia, while in Serbia the women's unemployment rate is 0.5pp higher than men, and in BiH is 4.8pp higher.

Exploring employment in the private sector, gender differences in employment are still highly evident. The employment rate of women is below 50%, and close to 40% in all countries, proving a substantial gap in employment of women in this sector (see Annex Figure 5). More precisely, the percentage of women employed in the private sector in Albania is 43%, in BiH 39%, in Montenegro 41%, in North Macedonia 40% and in Serbia 43%.[3] On the other hand, the public sector is more gender-balanced. The percentage of women employed in the public sector is 50% in Albania, 42% in BiH, 51% in Montenegro, 46% in North Macedonia and 53% in Serbia (see Annex Figure 4).[4] The further development of tourism in the region has shown to be a positive factor in empowering women. Gender inequality within the tourism sector is lower than in other industries, contributing to the inclusion of women in the labor market and increasing entrepreneurship (Pavlović et al., 2022). Although there is some slight progress in the employment of women in both the private and public sectors, it is evident that the public sector has made more progress in ensuring more equitable employment than the private sector.

Literature Review

For a long time, the public sector has played a leading role in employment, not only by being a large employer but also by influencing wages and overall job availability (Marinakis, 1994). Public sector employers, unlike their private sector counterparts who aim to maximize profits, are theorized to make decisions based on two main approaches: achieving optimal social outcomes or pursuing the goals of individual politicians (Forni & Giordano, 2003).

In essence, three key factors influence the impact of public-sector employment on the private sector. Firstly, higher wages in public jobs can

[3] Latest ILOSTAT data available for Albania are in 2019, for Montenegro are in 2020, and for the other countries in 2022.

[4] Latest ILOSTAT data available for Albania are in 2019, for Montenegro are in 2020, and for the other countries in 2022.

attract workers from private businesses, as both sectors compete for the same talent pool. Secondly, the effect of increased public employment on overall jobs depends on how much private and public goods or services complement each other. Finally, the net change in household income due to public job creation, combined with how strongly individual households adjust their spending based on income changes (income effect) and job availability (substitution effect), can lead to uncertain outcomes in terms of overall consumption and its impact on different sectors. (Nalban & Smădu, 2021).

Public-sector employment carries significant and enduring implications for private-sector employment and the overall unemployment rate. More specifically, the public sector becomes a competitor for labor with the private sector, and this competition has the potential to heighten the strains in wage negotiations, leading to an increase in private sector wages, creating a crowding-out phenomenon that draws workers from the private sector into the public sector (Caponi, 2017).

In this context, wages play an important role. According to Afonso and Gomes (2014), public employment and wages impact private employment and wages as they make unemployment less attractive, either by increasing the chances of getting a public-sector job or by making public-sector jobs more attractive while also reducing private-sector employment. This pressure amounts directly to competition between sectors, resulting in the private sector increasing wages.

In one of the early empirical works, Maley and Moutos (1996) assessed the crowding out of private-sector employment by government employment in Sweden during the period from 1964 to 1990. Their findings suggest that the growth in government employment led to a complete crowding-out of private employment in Sweden during this period, suggesting that countries with a substantial public sector workforce would typically experience lower labor force participation rates. However, they indicate caution in their findings, as Sweden`s high participation rate was not due to a labor demand-driven increase in aggregate employment, but rather a labor supply response by households to achieve an "acceptable" level of disposable income. Such conclusions and cautions might be valid for high-income countries, while for developing countries, the situation might be more demand-driven.

In a study by Algan et al. (2002), researchers investigated the relationship between public sector employment and the functioning of labor markets using pooled data from 17 OECD for the period from 1960 to 2000.

Their empirical findings from the employment equation indicated that, on average, public employment has a strong crowding-out effect on private employment, while the impact of public employment heavily depends on the kind of public jobs created, specifically the degree of substitutability with private production and the size of rents in the public sector. Although Boeri et al. (2000) analyzed regulation and labor market performance, they also found evidence of a crowding-out effect of the public sector on the private sector, but at a lower rate than Algan et al. (2002) show. A partial crowding out effect is also shown at a local level by Becker et al. (2021), who suggest that each additional public sector job reduces employment in the industry by around 0.2 jobs while it creates just over one additional job in other parts of the private sector. Their paper used the relocation of the German government from Berlin to Bonn in the wake of the Second World War as a natural experiment to provide evidence for the effects of public employment on private-sector employment.

Nalban and Smădu (2021) quantitatively assess the spillover effects originating from sectoral labor market shocks in an emerging economy (Romania) using a VAR model. They find that increases in public employment crowd out private-sector employment and are contractionary, while increases in public wages lead to muted spillover effects. Conversely, increases in private employment and wages boost public employment and speed up the economy.

Methodology and Data

To investigate the presence of crowding out, we conduct analyses for both the unemployment rate and the rate of private-sector employment. The model is based on the methodological work of Behar and Mok (2019):

$$U_t = \beta Pub_t + \delta X_t + \varepsilon_t$$

$$Prv_t = \beta Pub_t + \delta X_t + \varepsilon_t$$

Where U is the rate of unemployment, Pub is the rate of public employment, Prv is the rate of private employment rate, X is the vector of control variables and ε is the residual term. All rates are shown as percentages of the total workforce. For easiness of interpretation, we will call the first model the Unemployment Model and the second model the

Private Employment Model. The control variables include GDP growth, urbanity, government expenditures, exports and inflation.

For the Unemployment Model, Behar and Mok (2019) explain the estimation results based on the estimating coefficient of the public employment variable. Specifically, if the coefficient β approaches -1, there is no crowding out effect. When β is more negative than -1, there is crowding in. A β value between 0 and -1 suggests a partial crowding out. A β value near 0 suggests complete crowding out.

According to Behar & Mok (2019), in the Private Employment Model, the coefficient β indicates the impact of public employment on private sector jobs. A positive β signifies that public jobs also create employment in the private sector, suggesting a "crowding-in" effect. Conversely, a β close to zero implies no significant impact. Values between -1 and 0 indicate partial crowding out, meaning some private jobs are lost for each public job created. A β of -1 suggests full crowding out, where each public job eliminates one private sector job. Finally, a β lower than -1 implies even greater crowding out, with more than one private sector job lost for each public position created.

The empirical analysis draws upon annual data from 2006 to 2022 for 5 Western Balkans countries, including Albania, Bosnia & Hercegovina, Montenegro, North Macedonia and Serbia. The data for the private employment rate, public employment rate and unemployment rate are collected from ILOSTAT, and the national statistics institutes, namely: Albanian Institute of Statistics (INSTAT); Agency for Statistics of Bosnia and Hercegovina; Statistical Office of Montenegro (MONSTAT); State Statistical Office of the Republic of Macedonia; Statistical Office of the Republic of Serbia. Data for GDP growth, government expenditures, inflation, urbanity and exports are collected from the World Bank's World Development Indicators. A list of variables and their definitions is presented in Table 1, while Table 2 presents a set of summary statistics.

Table 1: Definition of variables

Variable Name	Definition of variables
Private employment rate	Private employment rate as a % of the labor force
Public employment rate	Public employment rate as a % of the labor force
Unemployment rate	Unemployment rate as a % of the labor force
GDP growth	GDP growth (annual percentage)
Government expenditure	General government final consumption expenditure (% of GDP)
Inflation	Inflation, consumer prices (annual percentage)
Urbanity	Urban population (% of total population)
Exports	Exports of goods and services (% of GDP)
Women LFP	Women's labor force participation rate

Source: Author's research

Table 2: Summary statistics

Variable Name	N	Mean	Std. Dev.	Min	Max
Private employment rate	85	60.59	8.26	41.69	76.36
Public employment rate	85	19.85	4.96	11.89	28.90
Unemployment rate	85	19.54	6.67	8.68	36.39
GDP growth	85	2.82	3.75	-15.31	13.04
Government expenditure	85	17.45	3.84	10.18	23.46
Inflation	85	3.25	3.62	-1.58	14.20
Urbanity	85	56.35	6.45	44.28	68.16
Exports	85	39.18	10.74	22.66	74.89
Women LFP	85	43.33	5.26	31.10	52.90

Source: Author's calculations

Results and Discussion

We utilized the Im-Pesaran-Shin panel unit-root test as a preliminary step to assess the stationarity of the variables before proceeding with model estimation. Test results are shown in Annex Table no. 4. Only the public employment rate and the GDP growth are stationary at level, while the other variables are stationary at their difference. To account for non-stationarity, the model was adjusted by including the non-stationary variables in their first difference form. For the purpose of the model, the public employment rate will also be included in the first difference since the interpretation needs both variables to be either level or first difference.

We run the equation for both RE and FE models. An examination of the estimated coefficients revealed discrepancies between the two models. To address this, we employed the Housman specification test (Annex Figure 6) to statistically assess which model is more appropriate for our purposes. As the p-value is higher than 0.05 (chi2 = 6.29, p = 0.1788), we consider the RE model. To assess the presence of autocorrelation in the model's residuals, we conducted the Wooldridge test (details in Annex Figure 7). This test specifically examines first-order autocorrelation, which means errors might be correlated with lagged errors. The test's null hypothesis is that there is no such correlation. Since the p-value (F = 7.738, p = 0.0497) is lower than 0.05, we reject the null hypothesis, indicating the presence of first-order autocorrelation in the model.

We use the Pesaran test (details in Annex Figures 8 and 9) to test for cross-sectional dependence. The results indicate that the null hypothesis is rejected for both RE and Fixed FE regressions: (RE Regression: value = 2.002, p = 0.0452); (FE Regression: value = 1.852, p = 0.0640). To address this issue and obtain reliable coefficient estimates, we employed the Feasible Generalized Least Squares (FGLS) regression model. This model takes into account both autocorrelation and cross-sectional dependence, allowing for a more accurate interpretation of the coefficients obtained from the FGLS regressions.

Table 3 presents the results of the Unemployment Model. As the estimator of public employment shows, the impact of the rate of employment in the public sector on the rate of unemployment is close to zero. *Based on the implications of the model, this suggests a complete crowding out.* However, the estimator is statistically insignificant, so we cannot fully rely on the unemployment model to present a final conclusion.

Table 3: Regression of Unemployment Rate on Public Employment Rate

	RE	FE	FGLS
Δ Public Employment	-0.0059	0.0217	0.0172
	(0.1063)	(0.1059)	(0.0697)
GDP Growth	-0.2812***	-0.2934***	-0.2126***
	(0.0638)	(0.0636)	(0.0429)
Δ Urbanity	1.2937**	-0.4618	0.9589**
	(0.5391)	(2.2444)	(0.4318)
Δ Government Expenditure	0.0990	0.1368	0.1376
	(0.2348)	(0.2326)	(0.1300)
Δ Exports	0.1524**	0.1732***	0.1125***
	(0.0612)	(0.0612)	(0.0387)
Δ Inflation	-0.0728	-0.0690	-0.0469
	(0.0556)	(0.0560)	(0.0382)
Constant	-0.7080**	-0.0125	-0.4982*
	(0.2938)	(0.9173)	(0.2711)
Observations	80	80	80
Number of countries	5	5	5
R Squared	0.2761	0.2837	

Standard errors in parentheses

**** p<0.01, ** p<0.05, * p<0.1*

Source: Author's calculations

Further, we use the Private Sector Model to explore the crowding out effect. In this model, we also include the Women LFP to account for gender differences that exist because of the lower participation of women in the labor market. Running both RE and FE estimators, we noticed some differences between estimates. Given the differences observed in the two models, we applied the Housman specification test again to determine which model yields more reliable results. As the p-value is higher than 0.05 (chi2 = 7.16, p=0.1276), we consider the RE model (see Annex Figure 10). We again employ the Wooldridge test for autocorrelation (see Annex Figure 11). As the p-value is almost 0.05 (F = 6.659, p=0.0613), the test fails to reject the presence of autocorrelation.

Again, we use the Pesaran test to test for cross-sectional dependence. The results reject the null hypothesis of no cross-sectional dependence (RE Regression: value = 4.766, p = 0.0000) (FE Regression: value = 4.7, p = 0.0000), suggesting no presence of cross-sectional independence. Given the diagnostics, even in this case, we run the FGLS regression model.

In alignment with existing literature, the coefficients demonstrate a notably robust negative correlation between the rates of public-sector and private-sector employment. Consistent also with the findings of the unemployment model, the value of β of the Public Employment is -1 and suggests full crowding out. This implies that any increase in public-sector employment is potentially offset by an equivalent decrease in private-sector employment. In essence, the creation of public jobs appears to directly replace or displace jobs in the private sector without leading to a net change in overall employment levels. Besides the other statistically significant factors, results show that the women's labor force participation rate is an important factor in the determination of the crowding-out dynamics. As we previously outlined, the private sector appeared to be more equitable, and this result supports that assertion.

Table 4: Regression of Private Employment Rate on Public Employment Rate

	RE	**FE**	**FGLS**
Δ Public Employment	-1.0179***	-1.0315***	-0.9792***
	(0.1179)	(0.1190)	(0.0607)
GDP Growth	-0.1511	-0.1145	0.2016***
	(0.2470)	(0.2505)	(0.0320)
Δ Urbanity	-0.9547	-0.1862	-0.7986**
	(0.5810)	(2.4977)	(0.3527)
Δ Government Expenditure	-0.3002	-0.3442	-0.0610
	(0.2566)	(0.2572)	(0.1044)
Δ Exports	-0.0730	-0.0917	-0.1434***
	(0.0626)	(0.0635)	(0.0281)
Δ Inflation	0.0905	0.0944	0.0732**
	(0.0626)	(0.0635)	(0.0285)
Δ Women LFP	0.3954*	0.3919*	0.2869***
	(0.2230)	(0.2250)	(0.0547)
Constant	1.0809***	0.7851	0.4035
	(0.3096)	(1.0048)	(0.2526)
Observations	80	80	80
Number of countries	5	5	5
R Squared	0.6047	0.6202	

Standard errors in parentheses

**** p<0.01, ** p<0.05, * p<0.1*

Source: Author's calculations

Conclusions

The Western Balkans' labor market dynamics have evolved uniquely, shaped by historical transitions from centrally planned economies to market-oriented systems. This transformation, marked by political and economic shifts, has led to diverse challenges, including high unemployment, limited opportunities, and significant outward migration. Despite progress in reducing overall unemployment rates and improving youth employment figures, structural obstacles persist, driving ongoing emigration and "brain drain". It is important to notice that still traditional gender roles significantly shape labor market dynamics in the WB, leading to lower labor participation rates for women compared to men. Public sector employment has historically provided stability and benefits, attracted a significant portion of the workforce and recently developed as a more gender-balanced employer. However, this preference has implications for private sector growth and employment dynamics.

During the transition, public sector employment has played a crucial role in providing stability and benefits in the region and is still considered the main employer. The paper seeks to understand whether public-sector employment leads to an increase ("crowding in") or a decrease ("crowding out") in private-sector employment. The results indicate a full crowding-out effect: in our sample of Western Balkans countries, public sector hiring typically doesn't reduce unemployment as it often leads to an equivalent reduction in private sector jobs. The finding is in line with the early literature, in terms of the scale of the crowding out, while also in line with recent literature on the existence of a crowding out effect. This finding suggests a complex interplay between the two sectors, with public employment potentially acting as a substitute for private sector opportunities.

The implications of this crowding-out effect are significant and warrant careful consideration in the formulation of labor market policies. Policymakers must navigate the delicate balance between fostering a stable and robust public sector and ensuring a thriving private sector that contributes to economic growth. The potential substitution effect between public and private employment implies that strategies focusing solely on expanding one sector may inadvertently impact the other. Therefore, a holistic and integrated approach to labor market policies is essential to create an environment where both public and private sectors can grow.

In recent years, there has been a notable upswing in private-sector employment, a trend propelled by the evolving dynamics of outsourcing in the post-pandemic landscape. This transformation has rendered positions in the private sector increasingly lucrative for employees. Conversely, the public sector is grappling with challenges in attracting and retaining highly skilled individuals. Within this context, the government, particularly in Albania, is actively implementing strategies to retain its workforce, primarily through incremental salary increases. Similar initiatives are being devised across the Western Balkan region.

Our findings underscore the necessity of augmenting such salary-centric policies with broader measures that actively bolster private-sector employment. While efforts to enhance public sector competitiveness are crucial, an exclusive focus on this front may inadvertently lead to zero-sum competition for employment opportunities within the country. In essence, the net benefit on overall employment levels for the nation may remain elusive if there isn't a parallel emphasis on supporting and stimulating private sector growth.

References

[1] **Afonso, A., & Gomes, P.** (2014). Interactions between private and public sector wages. *Journal of Macroeconomics*, *39*, 97-112.

[2] **Algan, Y., Cahuc, P., & Zylberberg, A.** (2002). Public employment and labour market performance. *Economic Policy*, *17*(34), 7-66.

[3] **Bartlett, W.** (2007). Economic Restructuring, Job Creation and the Changing Demand for Skills in the Western Balkans.

[4] **Becker, S. O., Heblich, S., & Sturm, D. M.** (2021). The impact of public employment: Evidence from Bonn. *Journal of Urban Economics*, *122*, 103291.

[5] **Behar, A., & Mok, J.** (2019). Does public-sector employment fully crowd out private-sector employment? *Review of Development Economics*, *23*(4), 1891-1925.

[6] **Boeri, T., Nicoletti, G., Scarpetta, S.,** (2000). Regulation and labour market performance, in: Galli, G., Pelkmans, J. (Eds.) Regulatory Reform and Competitiveness in Europe, Edward Elgar Publisher, Cheltenham, UK, 324-380.

[7] **Caponi, V.** (2017). The effects of public sector employment on the economy. IZA World of Labor.

[8] **Engle, R., & Granger, C.** (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, *55*(2).

[9] **Forni, L., & Giordano, R.** (2003). Employment in the Public Sector, *CESifo Working Paper*, No. 1085, Center for Economic Studies and ifo Institute (CESifo), Munich.

[10] **Jevtić, B., Vučeković, M., & Tasić, S.** (2023). The Effects of Digitalization and Skills on Women's Labor Market Inclusion-Serbian Gap Study. *Journal of Women's Entrepreneurship and Education*, 58-75.

[11] **Johansen, S.** (1988). Statistical Analysis of Cointegration Vectors. *Journal of Economic Dynamics and Control*, *12*(2-3).

[12] **Johansen, S.** (2009). Cointegration: Overview and development. *Handbook of financial time series*, 671-693.

[13] **Kovtun, D., Cirkel, A. M., Murgasova, M. Z., Smith, M. D., & Tambunlertchai, S.** (2014). *Boosting job growth in the Western Balkans*. International Monetary Fund.

[14] **Lausev, J.** (2014). What has 20 years of public–private pay gap literature told us? Eastern European transitioning vs. developed economies. *Journal of Economic Surveys*, *28*(3), 516-550.

[15] **Lazić, M., Vukmirović, V., Banović, J., Simović, V., & Paunović, M.** (2023). Digital Competences as a Precondition for an Inclusive Digital Economy-Is There a Gender Gap Among Persons with Disabilities in Serbia?. *Journal of Women's Entrepreneurship and Education*, (1-2), 51-71.

[16] **Mojsoska-Blazevski, N., Petreski, M., & Bojadziev, M. I.** (2017). Youth survival in the labour market: employment scarring in three transition economies, *Economic and Labour Relations Review*, *28*(2), 312-331.

[17] **Marinakis, A. E.** (1994). Public Sector Employment in Developing Countries: An Overview of Past and Present Trends. *International Journal of Public Sector Management*, *7*(2), 50-68.

[18] **Malley, J., & Moutos, T.** (1996). Does government employment "crowd-out" private employment? evidence from Sweden. *The Scandinavian Journal of Economics*, 289-302.

[19] **Nalban, V., & Smădu, A.** (2021). The interaction between private sector and public sector labor markets: Evidence from Romania. *Economic Modelling*, *94*, 804-821.

[20] **OECD** (2021) Labour Migration in the Western Balkans: Mapping Patterns, Addressing Challenges and Reaping Benefits.

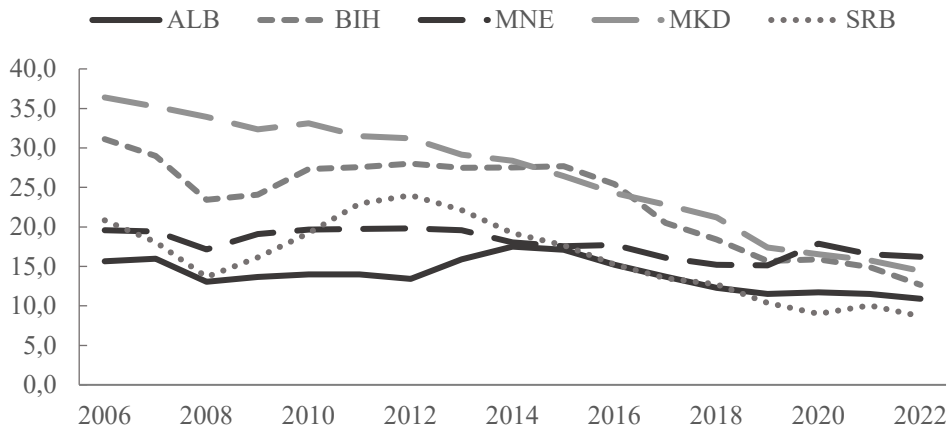
[21] **Pavlović, D., Bjelica, D., Bodroža, D., Jovičić, E., & Pindžo, R.** (2022). Women's economic empowerment through tourism: A case study of selected Western Balkans countries. *Journal of Women's Entrepreneurship and Education*, (3-4), 149-175.

[22] **Reiter, O., Schwarzhappel, M., & Stehrer, R.** (2020). *Productivity and competitiveness of the Western Balkan countries: An analysis based on the Western Balkan Productivity Database* (No. 37). Policy Notes and Reports.

[23] **Vladisavljević, M., Narazani, E., & Golubović, V.** (2017). Public-private wage differences in the Western Balkan countries.

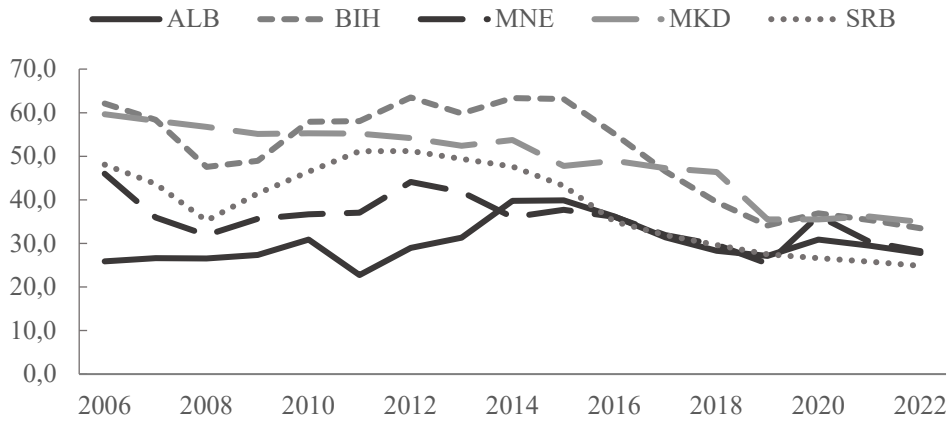
Appendix

Figure 1: Unemployment Rate in the WB Countries (2006 – 2022)



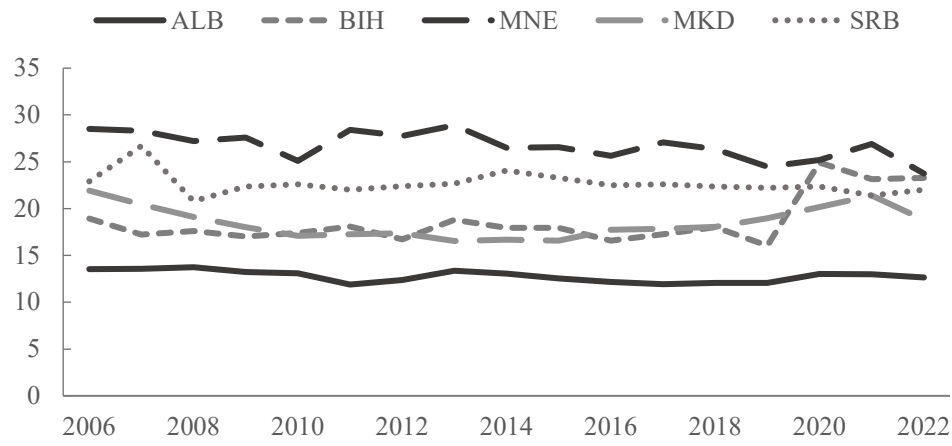
Source: ILOSTAT (2024)

Figure 2: Youth Unemployment Rate in the WB Countries (2006 – 2022)



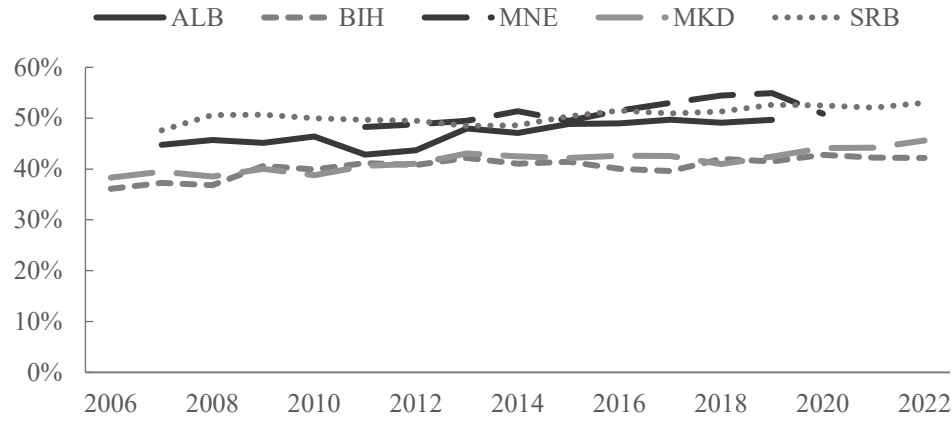
Source: ILOSTAT (2024)

Figure 3: Public Employment Rate as Percentage of Labor Force – WB Countries



Source: ILOSTAT (2024), National Statistics Offices of Albania, Bosnia & Hercegovina, Montenegro, North Macedonia, Serbia

*Figure 4: Percentage of Women Employees in the Public Sector (2006 – 2022)**



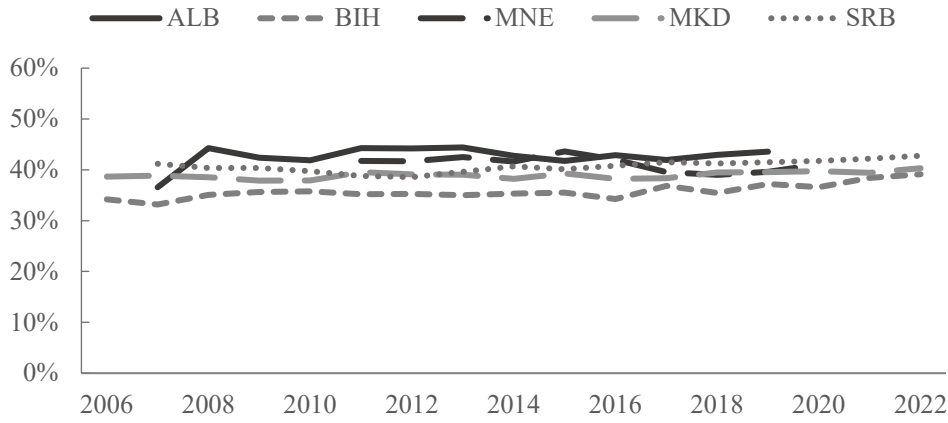
Source: ILOSTAT (2024)

**Data for Albania were not available disaggregated by gender for the year 2006, and years 2020 – 2022.*

**Data for Montenegro were not available disaggregated by gender for years 2006 - 2010, and years 2021 – 2022.*

**Data for Serbia were not available disaggregated by gender for the year 2006*

Figure 5: Percentage of Women Employees in the Private Sector (2006 – 2022)



Source: ILOSTAT (2024)

**Data for Albania were not available disaggregated by gender for the year 2006, and years 2020 – 2022.*

**Data for Montenegro were not available disaggregated by gender for years 2006 - 2010, and years 2021 – 2022.*

**Data for Serbia were not available disaggregated by gender for the year 2006*

Table 5: Labor force participation rate, disaggregated by gender (2006 – 2022)

	ALB		BIH		MNE		MKD		SRB	
	W	M	W	M	W	M	W	M	W	M
2006	46.5	55.4	31.1	43.4	42.3	49.0	41.6	53.4	44.6	53.4
2007	46.0	54.3	31.1	44.0	42.3	48.8	42.9	54.5	45.2	53.5
2008	45.4	53.2	32.4	45.0	42.2	48.7	42.6	55.0	44.7	52.8
2009	45.8	55.0	32.9	44.9	42.2	48.8	42.6	55.2	43.0	51.0
2010	46.7	55.2	34.0	45.7	42.2	48.8	41.2	53.8	41.6	49.7
2011	52.5	59.9	34.0	45.3	42.2	48.7	43.4	55.2	41.5	49.8
2012	48.8	57.0	34.1	45.7	43.6	50.0	42.9	55.0	41.8	50.3
2013	43.7	52.4	34.0	45.3	43.8	50.1	44.2	55.6	42.9	51.3
2014	43.8	53.4	35.5	46.3	46.3	52.7	43.8	55.7	43.6	51.9
2015	47.0	55.5	35.4	46.3	47.7	53.7	43.4	55.4	43.3	51.6
2016	49.8	57.3	34.8	46.2	47.7	54.5	42.5	55.1	45.3	53.4
2017	49.6	58.1	35.4	46.2	47.6	54.7	42.8	55.2	46.2	54.1

	ALB		BIH		MNE		MKD		SRB	
	W	**M**	**W**	**M**	**W**	**M**	**W**	**M**	**W**	**M**
2018	51.3	59.3	34.9	46.0	48.2	56.0	42.4	54.8	46.5	54.6
2019	52.8	60.3	36.9	47.0	50.0	57.4	44.7	55.3	46.9	54.8
2020	50.1	57.4	36.0	46.8	46.5	53.4	43.7	54.5	46.5	54.3
2021	51.8	58.7	39.6	49.9	47.8	54.5	42.9	54.1	49.9	58.0
2022	52.9	60.3	40.3	50.2	49.2	56.3	42.2	53.0	51.3	59.1

Source: ILOSTAT (2024)

Table 6: Unemployment as a percentage of labor force, disaggregated by gender (2006 -2022)

	ALB		BIH		MNE		MKD		SRB	
	W	**M**	**W**	**M**	**W**	**M**	**W**	**M**	**W**	**M**
2006	16.1	15.3	34.8	28.9	28.2	22.1	37.4	35.7	24.7	17.9
2007	16.4	15.6	32.9	26.7	20.9	18.1	36.0	34.7	21.0	15.7
2008	13.7	12.5	26.8	21.4	18.3	16.2	34.4	33.6	15.9	11.9
2009	15.7	12.2	25.6	23.1	20.4	18.0	32.8	32.0	17.8	14.8
2010	15.9	12.8	29.9	25.7	20.7	18.8	33.6	32.9	20.2	18.4
2011	13.7	13.3	29.9	26.1	20.1	19.5	30.9	31.9	23.7	22.4
2012	11.5	14.8	30.6	26.4	20.4	19.3	30.7	31.6	25.0	23.3
2013	13.4	17.7	29.0	26.5	18.9	20.1	29.3	29.1	23.8	20.8
2014	15.5	19.9	31.1	25.2	18.2	17.9	29.1	27.9	20.4	18.3
2015	17.1	17.2	30.7	25.8	17.3	17.8	25.4	27.1	18.7	16.8
2016	14.5	16.1	30.0	22.5	17.1	18.3	23.2	25.0	16.1	14.6
2017	12.5	14.5	23.1	18.9	16.9	15.4	22.4	23.1	14.3	12.8
2018	11.9	12.6	20.3	17.2	15.1	15.2	20.6	21.6	13.7	12.0
2019	11.3	11.6	18.8	13.6	15.7	14.7	18.6	16.6	11.1	9.8
2020	12.5	13.1	18.6	14.1	18.4	17.5	16.2	16.8	9.4	8.7
2021	12.3	12.8	18.1	12.7	15.8	17.1	14.7	16.5	11.0	9.3
2022	11.5	11.8	15.5	10.7	14.7	15.7	12.5	15.7	9.0	8.4

Source: ILOSTAT (2024)

Table 7: Im, Pesaran and Shin Test

	Level	**Difference**
Private employment rate	-0.3173	-4.1779**
Public employment rate	-2.6085*	-4.5526**
Unemployment rate	-2.5376	-3.3074**
GDP growth	-4.2259**	-6.6982**
Government expenditure	-1.5048	-3.5352**
Inflation	-1.7528	-3.2835**
Urbanity	-2.1625	-3.7643**
Exports	-0.9908	-3.6705**
Women LFP	-1.0004	-4.2988**

Source: Author's Calculations

*** p<0.01, * p<0.05*

Figure 6: Housman Specification Test (Regression of Unemployment Rate on Public Employment Rate) – Stata Output

```
                 ---- Coefficients ----
             (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
              FE           RE         Difference          S.E.
-------------+----------------------------------------------------------------
       D.pub |   .0216607    -.0058934      .027554       .0176655
      growth |  -.2934393    -.2811908     -.0122485      .0106268
       D.urb |  -.4617883     1.293719     -1.755507      2.217947
       D.gov |    .136792     .0990481      .0377438      .0289731
       D.exp |   .1732428     .1524164      .0208264      .0113398
       D.infl |  -.0689673    -.0727907      .0038235      .0122664
------------------------------------------------------------------------------
                     b = consistent under Ho and Ha; obtained from xtreg
          B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =         6.29
                Prob>chi2 =       0.1788
                (V_b-V_B is not positive definite)
```

Source: Author's Calculations

Figure 7: Wooldridge Test for Autocorrelation (Regression of Unemployment Rate on Public Employment Rate) – Stata Output

```
Linear regression                               Number of obs =         75
                                                F(  4,     4) =          .
                                                Prob > F      =          .
                                                R-squared     =     0.3020
                                                Root MSE      =     1.7971

                                  (Std. Err. adjusted for 5 clusters in country)
------------------------------------------------------------------------------
             |               Robust
   D.d_unemp |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       d_pub |
         D1. |   .0682383   .0380014     1.80   0.147    -.0372706    .1737472
             |
      growth |
         D1. |  -.2444868   .0728631    -3.36   0.028    -.4467871   -.0421865
             |
       d_urb |
         D1. |   11.79725   14.93567     0.79   0.474    -29.67082    53.26531
             |
       d_gov |
         D1. |  -.0038123   .1520821    -0.03   0.981    -.4260598    .4184352
             |
       d_exp |
         D1. |   .1318823   .0772616     1.71   0.163    -.0826303    .3463949
             |
      d_infl |
         D1. |  -.0886429   .0462578    -1.92   0.128     -.217075    .0397892
------------------------------------------------------------------------------

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
    F(  1,       4) =      7.738
           Prob > F =      0.0497
```

Source: Author's Calculations

Figure 8: Pesaran's Test of Cross-Sectional Independence (RE Regression of Unemployment Rate on Public Employment Rate) – Stata Output

```
Pesaran's test of cross sectional independence =     2.002, Pr = 0.0452

Average absolute value of the off-diagonal elements =     0.189
```

Source: Author's Calculations

Figure 9: Pesaran's Test of Cross-Sectional Independence (FE Regression of Unemployment Rate on Public Employment Rate) – Stata Output

```
Pesaran's test of cross sectional independence =     1.852, Pr = 0.0640

Average absolute value of the off-diagonal elements =     0.186
```

Source: Author's Calculations

Figure 10: Housman Specification Test (Regression of Private Employment Rate on Public Employment Rate) – Stata Output

	Coefficients (b) FE_1	(B) RE_1	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
D.pub	-.9823757	-.9590549	-.0233207	.0177605
growth	.2747178	.2629942	.0117236	.0096143
D.urb	.8470333	-1.322849	2.169883	2.195272
D.gov	-.1328501	-.0895434	-.0433067	.0282949
D.exp	-.1918629	-.1662383	-.0256246	.0125032
D.infl	.0793677	.0830482	-.0036805	.0118881
D.wlfp	.2238472	.196994	.0268532	.0216466

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 7.16
Prob>chi2 = 0.1276

Source: Author's Calculations

Figure 11: Wooldridge Test for Autocorrelation (Regression of Private Employment Rate on Public Employment Rate) – Stata Output

Linear regression

Number of obs	= 75
F(4, 4)	= .
Prob > F	= .
R-squared	= 0.8034
Root MSE	= 1.7739

(Std. Err. adjusted for 5 clusters in country)

D.d_priv	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
d_pub						
D1.	-1.031093	.0624897	-16.50	0.000	-1.204592	-.8575934
growth						
D1.	.227145	.0744205	3.05	0.038	.0205205	.4337695
d_urb						
D1.	-11.15793	15.5721	-0.72	0.513	-54.39301	32.07715
d_gov						
D1.	.0108274	.1438809	0.08	0.944	-.38865	.4103049
d_exp						
D1.	-.1409408	.0800317	-1.76	0.153	-.3631444	.0812629
d_infl						
D1.	.1009685	.0394234	2.56	0.063	-.0084885	.2104255
d_wlfp						
D1.	.1537179	.1515894	1.01	0.368	-.2671616	.5745975

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F(1, 4) = 6.659
Prob > F = 0.0613

Source: Author's Calculations

Figure 12: Pesaran's Test of Cross-Sectional Independence (RE Regression of Private Employment Rate on Public Employment Rate) – Stata Output

Pesaran's test of cross sectional independence = 4.766, Pr = 0.0000

Average absolute value of the off-diagonal elements = 0.384

Source: Author's Calculations

Figure 13: Pesaran's Test of Cross-Sectional Independence (FE Regression of Private Employment Rate on Public Employment Rate) – Stata Output

```
Pesaran's test of cross sectional independence =     4.700, Pr = 0.0000

Average absolute value of the off-diagonal elements =     0.373
```

Source: Author's Calculations

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ORIGINAL SCIENTIFIC PAPER

Women's Empowerment in The Framework of Developing Innovative Behavior for Women's Entrepreneurial Success

Eviatiwi Kusumaningtyas Sugiyanto[1]
Diponegoro University, Faculty of Economics and Business, Tembalang, Semarang, Indonesia
Suharnomo[2]
Mirwan Surya Perdhana[3]
Diponegoro University, Faculty of Economics and Business, Department of Management, Tembalang, Semarang, Indonesia

A B S T R A C T

The current study has several inconsistencies in the research findings regarding the association between structural and psychological empowerment and business success or performance. In addition, there is a gap phenomenon that occurs in Indonesia: although women's economic power is growing, their contribution to GDP is still relatively small, and their level of business innovation is low. By including the mediating variable of innovative behavior, this study seeks to close the research gap regarding the impact of psychological and structural empowerment on business success. 96 women entrepreneurs in Semarang City, Indonesia were the sample of this study. The data collection method is done by distributing questionnaires via Google Forms. Structural Equation Modeling (SEM) with the WrapPLS 8.0 software was the analysis technique employed. The

[1] Corresponding author, e-mail: eviatiwisugiyanto@usm.ac.id
[2] E-mail: suharnomo@undip.ac.id
[3] E-mail: mirwan@live.undip.ac.id

findings demonstrated that innovative behavior and entrepreneurial success were significantly enhanced by psychological and structural empowerment. Additionally, there is a strong positive correlation between innovative behavior and entrepreneurial success. Innovative behavior may operate as a mediating variable in the relationship between structural empowerment and entrepreneurial success. However, regarding psychological empowerment in entrepreneurial success, innovative behavior fails to be a mediating variable.

KEYWORDS: *empowerment, innovative behavior, women's entrepreneurial success*

Introduction

The development of women entrepreneurs is aligned with the government's target of creating new entrepreneurs. In Indonesia, the economic power of women is increasingly growing, more than 60% of MSMEs are run by women (BPS-Statistics Indonesia, 2021). Even with the large percentage of female participation, women's economic contribution in Indonesia is still considered low. In 2021, women`s income contribution was only 37.22%, a decrease of 0.04% from the previous year which amounted to 37.26% (Sulisto et al., 2023; Zahra Wicaksana & Rahmawati, 2023). This figure decreased further in 2022 to 37.17% (BPS - Statistics Indonesia, 2024).

Table 1: Women's Income Contribution in Indonesia (2014 – 2021)

Year	Women's Income Contribution (%)
2018	36.70
2019	37.10
2020	37.26
2021	37.22
2022	37.17

Source: (BPS - Statistics Indonesia, 2024)

Women-owned businesses often face greater challenges than those owned by men (Hazudin et al., 2023). The empowerment program is one of the efforts carried out by the government to assist women entrepreneurs in facing the challenges of conducting business. The world's economic empowerment is now centered on women. Empowerment and women's entrepreneurship are two things that cannot be separated and are closely

related to each other (Sugiyanto et al., 2021; Sugiyanto & Wijayanti, 2023). One effective strategy for empowering women is women's entrepreneurship (Sharma et al., 2023).

Despite the large percentage of women's participation in MSMEs, women entrepreneurs still have a lower economic contribution compared to men. Gender equality can be achieved, and Indonesia can produce many successful women entrepreneurs who contribute to economic progress if the enormous potential of women entrepreneurs is accompanied by optimal empowerment. The goal of encouraging women to enter the workforce is to improve the economy at every level, from the individual and family to the state. The effect of empowerment, particularly psychological and structural empowerment on business performance or success has been the subject of several prior studies.

The issue that arises with this study is that there are still inconsistent research findings about how psychological and structural empowerment affect the success or performance of businesses. Some researchers state that psychological empowerment and structural empowerment are unable to influence or partially affect business success (Dewettinck & Buyens, 2014; García-Granero et al., 2018; Li et al., 2013; Mahama & Cheng, 2013; Ölçer & Florescu, 2015). On the other hand, some studies also state that psychological and structural empowerment affect business performance (Asif et al., 2019; Chiang & Hsieh, 2012; Demissie & Degago, 2014; Leigh, 2014; Narzary & Palo, 2020; Tuuli & Rowlinson, 2009; Wallace et al., 2011).

Since evidence is needed for decision-making, inconsistent research findings on the variables under study will be a stimulus for further investigation and exploration in this study. The inconsistencies in the research results may be due to the presence of other variables that moderate the relationship between empowerment and business success. This study employs novel behavior variables in an attempt to fill the research gap. The idea behind this variable is that empowerment allows a person's potential for innovative behavior to emerge. Innovative behavior is a source for the sustainability and development of an organization or business, so empowerment programs need to be developed to shape innovative behavior to support business success. On the other hand, the phenomenon indicates once more that women innovate at a rate of about 6% less than men do globally (Elam et al., 2018) or in other words, women are less innovative than men (Women's innovation rate is 12.6% compared to men's 18.7%).

Globally, women are said to be less innovative than men, with differences ranging between 2% and 7%. No nation, regardless of income level, has higher rates of innovation among women compared to men (Elam et al., 2018). Data from the Global Entrepreneurship Monitor indicates that no more than 2.5 percent of innovations in Indonesia are provided by female entrepreneurs (Elam et al., 2018). It indicates that although women make up a large number of MSMEs, their level of creativity and innovation is still below that of men. This strongly underpins the importance of innovative behavior in supporting women's business success. Entrepreneurial success depends on efficient management, meeting customer expectations, product development, and innovation (Taskin et al., 2023). Taskin's statement also shows the importance of innovation in achieving business success. For this reason, the problem in this study aligns with the research gap, focusing on the phenomenon where the growing economic power of women contrasts with their still relatively small contribution to GDP and the low level of women's business innovation.

This research generally aims to close the research gap by including innovative behavior mediation variables. The practical contribution of the research results will also be useful for business managers, especially women entrepreneurs and the government to develop empowerment programs in supporting women's business success.

Literature Review and Hypothesis Development

A set of cognitive experiences that show up as a sense of purpose, ability, influence, and self-determination is known as psychological empowerment (Al-Bsheish et al., 2019; Tuuli & Rowlinson, 2009). The congruence of an individual's values with those of a task, job, unit, or organization is known as meaning (Ochoa Pacheco & Coello-Montecel, 2023). One way to understand meaning is as someone's dedication or commitment to their work (Lim et al., 2022). The conviction that one can carry out tasks at work successfully and skilfully is known as competence (Echebiri et al., 2020). The idea that one is free to decide how to carry out work tasks is known as self-determination (Mathew & Nair, 2022). Impact measures a person's ability to have an impact on operational, administrative, and strategic decisions made by the company or at work (Juyumaya, 2022). The aforementioned four cognitive processes signify an engaged approach to one's professional role, wherein the person is ready and able to mold their

role and work environment (Sugiyanto et al., 2021). While the absence of any one component won't completely eradicate feelings of empowerment, it may lower perceived empowerment overall (Spreitzer, 1995). According to empowerment theory, a person with greater empowerment can complete tasks more quickly than a person with less empowerment (Al-Bsheish et al., 2019).

Power is the ability to obtain knowledge, organize resources, and gain support to accomplish professional objectives (Kanter, 1977). A person who is structurally empowered will possess six strengths: formal and informal power, opportunity, resources, access to information, and the support needed to accomplish goals (Dan et al., 2018; Kanter, 1977). When someone has access to information, they can increase their productivity at work by learning professional knowledge and skills (Asif et al., 2019). The ability to obtain time, money, materials, and supplies to accomplish work goals is referred to as one's resource (Al-Hammouri et al., 2021). Opportunity is the capacity to develop, grow, advance, and pick up new abilities to take on difficult tasks (Al-Hammouri et al., 2021). Support is the assistance that leaders, subordinates, and coworkers provide to accomplish objectives (Monje Amor et al., 2021). A person with formal power holds a position within the organization (Dan et al., 2018). Peers, networks, coworkers, and alliances that help achieve objectives provide informal power (Fragkos et al., 2020). The theory of structural power in organizations, developed by Kanter, is where the idea of structural empowerment originated. According to the theory, employees' work activities will rise in an empowered work environment. With an empowered environment, workers will be more satisfied and more successful in completing work (Yang et al., 2013). Prior research has demonstrated a positive relationship between structural empowerment and commitment, job performance, and job satisfaction.

Another approach to understanding innovative behavior is as a cognitive and motivational process (Janssen, 2005) of an individual or group of people, expressed in specific activities. Innovative behavior is characterized by an individual's capacity to generate and pursue novel concepts, as well as their endeavors to gain support for their performance (M. Singh & Sarkar, 2012; S. K. Singh & Singh, 2019). Idea generation, collaboration, idea realization, and idea transfer or diffusion—at the individual or group level—are all necessary for innovation. Innovative behavior is not only the ability to create and capture new value but also the

ability to apply new methods in business practices, organizations as well as in external relationships to cope with change (Akgün et al., 2014). Organizations or individuals that cannot innovate will need more time and resources to learn the market. An organization or business can survive and grow through innovative behavior. The goal of innovative behavior is to initiate and implement novel and practical concepts, methods, products, or processes. Therefore, it is possible to view the concept of innovative behavior as multifaceted, providing a general term that encompasses all possible actions that an individual may take to further the process of innovation.

One definition of "success" is an undertaking that is profitable or prosperous. It indicates that one person's definition of profitable may differ from another's. Prosperity indicators will differ depending on the domain, metrics, and perspective. Because of this, achieving any kind of success can be assessed both subjectively and objectively (Fisher et al., 2014). The success of a business venture or activity is referred to as entrepreneurial success. Having wealth is often a sign of success (Fisher et al., 2014; Mullens, 2013), however, additional study reveals that a lot of business owners don't always view accumulating wealth as a sign of success (Alstete, 2008). Perceptions of success are also impacted by gender differences. Women define success internally, such as whether they accomplished their goals, while men define success externally, such as receiving recognition or status for accomplishments (Fisher et al., 2014). Several metrics are used to assess the success of entrepreneurs, such as goal attainment, financial performance, lifestyle success, and business expansion (De Jong & Den Hartog, 2007; Fisher et al., 2014). The identification of opportunities, the development of business concepts, the acquisition of resources, and the maintenance and expansion of the venture are additional aspects of entrepreneurial success (Henao-Zapata & Peiró, 2018).

Based on the literature review, the five hypotheses developed in this study include:

Hypothesis 1: Psychological Empowerment affects Innovative Behavior

Hypothesis 2: Structural Empowerment Affects Innovative Behavior

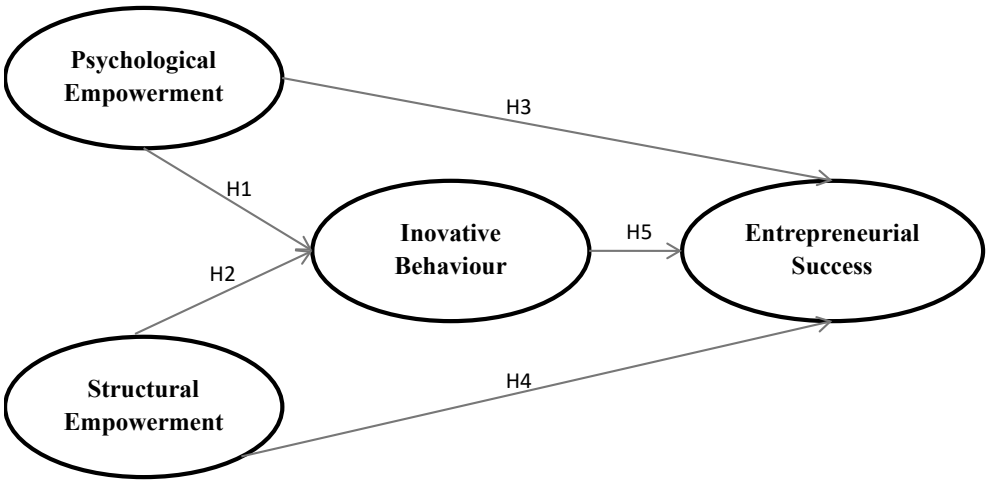
Hypothesis 3: Psychological empowerment Affects Entrepreneurial Success

Hypothesis 4: Structural Empowerment Affects Entrepreneurial Success

Hypothesis 5: Innovative behavior Affects Entrepreneurial Success

The research framework of the five hypotheses can be seen in Figure 1.

Figure 1: Empirical Model



Source: Authors' research

Research Methodology

This explanatory quantitative research aims to explain the relationship between variables in the research hypothesis. It focuses on explaining the efforts to build women's business success through empowerment and innovative behavior. Furthermore, the research data is primary data obtained through questionnaires, while the indicators of the research variables are based on previous research.

Population and Samples

The population in this study were all female entrepreneurs in Semarang City Indonesia. Sampling was conducted using a purposive technique with the following criteria 1) Women entrepreneurs in Semarang City who have been operating their businesses for more than three years. By operating a business for more than three years, these entrepreneurs have likely

experienced the benefits of both psychological and structural empowerment, In addition, after more than three years of business journey, someone has also experienced the rise and fall of business life. 2) Women entrepreneurs who are members of specific associations that support business activities. By joining certain associations, such as the Indonesian Women Entrepreneurs Association, the Womenpreneur Community, and the Indonesian Chamber of Commerce, one has many opportunities to receive empowerment programs, both structurally and psychologically. These empowerment programs include access to information, support in developing skills and expertise, networking, cooperation opportunities, etc. Someone who meets these criteria is considered relevant to completing the questionnaire.

Data Collection and Participants

The data collection period was held from June to August 2023. The respondents filled out the questionnaire via Google form with a response rate of 80%. A total of 130 questionnaires were distributed and 104 answers were collected. Out of the 104 responses, only 96 could be used, as the remaining did not meet the requirements for data processing. The majority of female entrepreneurs who responded were, on average, 43 years old with an average length of business tenure of 5 years. Their businesses are primarily in the culinary sector (63%), followed by crafts (31%), fashion (3%) and agriculture (3%). 30% of the women entrepreneurs are the main breadwinners in the family and 70% are entrepreneurs to help their husbands. The respondents' education level consists of junior high school (3%), high school (41%), diploma (13%), and bachelor's degree (43%).

Measurement

Psychological empowerment has four dimensions: competence, self-determination, meaning, and impact, encompassing a total of 12 indicators (Spreitzer, 1995). Structural empowerment is measured using Zhen He`s 2019 framework (He et al., 2019), which consists of 4 dimensions and 11 indicators. Innovative behavior was measured using the Innovative Behavior questionnaire from Onne Janssen (Janssen, 2005), which consists of 9 items. Entrepreneurial Success was measured using 12 indicators from Chiayu Tu in 2014 (Tu et al., 2014). A five-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to rate each

item. All statements in the indicator can be seen in the appendix of this paper.

Analysis Procedure

Structural Equation Modeling (SEM) was employed in the variable data analysis procedure with the WrapPLS software. Procedures for SEM testing are:

1. Measurement Model (outer model): This model examines the relationship (loading value) between indicators and constructs (latent variables). Purpose: to determine the validity and reliability of indicators used to measure latent variables, and to assess whether the indicators used can measure the constructs of Psychological Empowerment, Structural Empowerment, Innovative Behavior, and Entrepreneurial Success.
2. Structural Model (inner model): The Structural Model assesses the relationship between independent (exogenous) and dependent (endogenous) constructs. Purpose: to test the significance of parameters previously formulated in hypotheses or to answer questions, such as:
    a) How does Psychological Empowerment affect Innovative Behavior?
    b) How does Structural Empowerment influence Innovative Behavior?
    c) How does Psychological Empowerment affect Entrepreneurial Success?
    d) How does Structural Empowerment affect Entrepreneurial Success?
    e) How does Innovative Behavior influence Entrepreneurial Success?

SEM using the WraPLS program in this study includes three steps: making a path diagram, testing the outer model, and testing the inner model.

Result and Discussion

Model Fit Test Results

Ten measures of Good of Fit (GoF) can be used with WrapPLS 8.0 to assess the model's overall fit. It is clear from the overall results that the model fits the data properly. Table 2 displays the fit model test results for this investigation.

Table 2: Model Fit Testing Results

Criteria	Value	Rule of Thumb	Description
APC	0,305, P < 0.001	P-Value ≤ 0,05	Accepted
ARS	0,394, P < 0.001	P-Value ≤ 0,05	Accepted
AARS	0,377, P < 0.001	P-Value ≤ 0,05	Accepted
AVIF	1,328	≤ 5	Accepted
AFVIF	1,517	≤ 5	Accepted
GoF	0,438	≥ 0,36	Medium Predictive Power
SPR	1,000	≥0,7 ideally 1	Ideal
RSCR	1,000	≥ 0,7 ideally 1	Ideal
SSR	1,000	≥ 0,7	Accepted
NLBCDR	1,000	≥ 0,7	Accepted

Source: Authors' research

Inner Model Test Results

Indicators that form latent constructs are evaluated for validity and reliability using an outer model, or measurement model (Ghozali & Latan, 2014). Composite reliability and loading factor are the measurement tools to assess reliability. The Average Variance Extracted (AVE) is the metric used to assess validity. The loading factor value for each indicator is displayed in Table 3. The loading value satisfies the requirements for indicator reliability. A loading factor value between 0.4 and 0.5 is considered adequate, and above 0.7 is deemed good (Ghozali & Latan, 2014). A few indicators were eliminated from the model because they did not meet the indicator reliability threshold (<0.4). Psychological empowerment (PE 11

and 12) and Entrepreneurial Success (ES1, ES3, and ES4) are among these signs.

Table 3: Indicators and Loading Factors

Psychological Empowerment		Structural Empowerment		Entrepreneur Success		Innovative Behaviour	
PE1	0.475	SE1	0.770	ES2	0.490	IB1	0.619
PE2	0.550	SE2	0.823	ES5	0.604	IB2	0.703
PE3	0.536	SE3	0.686	ES6	0.702	IB3	0.636
PE4	0.624	SE4	0.777	ES7	0.875	IB4	0.772
PE5	0.729	SE5	0.779	ES8	0.816	IB5	0.705
PE6	0.760	SE6	0.847	ES9	0.816	IB6	0.725
PE7	0.724	SE7	0.878	ES10	0.742	IB7	0.737
PE8	0.593	SE8	0.821	ES11	0.576	IB8	0.599
PE9	0.637	SE9	0.814	ES12	0.652	IB9	0.541
PE10	0.617	SE10	0.609				
		SE11	0.479				

Source: Authors' research

Table 4: Latent Variable Coefficient

	PE	SE	ES	IB
R-squared			0.350	0.437
Adj. R-squared			0.329	0.425
Composite reliab	0.869	0.937	0.900	0.881
Cronbach's alpha	0.832	0.924	0.872	0.848
Avg.var.extrac	0.404	0.580	0.507	0.455
Full collin.VIF	1.385	1.620	1.395	1.669
Q-squared			0.347	0.420

Source: Authors' research

The latent variable coefficient demonstrates that all variable composite reliability values and Cronbach alpha values are above 0.7, indicating that internal consistency reliability has been fulfilled (refer to Table 4). Convergent validity is met for structural empowerment and entrepreneur success variables (> 0.5), but not for psychological empowerment and innovative behavior variables. There are no issues with vertical or lateral collinearity in the model because each variable's full collinearity VIF value is very good, all being at <3.3. Each dependent or endogenous variable's

resulting Q-squared value is greater than > 0, indicating the predictive relevance of the model.

Table 5: View Correlation Among Latent Variables with Square Roots of AVE

	PE	**SE**	**ES**	**IB**
PE	(0.636)	0.462	0.394	0.395
SE	0.462	(0.761)	0.375	0.557
ES	0.394	0.375	(0.712)	0.479
IB	0.395	0.557	0.479	(0.675)

Source: Authors' research

Table 5 displays the high discriminant validity of the three latent variables when viewing the Correlation Among Latent Variables with Square Roots of AVE. There is good discriminant validity for the latent variables because the square root value of AVE is greater than the correlation between the variables.

Outer Model Test Result

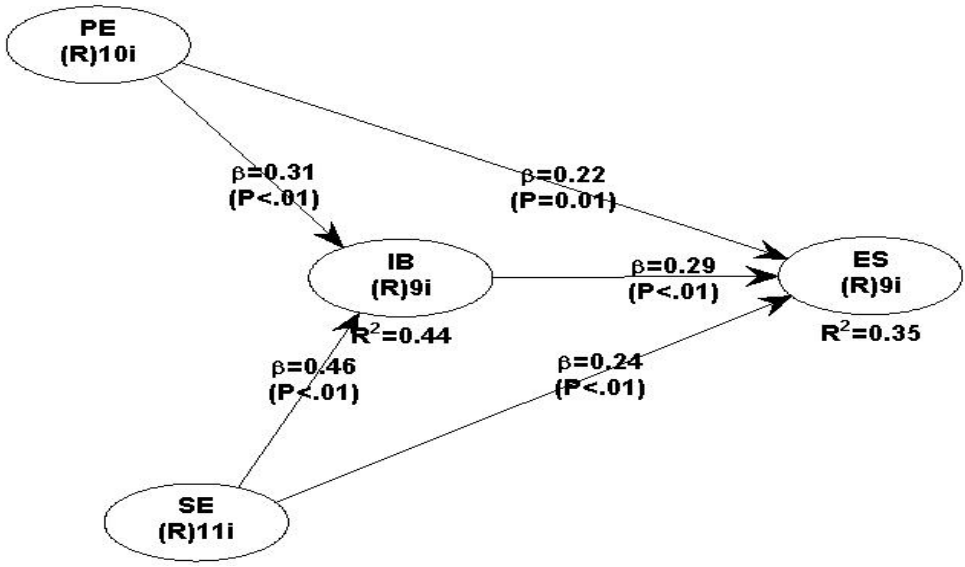
The results of hypothesis testing were examined through the structural model test. With a significance level of $p<0.01$ and a regression coefficient, hypotheses H1, H2, H4, and H5 were accepted. With a significance level of $p<0.05$ and a regression coefficient of $\beta=0.22$, H3 was accepted.

With a coefficient of determination (R^2 Square) of 0.44 for innovative behavior, 44% of the variation in the variable can be explained by structural and psychological empowerment. The remaining 56% was explained by factors not included in the study. In addition, the R^2 Squared for entrepreneurial success is 0.35, indicating that innovative behavior, structural empowerment, and psychological empowerment account for 35% of the variance in the entrepreneurial success variable. Other factors not included in the research account for the remaining 65%.

The indirect effect model in this study indirectly affects Psychological Empowerment and Structural Empowerment on Entrepreneurial Success through innovative behavior. Table 6 shows that Innovative Behavior can act as a mediator in the relationship between structural empowerment and entrepreneurial success. The results of the indirect effect output for Innovative Behavior are significant, with a value of 0.028 (<0.05).

However, in the mediating effect of psychological empowerment on entrepreneurial success, Innovative Behavior fails to be a mediating variable.

Figure 2: Hypothesis Testing



Source: Authors' research

Table 6: P values for sums of indirect effects

	PE	SE	ES	IB
PE				
SE				
ES	0.099	0.028		
IB				

Source: Authors' research

Discussion

This study provides evidence that psychological and structural empowerment can benefit women entrepreneurs in Indonesia by shaping innovative behavior. The results show that H1 and H2 are supported and confirm previous research. Previous research states that psychologically empowered entrepreneurs will exhibit innovative work behavior, as they

find value in their job roles, and have the competence and confidence to create innovations (Kustanto et al., 2020; M. Singh & Sarkar, 2019). Furthermore, previous research in line with the results of this study also states that structural empowerment will stimulate, facilitate, and increase innovative behavior; for example, the availability of resources, information, and networking both formal and informal is needed to facilitate the development of new ideas and their execution (Echebiri et al., 2020; Knezović & Drkić, 2021; M. Singh & Sarkar, 2019).

Women's entrepreneurial success in Indonesia is influenced by psychological empowerment, structural empowerment, and innovative behavior. The results show that H3, H4, and H5 are supported and confirmed by prior research. Previous research that is in line with these results, reveals that it is easier for psychologically empowered people to achieve success due to persistence, commitment, confidence, and competence (Chiang & Hsieh, 2012; Wallace et al., 2011; Yazdanshenas & Mirzaei, 2023). Other previous research has also stated that structural empowerment can increase business success, by providing easy access to information, resources, training support, networking, etc (Dan et al., 2018; Kretzschmer et al., 2017). Therefore, the implication is that women's empowerment programs, such as training and skills development, strengthening women's business management, opening digital access and networking, providing soft loans, access to credit, and access to information need to be continuously developed. In addition, this study confirms previous studies which state that innovative behavior is one of the factors that greatly influence business success (Micheels & Gow, 2015; Rauch & Hatak, 2016; Rosenbusch et al., 2011; Sidharta et al., 2017; Tu et al., 2014; Vij & Bedi, 2016; Yıldız et al., 2014; Zeng et al., 2015).

Conclusion

Theoretically, this study proves that psychological and structural empowerment can encourage innovative behavior and business success. The results of this study provide several practical implications for organizations, governments, and individuals. At the organizational level and government, the results of this study can serve as a starting point for empowerment policies, plans, and programs that can build the innovative behavior of its members. Programs designed to build structures that facilitate access to information, opportunities, resources, and support for women entrepreneurs

are necessary to achieve their business goals. In addition, businesses need individuals who have the desire and ability to introduce innovative new ideas. Implementation of an idea is a critical phase of innovative behavior and it is impossible to implement creative ideas without social support and acceptance. Such support and social acceptance can be obtained through empowerment programs. Although this study makes a significant contribution, it also has limitations. We only collected data from one city in one developing country, Semarang, Indonesia. Therefore, we recommend applying the same model in other developing countries. In addition, a qualitative study should be conducted to uncover the drivers and barriers to women's entrepreneurial success. Similarly, the addition of variables related to patriarchal culture in developing countries and glass ceilings should be considered.

References

[1] **Akgün, A. E., Ince, H., Imamoglu, S. Z., Keskin, H., & Kocoglu, İ.** (2014). The mediator role of learning capability and business innovativeness between total quality management and financial performance. *International Journal of Production Research*, *52*(3), 888–901. https://doi.org/10.1080/00207543.2013.843796

[2] **Al-Bsheish, M., bin Mustafa, M., Ismail, M., Jarrar, M., Meri, A., & Dauwed, M.** (2019). Perceived management commitment and psychological empowerment: A study of intensive care unit nurses' safety. *Safety Science*, *118*(April), 632–640. https://doi.org/10.1016/j.ssci.2019.05.055

[3] **Al-Hammouri, M. M., Rababah, J. A., & Ta'an, W. F.** (2021). Structural empowerment, formal and informal power, and job performance quality: A moderated mediation analysis. *Journal of Nursing Management*, *29*(6), 1596–1602. https://doi.org/10.1111/jonm.13311

[4] **Alstete, J. W.** (2008). Aspects of entrepreneurial success. *Journal of Small Business and Enterprise Development*, *15*(3), 584–594. https://doi.org/10.1108/14626000810892364

[5] **Asif, M., Jameel, A., Hussain, A., Hwang, J., & Sahito, N.** (2019). Linking transformational leadership with nurse-assessed adverse patient outcomes and the quality of care: Assessing the role of job satisfaction and structural empowerment. *International Journal of Environmental Research and Public Health*, *16*(13). https://doi.org/10.3390/ijerph16132381

[6] **BPS-Statistics Indonesia.** (2021). *Statistical Year Book of Indonesia 2021* (Directorate of Statistical Dissemination, Ed.). BPS-Statistics Indonesia.

[7] **Chiang, C. F., & Hsieh, T. S.** (2012). The impacts of perceived organizational support and psychological empowerment on job performance:

The mediating effects of organizational citizenship behavior. *International Journal of Hospitality Management*, *31*(1), 180–190. https://doi.org/10.1016/j.ijhm.2011.04.011

[8] **Dan, X., Xu, S., Liu, J., Hou, R., Liu, Y., & Ma, H.** (2018). Relationships among structural empowerment, innovative behaviour, self-efficacy, and career success in nursing field in mainland China. *International Journal of Nursing Practice*, *24*(5), 1–9. https://doi.org/10.1111/ijn.12674

[9] **De Jong, J. P. J., & Den Hartog, D. N.** (2007). How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, *10*(1), 41–64. https://doi.org/10.1108/14601060710720546

[10] **Demissie, E. D., & Degago, E**. (2014). A Study on Impact of Psychological Empowerment on Employee Performance in Small and Medium Scale Enterprise Sectors. *European Journal of Business and Management, 6* (27), 60-72.

[11] **Dewettinck, K., & Buyens, D.** (2014). *Psychological Empowerment in the Workplace : Reviewing the Empowerment Effects on Critical Work. June*.

[12] **Echebiri, C., Amundsen, S., & Engen, M.** (2020). Linking structural empowerment to employee-driven innovation: The mediating role of psychological empowerment. *Administrative Sciences*, *10*(3). https://doi.org/10.3390/admsci10030042

[13] **Elam, A. B., Brush, C. G., Greene, P. G., Baumer, B., Dean, M., & Heavlow, R.** (2018). *Global Entrepreneurship Monitor Women's Entrepreneurship Report Design and production: Witchwood Production House*. http://www.witchwoodhouse.comBBRDesignhttp://bbrdesign.co.uk

[14] **Fisher, R., Maritz, A., & Lobo, A.** (2014). Evaluating entrepreneurs' perception of success. *International Journal of Entrepreneurial Behavior & Research*, *20*(5), 478–492. https://doi.org/doi:10.1108/ijebr-10-2013-0157

[15] **Fragkos, K. C., Makrykosta, P., & Frangos, C. C**. (2020). Structural empowerment is a strong predictor of organizational commitment in nurses: A systematic review and meta-analysis. *Journal of Advanced Nursing*, *76*(4), 939–962. https://doi.org/10.1111/jan.14289

[16] **García-Granero, E. M., Piedra-Muñoz, L., & Galdeano-Gómez, E.** (2018). Eco-innovation measurement: A review of firm performance indicators. *Journal of Cleaner Production*, *191*, 304–317. https://doi.org/10.1016/j.jclepro.2018.04.215

[17] **Ghozali, I., & Latan, H.** (2014). Partial Least Squares Concepts of Methods and Applications Using the WarpPLS 4.0. *Program. Semarang, Diponegoro University Press.*

[18] **Hazudin, S. F., Sabri, M. F., Ramli, N., & Burhan, N. A. S.** (2023). Development of Antecedent Factors for Malaysian Women's Entrepreneurial Resilience Framework: A Fuzzy Delphi Method. *Journal of Women's*

Entrepreneurship and Education, *2023*(3–4), 1–27. https://doi.org/10.28934/jwee23.34.pp1-27

[19] **He, Z., Wang, W., Zhang, M., Deng, Y., Fu, W., & Chau, K. Y.** (2019). Motivated for continuance? Associations between structural empowerment, role conflict, person-job fit, and satisfaction in Six Sigma programs. *Total Quality Management and Business Excellence*, *30*(sup1), S255–S273. https://doi.org/10.1080/14783363.2019.1665864

[20] **Henao-Zapata, D., & Peiró, J. M**. (2018). The Importance of Empowerment in Entrepreneurship. *Contributions to Management Science*, 185–206. https://doi.org/10.1007/978-3-319-62455-6_14

[21] **Janssen, O.** (2005). The joint impact of perceived influence and supervisor supportiveness on employee innovative behaviour. *Journal of Occupational and Organizational Psychology*, 78(4), 573–579). https://doi.org/10.1348/096317905X25823

[22] **Juyumaya, J.** (2022). How psychological empowerment impacts task performance: The mediation role of work engagement and moderating role of age. *Frontiers in Psychology*, *13*(September), 1–9. https://doi.org/10.3389/fpsyg.2022.889936

[23] **Kanter, R. M.** (1977). Men and Women of The Corporation. In *Basic Books*. Basic Books.

[24] **Knezović, E., & Drkić, A.** (2021). Innovative work behavior in SMEs: the role of transformational leadership. *Employee Relations*, *43*(2), 398–415. https://doi.org/10.1108/ER-03-2020-0124

[25] **Kretzschmer, S., Walker, M., Myers, J., Vogt, K., Massouda, J., Gottbrath, D., Pritchett, M., Stikes, R., & Logsdon, M. C.** (2017). Nursing Empowerment, Workplace Environment, and Job Satisfaction in Nurses Employed in an Academic Health Science Center. *Journal for Nurses in Professional Development*, *33*(4), 196–202. https://doi.org/10.1097/NND.0000000000000363

[26] **Kustanto, H., Eliyana, A., Harum Santri Mumpuni, J., & Rahmawati Gunawan, D.** (2020). The Moderation Role of Psychological Empowerment on Innovative Work Behaviour. In *Systematic Reviews in Pharmacy*, *11*(8), 254-264.

[27] **Leigh, J.** (2014). Modelling suggests authentic leadership from managers influences structural empowerment, job satisfaction and self-rated performance among nurses. *Evidence-Based Nursing*, *17*(2), 55–56. https://doi.org/10.1136/eb-2013-101424

[28] **Li, I. C., Kuo, H. T., Huang, H. C., Lo, H. L., & Wang, H. C.** (2013). The mediating effects of structural empowerment on job satisfaction for nurses in long-term care facilities. *Journal of Nursing Management*, *21*(3), 440–448. https://doi.org/10.1111/j.1365-2834.2012.01396.x

[29] **Lim, J. Y., Moon, K. K., & Christensen, R. K.** (2022). Does psychological empowerment condition the impact of public service motivation on perceived organizational performance? Evidence from the US federal government. *International Review of Administrative Sciences*, *88*(3), 682–701. https://doi.org/10.1177/00208523211008958

[30] **Mahama, H., & Cheng, M. M.** (2013). The effect of managers' enabling perceptions on costing system use, psychological empowerment, and task performance. *Behavioral Research in Accounting*, *25*(1), 89–114. https://doi.org/10.2308/bria-50333

[31] **Mathew, J., & Nair, S.** (2022). Psychological Empowerment and Job Satisfaction: A Meta-analytic Review. *Vision*, *26*(4), 431–440. https://doi.org/10.1177/0972262921994350

[32] **Micheels, E. T., & Gow, H. R.** (2015). The Effect of Market Orientation on Learning, Innovativeness, and Performance in Primary Agriculture. *Canadian Journal of Agricultural Economics/Revue Canadienne d'agroeconomie*, *63*(2), 209–233. https://doi.org/10.1111/cjag.12047

[33] **Monje Amor, A., Xanthopoulou, D., Calvo, N., & Abeal Vázquez, J. P.** (2021). Structural empowerment, psychological empowerment, and work engagement: A cross-country study. *European Management Journal*, *39*(6), 779-789. https://doi.org/10.1016/j.emj.2021.01.005

[34] **Mullens, D. S**. (2013). *TMT characteristics that position family firms for success: examining the effects of human capital, non-familiness, entrepreneurial orientation, and transactive memory …*. rc.library.uta.edu. https://rc.library.uta.edu/uta-ir/handle/10106/23940

[35] **Narzary, G., & Palo, S.** (2020). Structural empowerment and organisational citizenship behaviour: The mediating–moderating effect of job satisfaction. *Personnel Review*, *49*(7), 1435–1449. https://doi.org/10.1108/PR-11-2019-0632

[36] **Ochoa Pacheco, P., & Coello-Montecel, D.** (2023). Does psychological empowerment mediate the relationship between digital competencies and job performance? *Computers in Human Behavior*, *140*(July 2022), 107575. https://doi.org/10.1016/j.chb.2022.107575

[37] **Ölçer, F., & Florescu, M.** (2015). Mediating effect of job satisfaction in the relationship between psychological empowerment and job performance. *Theoretical and Applied Economics*, *22*(3), 111–135.

[38] **Rauch, A., & Hatak, I.** (2016). A meta-analysis of different HR-enhancing practices and performance of small and medium sized firms. *Journal of Business Venturing*, *31*(5), 485–504. https://doi.org/10.1016/j.jbusvent.2016.05.005

[39] **Rosenbusch, N., Brinckmann, J., & Bausch, A.** (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation

and performance in SMEs. *Journal of Business Venturing*, *26*(4), 441–457. https://doi.org/10.1016/j.jbusvent.2009.12.002

[40] **Sharma, V., Maheshkar, C., Poulose, J., Kapse, M., & Mahajan, Y.** (2023). Women Entrepreneurs: A Study of Psychological Well-being and Empowerment in Indian Social Context. *Journal of Women's Entrepreneurship and Education*, *2023*(3–4), 95–121. https://doi.org/10.28934/jwee23.34.pp95-121

[41] **Sidharta, H., Ismail, N. A., Suryasaputra, R., & Rahman, S. A.** (2017). Framework Enterpreneurial Success for Young Entrepreneur. *Journal of Applied Management and Entrepreneurship*, *4*, 553–562. https://doi.org/10.21776/ub.jam2017.015

[42] **Singh, M., & Sarkar, A.** (2012). The relationship between psychological empowerment and innovative behavior: A dimensional analysis with job involvement as mediator. *Journal of Personnel Psychology*, *11*(3), 127–137. https://doi.org/10.1027/1866-5888/a000065

[43] **Singh, M., & Sarkar, A.** (2019). Role of psychological empowerment in the relationship between structural empowerment and innovative behavior. *Management Research Review*, *42*(4), 521–538. https://doi.org/10.1108/MRR-04-2018-0158

[44] **Singh, S. K., & Singh, A. P.** (2019). Interplay of organizational justice, psychological empowerment, organizational citizenship behavior, and job satisfaction in the context of circular economy. *Management Decision*, *57*(4), 937–952. https://doi.org/10.1108/MD-09-2018-0966

[45] **Spreitzer, G. M.** (1995). Psychological, Empowerment in the Workplace: Dimensions, Measurement and Validation. *Academy of Management Journal*, *38*(5), 1442–1465. https://doi.org/10.2307/256865

[46] **Sugiyanto, E. K., Perdhana, M. S., Rahmawati, S. N., & Ariefiantoro, T.** (2021). Psychological Empowerment and Women Entrepreneurial Success: the Mediating Role of Proactive Behavior. *Academy of Entrepreneurship Journal*, *27*(SpecialIssue 4), 1–10.

[47] **Sugiyanto, E. K., & Wijayanti, R.** (2023). How Innovativeness Influence on Women Business Performance. *International Research Journal of Business Studies*, *15*(3), 219–227.

[48] **Sulisto, D., Fery Purba, S., Br Aritonang, K., Trisakti, U., & Riset dan Inovasi Nasional, B.** (2023). Economics Development Analysis Journal Does Women's Role Have an Influence on Economy Growth in Indonesia? *Economics Development Analysis Journal*, *12*(3). http://journal.unnes.ac.id/sju/index.php/edaj

[49] **Taskin, S., Javed, A., & Kohda, Y.** (2023). Promoting Entrepreneurial Mindset for Successful Entrepreneurship: An Innovative Approach in Entrepreneurship Education. *Journal of Women's Entrepreneurship and*

Education, *2023*(3–4), 122–142. https://doi.org/10.28934/jwee23.34.pp122-142

[50] **Tu, C., Hwang, S. N., & Wong, J. Y.** (2014). How does cooperation affect innovation in micro-enterprises? *Management Decision*, *52*(8), 1390–1409. https://doi.org/10.1108/MD-07-2013-0388

[51] **Tuuli, M. M., & Rowlinson, S.** (2009). Performance Consequences of Psychological Empowerment. *Journal of Construction Engineering and Management*, *135*(12), 1334–1347. https://doi.org/10.1061/(asce)co.1943-7862.0000103

[52] **Vij, S., & Bedi, H. S.** (2016). Effect of organisational and environmental factors on innovativeness and business performance relationship. *International Journal of Innovation Management*, *20*(3). https://doi.org/10.1142/S1363919616500377

[53] **Wallace, J. C., Johnson, P. D., Mathe, K., & Paul, J.** (2011). Structural and Psychological Empowerment Climates, Performance, and the Moderating Role of Shared Felt Accountability: A Managerial Perspective. *Journal of Applied Psychology*, *96*(4), 840–850. https://doi.org/10.1037/a0022227

[54] **Yang, J., Liu, Y., Huang, C., & Zhu, L.** (2013). Impact of empowerment on professional practice environments and organizational commitment among nurses: A structural equation approach. *International Journal of Nursing Practice*, *19*(SUPPL1), 44–55. https://doi.org/10.1111/ijn.12016

[55] **Yazdanshenas, M., & Mirzaei, M.** (2023). Leadership integrity and employees' success: role of ethical leadership, psychological capital, and psychological empowerment. *International Journal of Ethics and Systems*, *39*(4), 761–780. https://doi.org/10.1108/IJOES-05-2022-0117

[56] **Yıldız, S., Baştürk, F., & Boz, İ. T.** (2014). The Effect of Leadership and Innovativeness on Business Performance. *Procedia - Social and Behavioral Sciences*, *150*, 785–793. https://doi.org/10.1016/j.sbspro.2014.09.064

[57] **Zahra Wicaksana, A., & Rahmawati,** F. (2023). The Impact of Women's Empowerment and its Contribution on Indonesia's Economic Growth. *Saudi Journal of Economics and Finance*. https://doi.org/10.36348/sjef.2023.v07i04.007

[58] **Zeng, S., Gonzalez, J., & Lobato, C.** (2015). The effect of organizational learning and Web 2.0 on innovation. *Management Decision*, *53*(9), 2060–2072. https://doi.org/10.1108/MD-06-2014-0388

Appendix

Psychological Empowerment

Item	Statements
Meaning	
PE1	The work I do is very important to me
PE2	My life values are very much in line with my work activities
PE3	The work I do is meaningful to me
Competence	
PE4	I am confident in my ability to work
PE5	I am very confident in my ability to perform work activities
PE6	I master the skills required for work
Self-Determination	
PE7	I have autonomy in deciding what to do in my job
PE8	I can make my own decisions about how to do my work
PE9	I have a great opportunity to be independent and free in determining how to work
Impact	
PE10	I have a big impact on what happens in my organization
PE11	I have a great deal of control over what happens in my organization
PE12	I have significant influence over what happens in my organization

Structural Empowerment

Item	Statements
Opportunity	
SE1	The Business Association/Organization I belong to provides challenging work opportunities for self-development opportunities
SE2	The business association/organization I belong to provides training to develop new skills
SE3	The business association/organization I belong to gives its members a great deal of autonomy to develop themselves
Information	
SE4	Through the Business Associations/Organizations that I belong to, I get relevant information regarding the conditions of my business
SE5	The Business Associations/Organizations I belong to allow me to communicate freely and share information in meetings with people in authority as well as members of other organizations to get help and advice from them

Item	Statements
SE6	Through the Business Association/Organization I belong to; I receive complete and correct information at all times
Support	
SE7	The Business Association/Organization I belong to allows me to be supported by higher-status members of the organization in my personal and business development
SE8	The Business Association/Organization I belong to supports its members' business development and growth
SE9	The Business Association/Organization I belong to provides advice and feedback from higher-status people for the further development of its members
Resource	
SE10	Entrepreneurial support facilities are well available in the Business Association/Organization I belong to.
SE11	Through the Business Associations/Organizations I belong to, I can get help with resources needed to support new ideas and skill upgrading

Entrepreneurial Success

Item	Statements
ES1	It is easier for consumers to buy products at my business
ES2	My business provides a wide range of products/services
ES3	My business provides high-quality products/services
ES4	My business provides products/services that customers need
ES5	I provide good prices
ES6	Compared to the first year of entrepreneurship, in the third year, the average number of my employees is in line with expectations
ES7	Compared to the first year of entrepreneurship, in the third year, I earned more profit than my competitors
ES8	Compared to the first year of entrepreneurship, in the third year, I am very satisfied with the development of the business
ES9	Current sales exceed my expectations at the beginning of entrepreneurship
ES10	Current profits are higher than my expectations at the beginning of entrepreneurship
ES11	My overall satisfaction with the business is currently higher than my expectations
ES12	If I had another opportunity to develop a new venture, I would do the same business

Innovative Behavior

Item	Statements
IB1	My innovative ideas are always accepted by fellow entrepreneurs
IB2	I am always looking for new methods, techniques, or ways of working to improve my business.
IB3	I turn innovative ideas into something useful in business
IB4	I introduce innovative ideas to fellow entrepreneurs
IB5	I make my fellow entrepreneurs enthusiastic about my innovative ideas.
IB6	I generate solutions to problems in my business
IB7	I create new ideas for business development
IB8	I mobilize support for the creation of innovative ideas in my business
IB9	I evaluate the implementation of innovative ideas and whether they bring results for my business

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ORIGINAL SCIENTIFIC PAPER

Financial Inclusion - A Driving Force for Women's Entrepreneurship Development

Marija Antonijević[1]
Institute of Economic Sciences, Department for Digital Economics, Belgrade, Serbia
Ivana Domazet[2]
Institute of Economic Sciences, Department for Digital Economics, Belgrade, Serbia
Milena Kojić[3]
Institute of Economic Sciences, Department for Environmental Economics, Belgrade, Serbia
Vladimir Simović[4]
Institute of Economic Sciences, Belgrade, Serbia; Australian University, Kuwait

A B S T R A C T

The financial inclusion of women has become an important issue for the academic community and policymakers as it is one of the crucial factors for the development of women's entrepreneurship. This study examines the impact of socio-demographic factors on women's financial inclusion in the Western Balkans (Albania, Bosnia and Herzegovina, Croatia, North Macedonia and Serbia). The data from the Global Findex Database 2021 were used. Financial inclusion is measured by the financial inclusion index modified by the inclusion of digital

[1] Corresponding author, e-mail: marija.antonijevic@ien.bg.ac.rs
[2] E-mail: ivana.domazet@ien.bg.ac.rs
[3] E-mail: milena.kojic@ien.bg.ac.rs
[4] E-mail: vladimir.simovic@ien.bg.ac.rs

payments variable. The sample consisted of 2,683 women from the Western Balkans region. Multiple linear regression was used to examine the influence of age, education, employment status and income on financial inclusion. The results indicate that education, employment status and income have a positive influence on women's financial inclusion. However, an inverted U-shaped relationship was found between age and financial inclusion, suggesting that inclusion increases up to a certain point and then decreases.

KEYWORDS: *financial inclusion, digital financial inclusion, women's entrepreneurship, Global Findex Database 2021, Western Balkan Region, financial inclusion index*

Introduction

The financial inclusion issue represents a crucial concern for the scientific community and decision-makers (Cabeza-García et al., 2019). The significance of financial inclusion is reflected in contributing to a country's economic performance (Pavón Cuéllar, 2021; Demirgüç-Kunt et al., 2017) and reducing wealth inequality (Omar & Inaba, 2020). Additionally, improvement in financial inclusion can strengthen women's economic empowerment and reduce their poverty (Peterlechner, 2021). However, since 2011, despite the overall enhancement, the financial inclusion gender gap has remained unaltered (Trivelli et al., 2018). Antonijević et al. (2021) affirmed the existence of a significant gender gap on a global level by examining data for 2017. Despite women's significant role in managing household income, according to the Organisation for Economic Co-operation and Development-OECD (2018) and Deléchat et al. (2018), they have limited financial access compared to men. The possible reasons could be that women face discrimination, especially those living in developing countries (Achakpa & Radović-Marković, 2018), have limited access to financial funds (Botrić & Broz, 2017; Bogdanović, 2017), or possess a lesser degree of financial literacy (Hasler & Lusardi, 2017) and digital competencies (Kuroda et al., 2019). Due to their dependence on men in terms of obtaining approval to be a part of the labor market, women face challenges in earning financial resources (World Bank Group, 2018). Also, it is considered that men dominate in making household decisions, and women participate to a lower extent in income, exposing them to a higher poverty risk (Asaduzzaman et al., 2017). The importance of focusing on

women in financial inclusion policies is highlighted by Asuming et al. (2019).

Numerous authors have investigated the impact of factors such as age (Shabir & Ali, 2022; Balliester Reis, T., 2022; Abdu & Adem, 2021; Rashdan & Eissa; 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015), education (Shabir & Ali, 2022; Balliester Reis, T., 2022; Bakhshi & Agarwal, 2020; Rashdan & Eissa; 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015), employment status (Shabir & Ali, 2022; Balliester Reis, T., 2022; Soumaré et al., 2016), and income (Shabir & Ali, 2022; Balliester Reis, T., 2022; Abdu & Adem, 2021; Rashdan & Eissa; 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015) on financial inclusion. However, none of the previous studies have analyzed the influence of the mentioned factors in the Western Balkans region using the latest available data and an appropriate measure of financial inclusion.

Considering all the above, this study aims to identify the statistically significant socio-demographic factors for financial inclusion in the Western Balkans region. According to the World Bank's classification, all countries in this region belong to the group of middle-income countries (i.e., developing countries), except Croatia, which is a high-income country (i.e., a developed country). These countries share many similarities, in terms of history and culture, considering that - except Albania - they were part of the former Yugoslavia. In this context, it is important to analyze and identify in depth the main social and demographic factors that influence women's financial inclusion. The significance of this research lies in its pioneering examination of how the socio-demographic characteristics of women affect financial inclusion in the Western Balkans region. Additionally, the study introduces a new methodology for measuring financial inclusion.

Literature Review

Financial inclusion refers to the access to financial products and services by individuals provided conscientiously and sustainably (World Bank, n.d.). It is stated that the usage of digital financial services can enhance financial inclusion (Kumar et al., 2019), especially in developing countries (Antonijević & Domazet, 2024). According to Pazarbasioglu et al. (2020), digital financial services (DFS) can be defined as services whose functioning is based on digital technologies. The digital channels through

which individuals execute digital financial activities include the following: electronic and mobile banking, mobile as a wallet, payment of bills, and transfer of money via ATM, POS terminals, etc. (Kambale, 2017). The availability of the Internet, technological improvements, and the modern lifestyle, which involves the use of computers and mobile devices (smartphones and tablets), are the key factors driving individuals to meet their financial needs through digital channels. However, if individuals face difficulties in meeting existential needs, it can be assumed that they won't be able to afford modern devices which entail certain costs and skills to use them. To perform any digital service, it's important to possess an adequate level of digital competencies (Domazet & Marjanović, 2024; Ivanović et al., 2021; Lazić et al., 2023; Jevtić et al., 2023; Lazić et al., 2022; Bradić-Martinović & Banović, 2018). They are crucial in the digital transformation process and represent a vital driver for a country's digitalization development, so national strategies should be prepared according to the required skills trends (International Telecommunication Union - ITU, n.d.).

The results of previous studies suggest that age is an important predictor of financial inclusion (Shabir & Ali, 2022; Asuming et al., 2019; Tuesta et al., 2015), including the use of digital financial services (Shankar et al., 2020; Onyia & Tagg, 2011). However, the results vary in terms of the type of influence. Rashdan and Eissa (2020) found that the older population is more financially included. Sanderson et al. (2018) also confirmed this finding. Contrasting research findings suggest that in the case of digital financial inclusion, the typical users are young (Prompattanapakdee, 2009) and the number of users decreases with age, indicating the negative influence of age (Jiménez & Díaz, 2019; Szopiński, 2016). Szopiński (2016) also highlighted that most users of digital financial services belong to the 25-34 and 34-44 age groups. However, Chaudhary et al. (2022) found that there is no significant correlation between age and the use of digital financial services. It is claimed that financial inclusion increases with age up to a certain level, after which it begins to decline (Balliester Reis, 2022; Abdu & Adem, 2021). One possible reason for this could be the lower level of financial knowledge in the younger phase. After the initial phase, in which young people are generally excluded (Zins & Weill, 2016), people become better informed and begin to use financial services. It can be assumed that interest in financial services will decline after retirement. Based on the previous findings, the following hypothesis is defined:

H1: There is an inverted U-shaped relationship between age and financial inclusion.

In general, marginalized populations, such as women, tend to lack skills and appropriate education (International Telecommunication Union - ITU, n.d.). Individuals with low levels of education are particularly affected during periods of crisis due to their worsened position in the labor market (Institute of Economic Sciences, 2022). Many researchers stated that education is an important determinant of financial inclusion (Marjanović et al., 2023; Shabir & Ali, 2022; Bakhshi & Agarwal, 2020; Rashdan & Eissa, 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015). In the context of digital financial services such as e-banking and m-banking, the typical users are those who are highly educated (Jebarajakirthy & Shankar, 2021; Shankar et al., 2020; Jiménez & Díaz, 2019; Szopiński, 2016; Onyia & Tagg, 2011; Prompattanapakdee, 2009; Domazet et al., 2023). Contrary to these findings, Chaudhary et al. (2022) pointed out that there is no association between educational level and usage of online banking services. Considering all the above, the following hypothesis is formulated:

H2: Education has a significant positive influence on women's financial inclusion.

Botrić and Broz (2017) argue that there is an association between financial exclusion and workforce exclusion. A higher probability of women's financial exclusion exists in countries where women's participation in the labor market is limited and state-owned banks hold a high market share (Morsy, 2020). Employment status is considered a determining factor that has a positive impact on financial inclusion (Balliester Reis, 2022; Shabir & Ali, 2022, Soumaré et al., 2016), particularly in the context of digital financial services (Onyia & Tagg, 2011). Moreover, Jiménez and Díaz (2019) state the higher usage of online banking by those who are self-employed. Therefore, hypothesis three is defined as follows:

H3: Employment status has a significant positive influence on women's financial inclusion.

Pal et al. (2022) found that women's earnings promote their empowerment in the context of financial inclusion. In addition, many authors emphasize income as an important driver of financial inclusion (Balliester Reis, 2022; Shabir & Ali, 2022; Rashdan & Eissa, 2020;

Asuming et al, 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015). This is particularly emphasized due to the positive impact on the use of digital financial services (Szopiński, 2016; Jiménez & Díaz, 2019; Prompattanapakdee, 2009; Shankar et al., 2020). However, Onyia and Tagg (2011) found that there is no significant correlation between income and the use of digital financial services. In contrast to the previous findings, Abdu and Adem (2021) pointed out the negative relationship between income and financial inclusion. As a possible reason, the authors mentioned that individuals lacking funds may resort to taking out a loan and opening an account for their earnings. Based on all of the aforementioned previous findings, the following hypothesis is formulated:

H4: Income has a significant positive influence on women's financial inclusion.

The next section provides a detailed overview of the variables, data sources, and implemented statistical methods used to examine the relationships between variables.

Methodology

To examine the influence of socio-demographic factors on financial inclusion, the data were obtained from the latest Global Findex database 2021. The database includes responses from individuals aged 15+ regarding their payments, savings, and lending habits. This research has been conducted triennially, starting in 2011, with the support of the Bill & Melinda Gates Foundation. In this study, five countries belonging to the Western Balkans region were observed, namely Albania, Bosnia and Herzegovina, Croatia, North Macedonia, and Serbia. Montenegro was not analyzed since data for 2021 were not available.

To measure the level of financial inclusion, the authors developed the Financial Inclusion Index (FII) based on the relevant previous studies (Eze & Alugbuo, 2021; Zhang & Posso, 2019; Awaworyi Churchill et al., 2020; Obiora & Ozili, 2024), with some modifications. In these studies, account ownership, savings and borrowing habits, and credit/debit card ownership are considered core variables of financial inclusion. Contrary to previous studies, this study incorporated digital payments into the index, considering that financial inclusion can be enhanced through digital financial services (Kumar et al., 2019). Based on the previous literature and with some

modifications, the following five indicators were used to construct the FII: 1. Financial institution account ownership; 2. Debit card ownership; 3. Borrowed money from a financial institution; 4. Saved money at a financial institution; 5. Any digital payment.

The variables were weighted differently depending on their importance. In some previous studies, all variables forming the index were given equal importance (Eze & Alugbuo, 2021; Zhang & Posso, 2019). Obiora and Ozili (2024) assigned the highest value (0.33) to the account ownership variable, while other variables such as borrowing and saving habits (formal and informal) and debit/credit card ownership were weighted at 0.1. The thresholds of previous studies indicating whether a person is financially included are 0.4 (Eze & Alugbuo, 2021) and 0.5 (Zhang & Posso, 2019; Awaworyi Churchill et al., 2020). Therefore, the person is considered financially excluded if the index is below these values. The weights in this study are 0.3 for financial institution account ownership, 0.1 for debit card ownership, saved at a financial institution and borrowed from a financial institution, and 0.4 for any digital payment. The highest weight (0.4) is assigned to the variable "any digital payment" considering that digital financial services can improve financial inclusion (Kumar et al., 2019) and given the benefits digital financial services provide their users, such as time and location-independent availability, time savings, easy access to financial services, low transaction costs, etc. (Chavali & Kumar, 2018). The variable financial institution account ownership is assigned a slightly lower weight (0.3), considering that having an account is one of the basic and key prerequisites for using banking services.

The formula based on which the financial inclusion index is calculated is as follows:

$$FII = w_1 * V_1 + w_2 * V_2 + \cdots + w_d * V_d \,, \qquad (1)$$

where FII_i, i=1, ..., n, represents the financial inclusion index for n respondents; w_d, d=1, …, x, represents the weights, and V_d, d=1, …, x, represents variables that construct the index. The sum of all weights is equal to 1 (equation 2).

$$\sum_{d=1}^{x} w_d = 1 \qquad (2)$$

Therefore, the financial inclusion index in this research is calculated as:

$$FII = 0.3 * account\ ownership + 0.1 * debit\ card\ ownership + 0.1 * borrowed\ from\ a\ financial\ institution + 0.1 * saved\ at\ a\ financial\ institution + 0.4 * any\ digital\ payment \quad (3)$$

A detailed overview of the observed variables and measures is presented in Table 1.

Table 1: Variables and measures

Variable	Description	Coding
Independent variables		
Age	Respondent's age (in years)	/
Age squared	Squared value of the respondent's age (in years)	/
Education	Level of education	1= primary school or less 2= secondary school 3= tertiary education or more
Employment	The respondent's employment status	1 = Employed 0 = Unemployed
Income quintile	Respondents belonging to a specific group based on income level	1=20% of the population with the lowest income (values from 0 to 20%) 2= values from 20 to 40% 3=values from 40 to 60% 4=values from 60 to 80% 5=20% of the population with the highest income (values from 80 to 100%)
Dependent variables that construct the Financial Inclusion Index (FII)		
Financial Institution Account	Owning an account at a financial institution	1 = Have an account 0 = Don't have an account
Debit card ownership	Has a debit card	1 = Has an ATM/debit card 0 = Don't have an ATM/debit card
Saved money at a financial institution	The respondent personally reserved or put aside funds during the last year	1 = Saved in the last year 0 = Didn't save in the last year

Variable	Description	Coding
Borrowed money from a financial institution	The individual, either alone or in collaboration with another person, obtained a loan within the last year	1 = Borrowed in the last year 0 = Didn't borrow in the last year
Any digital payment*	Made or received a digital payment in the last year	1 = Made a digital payment in the last year 0 = Didn't make a digital payment in the last year

*Notes: * If the respondent used mobile money, a debit/credit card, or a mobile phone for payments or made online/in-store purchases in the past year. This also includes those who received payments for agricultural products, government transfers, wages, or pensions in the past year.*

Source: Adapted from Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Publications.

After excluding "I don't know" answers and cases where respondents refused to answer, the total sample of 2,683 women was used for further analysis. A detailed overview of the structure of the sample is presented in Table 2.

Table 2: Sample structure

Country	Sample size	Age (average)	Education		Employment status		Income	
Albania	576	53.20	1	56.08	1	35.07	1	14.24
							2	25.80
			2	28.12			3	19.44
					0	64.93	4	27.08
			3	15.80			5	23.44
Bosnia and Herzegovina	499	42.74	1	13.83	1	59.12	1	14.43
							2	18.24
			2	55.51			3	23.65
					0	40.88	4	21.44
			3	30.66			5	22.24

Country	Sample size	Age (average)	Education		Employment status		Income	
Croatia	582	50.58	1	11.34	1	57.04	1	12.54
							2	19.07
			2	47.25			3	22.17
					0	42.96	4	22.85
			3	41.41			5	23.37
North Macedonia	515	44.67	1	26.80	1	52.23	1	13.98
							2	16.70
			2	46.60			3	21.75
					0	47.77	4	22.91
			3	26.60			5	24.66
Serbia	511	42.26	1	11.55	1	58.32	1	15.07
							2	17.61
			2	60.08			3	19.37
					0	41.68	4	24.07
			3	28.37			5	23.88
TOTAL	2,683	46.97	1	24.41	1	52.03	1	14.01
							2	17.48
			2	47.00			3	21.25
					0	47.97	4	23.74
			3	28.59			5	23.52

Source: Authors' calculation. Note: Coding corresponds with the data from Table 1.

The highest average age is identified in Albania, while the lowest is recorded in Serbia. In each country, most respondents completed secondary school, except Albania, where most individuals completed primary school or less. Most Albanian and Serbian respondents belong to the fourth, while Croatian and North Macedonian respondents are dominantly from the fifth income quintile group. Individuals from Bosnia and Herzegovina are mostly from the third income quintile group. The share of those who are employed dominates in all countries except Albania.

The authors used multiple regression analysis to examine the influence of independent variables i.e., socio-demographic factors, on financial inclusion measured by financial inclusion index. Considering the possible presence of a non-linear relationship between age and financial inclusion, the squared value of age is included in the analysis as in the study conducted by Rashdan and Eissa (2020). The analysis incorporates control variables,

namely each country, to examine its unique characteristics. The country of interest is coded as 1, while all other countries are coded as 0.

Results and Discussion

The data presented in Table 3 show that Albania has the lowest proportion of women who have an account at a financial institution, have a debit card, save at a financial institution, and make or receive digital payments. That's four out of five indicators of financial inclusion, suggesting that Albanian women struggle with formal financial inclusion.

Table 3: Account ownership, debit card ownership, saved at a financial institution, borrowed from a financial institution, and digital payments in Western Balkan countries in 2021(% of respondents)

Country	Account ownership		Debit card ownership		Saved at a financial institution		Borrowed from a financial institution		Any digital payment	
Albania	**1**	41.84	**1**	24.30	**1**	7.12	**1**	9.20	**1**	30.90
	0	58.16	**0**	75.70	**0**	92.88	**0**	90.80	**0**	69.10
Croatia	**1**	81.76	**1**	67.13	**1**	20.64	**1**	15.63	**1**	71.34
	0	18.24	**0**	32.87	**0**	79.36	**0**	84.37	**0**	28.66
Bosnia and Herzegovina	**1**	94.16	**1**	76.29	**1**	30.41	**1**	8.42	**1**	90.89
	0	5.84	**0**	23.71	**0**	69.59	**0**	91.58	**0**	9.11
North Macedonia	**1**	84.85	**1**	55.53	**1**	17.48	**1**	10.29	**1**	75.34
	0	15.15	**0**	44.47	**0**	82.52	**0**	89.71	**0**	24.66
Serbia	**1**	93.15	**1**	70.45	**1**	18.00	**1**	14.68	**1**	91.98
	0	6.85	**0**	29.55	**0**	82.00	**0**	85.32	**0**	8.02
Total	**1**	78.64	**1**	58.33	**1**	18.75	**1**	11.48	**1**	71.60
	0	21.36	**0**	41.67	**0**	81.25	**0**	88.52	**0**	28.40

Source: Authors' calculation based on the Global Findex database 2021

Note: Coding (1, 0) corresponds with the data from Table 1.

In contrast, Croatia, one of the high-income countries, has the highest participation of women in terms of three indicators, i.e. account ownership, debit card ownership, and savings at a financial institution, while the lowest percentage of women borrowed from a financial institution. Bosnia and Herzegovina has the highest percentage of women who borrowed money from a financial institution, while Serbian women dominate in making or receiving digital payments compared to women in other Western Balkans countries.

The results of the multiple regression models are presented below (Table 4).

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524	.275	.273	.29103
2	.650	.422	.420	.25995

Source: Authors' calculation

The models without and with control variables explain 27% and 42% of the variance, respectively. This means that in addition to the characteristics of the countries, other factors also explain the variability of the variable financial inclusion. Table 5 provides a detailed overview of the coefficients.

Table 5: Results of the multiple linear regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.014	.043		.331	.740
Age	.005	.002	.281	2.956	.003
Age squared	-5.473E-5	.000	-.279	-2.860	.004
Education	.171	.009	.364	19.184	.000
Employment status	.140	.014	.205	10.309	.000
Income	.019	.004	.076	4.297	.000
2 (Constant)	.212	.041		5.211	.000
Age	.005	.002	.286	3.365	.001
Age squared	-5.180E-5	.000	-.264	-3.019	.003
Education	.105	.008	.223	12.387	.000
Employment status	.128	.012	.187	10.534	.000
Income	.033	.004	.132	8.216	.000
Albania	-.368	.016	-.443	-22.590	.000
Bosnia and Herzegovina	-.110	.016	-.125	-6.816	.000
North Macedonia	-.083	.016	-.096	-5.145	.000
Serbia	.008	.016	.009	.505	.614

Source: Authors' calculation

The results demonstrated an inverted U-shaped relationship between financial inclusion and age. This means that the level of financial inclusion rises to a certain point, and after that, falls. The findings are consistent with Balliester Reis (2022) and Abdu and Adem (2021), but contrary to Zins and Weill (2016). Thus, young people are excluded in the initial stage due to the lack of information and financial funds, while after retirement, their interest in financial services declines.

The results show that education significantly positively influences financial inclusion. The findings are in line with the previous studies (Shabir & Ali, 2022; Bakhshi & Agarwal, 2020; Rashdan & Eissa, 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015; Jebarajakirthy & Shankar, 2021; Shankar et al., 2020; Jiménez & Díaz, 2019; Szopiński, 2016; Onyia & Tagg, 2011; Prompattanapakdee, 2009), but contrary to Chaudhary et al. (2022) who found that there is no significant relationship between educational level and digital banking services usage.

The findings suggest that income significantly positively impacts financial inclusion, supporting the conclusions of the studies conducted by many authors (Pal et al., 2022; Balliester Reis, 2022; Shabir & Ali, 2022; Rashdan & Eissa, 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015; Szopiński 2016; Jiménez & Díaz, 2019; Prompattanapakdee, 2009; Shankar et al., 2020). Thus, income contributes to women's financial stability and increases their ability to be desirable customers of financial services. The results contradict those of Onyia and Tagg (2011), who argue that there is no significant association between income and the usage of financial services.

The findings of the study indicate that employment status has a significant positive impact on financial inclusion as demonstrated by Balliester Reis (2022), Shabir and Ali (2022), Soumaré et al. (2016), and Onyia and Tagg (2011). Therefore, women in the workforce have a source of income, and their need for financial services is greater compared to those who are unemployed. Thus, employed women are more likely to have an account, debit card, access to loans, and other financial products/services.

The results of the model, which incorporates control variables, suggest that there is a difference in women's financial inclusion between countries. This indicates that specific country-specific factors, such as development, habits, attitudes, lifestyle, and others, play a significant role.

Despite contributing to the expansion of knowledge on women's financial inclusion in the literature, this paper has several limitations. First, it only analyzes the behavior and characteristics of women from the Western Balkans region. Further studies should examine the habits of those women living in lower-middle-income and low-income countries. Second, this study focuses only on women. Future research should investigate the behavior of men and compare the results. Third, this paper analyzes the impact of four socio-demographic characteristics i.e., education, age, employment status, and income, while the model explains 42% of the variance. Further studies should include additional variables such as marital status, residential area (urban/rural), religion, and race in the analysis. The summary of hypothesis testing is presented in Table 6.

Table 6: Summary of hypothesis testing

Hypothesis	Path	Result
H1	Age → Financial Inclusion (inverted U-shape)	**Supported**
H2	Education → Financial Inclusion	**Supported**
H3	Employment status → Financial Inclusion	**Supported**
H4	Income → Financial Inclusion	**Supported**

Source: Authors' calculation

Women's financial inclusion is a relevant topic as it can foster their empowerment through starting and expanding their businesses, allocating resources to education and healthcare, and, consequently, higher participation in economic activities. Additionally, improving women's well-being and gender equality regarding barriers they face in accessing and controlling financial resources leads to the achievement of their financial independence. This study, besides theoretical, has practical implications considering that relevant bodies of the observed countries should pay more attention to marginalized women in terms of education, employment, and income.

Conclusion

The academic community and policymakers recognize women's financial inclusion as a crucial area of interest. Given the challenges women face regarding education, household position, and labor market

participation, it is significant to identify the key factors influencing their access to financial products and services. Numerous studies have examined the impact of socio-demographic factors such as education, age, employment status, and income on financial inclusion. Nevertheless, none of the previous studies have examined the impact of these factors in the Western Balkans region, analyzing the most recent available data and using an appropriate measure of financial inclusion.

This study aims to examine how education, age, employment status, and income affect women's financial inclusion in the Western Balkans region, including the following countries: Albania, Bosnia and Herzegovina, Croatia, North Macedonia, and Serbia. Financial inclusion is measured using the financial inclusion index, which is developed based on previous studies and modified by incorporating digital payments. The analysis was conducted using the latest data available from the Global Findex Database 2021. Multiple linear regression is employed to assess the impact of age, education, employment status, and income on financial inclusion. The findings of this study highlight the significant positive roles of education, income, and employment as predictors of financial inclusion. The relationship between financial inclusion and age is inversely U-shaped, meaning that the level of financial inclusion increases up to a certain age, and starts to decline after that point.

Women's financial inclusion is a relevant issue as it has the potential to empower women by enabling them to start and expand businesses, allocate resources, and increase their involvement in economic activities. Sherwani et al. (2023) and Yang et al. (2022) also demonstrate that financial inclusion plays a crucial role for women entrepreneurs, as it not only fosters entrepreneurship but also opens up substantial economic opportunities for them. Furthermore, addressing the obstacles they face in accessing and managing financial resources can enhance their well-being and lead to achieving financial independence. This research suggests that relevant bodies should prioritize women who confront education, employment, and income difficulties, especially the younger population.

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References

[1] **Abdu, E., & Adem, M.** (2021). Determinants of financial inclusion in Afar Region: Evidence from selected woredas. *Cogent Economics & Finance*, *9*(1), 1920149.

[2] **Achakpa, P., & Radović-Marković, M.** (2018). Employment women through entrepreneurship development and education in developing countries. *Journal of Women's Entrepreneurship and Education*, (1-2), 17-30.

[3] **Antonijević, M., & Domazet, I.** (2024). Relationship between Digital Financial Inclusion and Country Development. *Proceedings*, *101*, 10. https://doi.org/10.3390/proceedings2024101010

[4] **Antonijević, M., Ljumović, I., & Ivanović, Đ.** (2022). Is there a Gender Gap in Financial Inclusion Worldwide?. *Journal of Women's Entrepreneurship and Education*, (1-2), 79-96.

[5] **Asaduzzaman, M., Kabir, R. A., & Radović-Marković, M.** (2015). Gender inequality in Bangladesh. *Journal of Women's Entrepreneurship and Education*, (3-4), 54-64.

[6] **Asuming, P. O., Osei-Agyei, L. G., & Mohammed, J. I.** (2019). Financial inclusion in sub-Saharan Africa: Recent trends and determinants. *Journal of African Business*, *20*(1), 112-134.

[7] **Awaworyi Churchill, S., Nuhu, A. S., & Smyth, R.** (2020). Financial inclusion and poverty: Micro-level evidence from Nigeria. *Moving from the Millennium to the Sustainable Development Goals: Lessons and Recommendations*, 11-36.

[8] **Bakhshi, P., & Agarwal, T.** (2020). Impact of Education on Financial Inclusion: Study for India. *Journal of Xi'an University of Architecture and Technology, XII*, 1179-1194.

[9] **Balliester Reis, T.** (2022). Socio-economic determinants of financial inclusion: An evaluation with a microdata multidimensional index. *Journal of International Development*, *34*(3), 587-611.

[10] **Bogdanović, M.** (2016). Women entrepreneurship and access to capital. *Journal of Women's Entrepreneurship and Education*, (3-4), 20-34.

[11] **Botrić, V., & Broz, T.** (2017). Gender differences in financial inclusion: Central and South Eastern Europe. *South-Eastern Europe Journal of Economics*, *15*(2).

[12] **Bradić-Martinović, A., & Banović, J.** (2018). Assessment of digital skills in Serbia with focus on gender gap. *Journal of Women's Entrepreneurship and Education*, (1-2), 54-67.

[13] **Cabeza-García, L., Del Brio, E. B., & Oscanoa-Victorio, M. L.** (2019). Female financial inclusion and its impacts on inclusive economic

development. In *Women's Studies International Forum* (Vol. 77, p. 102300). Pergamon.

[14] **Chaudhary, V., Mandaviya, M., Sameen, H. S., Maroor, J. P., & Bharti, A.** (2022). A study on effect of various demographic factors on preference of consumers towards online banking usage. *Materials Today: Proceedings*, *51*, 84-87.

[15] **Chavali, K., & Kumar, A.** (2018). Adoption of mobile banking and perceived risk in GCC. *Banks & bank systems*, *13*(1), 72-79.

[16] **Deléchat, M. C. C., Newiak, M. M., Xu, R., Yang, M. F., & Aslan, G.** (2018). *What is driving women's financial inclusion across countries?*. International Monetary Fund.

[17] **Demirgüç-Kunt, A., & Singer, D.** (2017). Financial inclusion and inclusive growth: A review of recent empirical evidence. *World Bank Policy Research Working Paper*, (8040).

[18] **Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S.** (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank Publications.

[19] **Domazet, I. S., & Marjanović, D.** (2024). Digital Progress and Information Society: Evidence From EU Countries and Serbia. In *Driving Decentralization and Disruption With Digital Technologies* (pp. 1-20). IGI Global.

[20] **Domazet, I. S., Marjanović, D., Ahmetagić, D., & Stantić, J.** (2023). Innovation and ICT: Key Factors of Successful Business. In *Innovation, Strategy, and Transformation Frameworks for the Modern Enterprise* (pp. 327-345). IGI Global.

[21] **Eze, E., & Alugbuo, J. C.** (2021). Financial inclusion and poverty reduction in Nigeria: A survey-based analysis. *GSC Advanced Research and Reviews*, *7*(3), 075-084.

[22] **Hasler, A., & Lusardi, A.** (2017). The gender gap in financial literacy: A global perspective. *Global Financial Literacy Excellence Center, The George Washington University School of Business*.

[23] **Institute of Economic Sciences.** (2022). *Effects of the COVID-19 pandemic on poverty and income inequality in Serbia and cost-benefit analysis of the implemented income support measures.* Policy brief. https://ien.bg.ac.rs/cms_upload/pages/files/4910_policy_brief_effects_covid19_pandemic_on_poverty_income_inequality_inserbia.pdf

[24] **International Telecommunication Union – ITU**. (n.d.). *Skills development for the digital economy*. Retrieved January 23, 2024, from https://www.itu.int/en/mediacentre/backgrounders/Pages/skills-development-digital-economy.aspx

[25] **Ivanović, D., Simović, V., Domazet, I., & Antonijević, M.** (2021). Average Matching Levels for Two DigComp Competence Areas of the

Female Entrepreneurs in Serbia. *Journal of Women's Entrepreneurship and Education*, (3-4), 42-60.

[26] **Jebarajakirthy, C., & Shankar, A.** (2021). Impact of online convenience on mobile banking adoption intention: A moderated mediation approach. *Journal of Retailing and Consumer Services*, *58*(23), 102312–102323. https://doi.org/10.1016/j.jretconser.2020.102323

[27] **Jevtić, B., Vučeković, M., & Tasić, S.** (2023). The Effects of Digitalization and Skills on Women's Labor Market Inclusion-Serbian Gap Study. *Journal of Women's Entrepreneurship and Education*, 58-75.

[28] **Jiménez, J. R. Z., & Díaz, I. A.** (2019). Educational level and Internet banking. *Journal of Behavioral and Experimental Finance*, *22*, 31-40.

[29] **Kambale, L.** (2017). *Digital financial services: a case of Malawi. Malawi Communication Regulatory Authority*. https://www.itu.int/en/ITU-D/Capacity-Building/Documents/IG_workshop_August2018/Presentations/Session8_LindaKambale.pdf

[30] **Kumar, N., Sharma, S., & Vyas, M.** (2019). Impact of digital banking on financial inclusion: An investigation on youngsters in Rupnagar city, Punjab. *International Journal of Management, IT and Engineering*, *9*(5), 365-374.

[31] **Kuroda, R., Lopez, M., Sasaki, J., & Settecase, M.** (2019). The digital gender gap. *W20 Japan, EY-GSMA*.

[32] **Lazić, M., Vukmirović, V., & Banović, J.** (2022). *Digitalne kompetencije osoba sa invaliditetom u Srbiji i uključivanje u rad na onlajn platformama (Digital Competencies of Persons with Disabilities in Serbia and Inclusion in Online Platform Work).* Policy brief. Institute of Economic Sciences, Belgrade, Serbia. https://ien.bg.ac.rs/cms_upload/pages/files/7793_digcomposi_sazetak_za_javne_politike.pdf

[33] **Lazić, M., Vukmirović, V., Banović, J., Simović, V., & Paunović, M.** (2023). Digital Competences as a Precondition for an Inclusive Digital Economy-Is There a Gender Gap Among Persons with Disabilities in Serbia?. *Journal of Women's Entrepreneurship and Education*, (1-2), 51-71.

[34] **Marjanović J., Domazet I. & Miljković, J.** (2023) Higher Education Branding through Instrumental Values. Journal of Women's Entrepreneurship and Education 3-4, 75-94.

[35] **Obiora, K. I., & Ozili, P. K.** (2024). Comparative Analysis of Financial Inclusion in Nigeria, Sub-Saharan Africa, and the World. *Perspectives on Global Development and Technology*, *22*(3-4), 217-238.

[36] **Omar, M. A., & Inaba, K.** (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of economic structures*, *9*(1), 37.

[37] **Onyia, O. P., & Tagg, S. K.** (2011). Effects of demographic factors on bank customers' attitudes and intention toward Internet banking adoption in a major developing African country. *Journal of Financial Services Marketing*, *16*(3), 294-315.

[38] **Organisation for Economic Co-operation and Development (OECD).** (2018). Bridging the digital gender divide: Include, upskill, innovate. *OECD*.

[39] **Pal, M., Gupta, H., & Joshi, Y. C.** (2022). Social and economic empowerment of women through financial inclusion: empirical evidence from India. *Equality, Diversity and Inclusion: An International Journal*, *41*(2), 294-305.

[40] **Pavón Cuéllar, L. I.** (2021). Financial inclusion as a pillar of sustainable growth: international experience. *Economic Horizons/Ekonomski Horizonti*, *23*(2), 107-121.

[41] **Pazarbasioglu, C., Garcia Mora, A., Uttamchandani, M., Natarajan, H., Feyen, E., & Saal, M.** (2020). Digital financial services. World Bank Group. Retrieved January 23, 2024, from http://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf

[42] **Peterlechner, L.** (2021). Women's Financial Inclusion Toolkit: Paving the way for women's economic empowerment. *Deutsche Gesellschaft für Internationale Zusammenarbeit*.

[43] **Prompattanapakdee, S.** (2009). The adoption and use of personal internet banking services in Thailand. *The Electronic Journal of Information Systems in Developing Countries*, *37*(1), 1-30.

[44] **Rashdan, A., & Eissa, N.** (2020). The determinants of financial inclusion in Egypt. *International Journal of Financial Research*, *11*(1), 123-136.

[45] **Sanderson, A., Mutandwa, L., & Le Roux, P.** (2018). A review of determinants of financial inclusion. *International Journal of Economics and Financial Issues*, *8*(3), 1-8.

[46] **Shabir, S., & Ali, J.** (2022). Determinants of financial inclusion across gender in Saudi Arabia: evidence from the World Bank's Global Financial Inclusion survey. *International Journal of Social Economics*, *49*(5), 780-800.

[47] **Shankar, A., Jebarajakirthy, C., & Ashaduzzaman, M.** (2020). How do electronic word of mouth practices contribute to mobile banking adoption?. *Journal of Retailing and Consumer Services*, *52*, 101920. https://doi.org/10.1016/j.jretconser.2019.101920

[48] **Sherwani, F. K., Shaikh, S. Z., Behal, S., & Siddiqui, M. S.** (2023). Determinants of financial inclusion among women-owned enterprises: a case study of the informal sector. *Arab Gulf Journal of Scientific Research*. Ahead-of-print. https://doi.org/10.1108/AGJSR-05-2023-0193

[49] **Soumaré, I., Tchana, F.T., Kengne, T.M.** (2016), Analysis of the determinants of financial inclusion in Central and West Africa. *Journal of Transnational Corporations Review*, *8*(4), 231-249.

[50] **Szopiński, T. S.** (2016). Factors affecting the adoption of online banking in Poland. *Journal of business research*, *69*(11), 4763-4768.

[51] **Trivelli, C., Invest, B. I. D., Marincioni, M., Pels, F. J., & Di Tella, E. N. I.** (2018). Financial inclusión for women: a way forward. *Gender economic equity: An imperative for the G20*, *88*.

[52] **Tuesta, D., Sorensen, G., Haring, A., Cámara, N.** (2015), Financial Inclusion and its Determinants: The Case of Argentina BBVA Research Working Paper No.15/03

[53] **World Bank Group.** (2018). *Women, Business and the Law 2018*. Washington, DC: World Bank.

[54] **World Bank.** (n.d.). Financial inclusion. Retrieved January 22, 2024, from https://www.worldbank.org/en/topic/financialinclusion/overview

[55] **Yang, X., Huang, Y., & Gao, M.** (2022). Can digital financial inclusion promote female entrepreneurship? Evidence and mechanisms. *The North American Journal of Economics and Finance*, *63*, 101800.

[56] **Zhang, Q., & Posso, A.** (2019). Thinking inside the box: A closer look at financial inclusion and household income. *The Journal of Development Studies*, *55*(7), 1616–1631.

[57] **Zins, A., & Weill, L.** (2016). The determinants of financial inclusion in Africa. *Review of Development Finance*, *6*, 46–57.

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ORIGINAL SCIENTIFIC PAPER

Gender Gap in Entrepreneurial Intention, Reasoning, Self-Efficacy, and Education Preferences Among University Students: an Entrepreneurial Event Theory Perspective

Ivan Paunović[1]
Bonn-Rhein-Sieg University of Applied Sciences, Centre for Entrepreneurship, Innovation and SMEs (CENTIM), Rheinbach, Germany
Jennifer Musial[2]
University of Duisburg-Essen, Mercator School of Management, Chair of Marketing, Duisburg, Germany

A B S T R A C T

This study presents a gender-focused perspective of entrepreneurship education programs, aiming to understand variations in entrepreneurial intention, reasoning on entrepreneurship, self-efficacy, and entrepreneurial education preferences. The present research grounds on Entrepreneurial Event Theory to examine entrepreneurial intention, desirability, and feasibility in the context of entrepreneurship education. The research was conducted in Germany in 2021 and included a sample of 156 university students. The study deploys the Mann-Whitney U Test to examine gender differences among university students regarding entrepreneurship. The findings highlight a heightened perception of risk among female students, influencing their focus on positive/negative entrepreneurial events compared to male students. Moreover, the research reveals a greater inclination among females to engage in both curricular and extracurricular entrepreneurship education activities, corroborating previous studies suggesting greater benefits for

[1] Corresponding author, e-mail: ivan.paunovic@h-brs.de
[2] E-mail: jennifer.musial@uni-due.de

female students in such programs. The study also underscores the importance of distinguishing between curricular and extracurricular offerings, indicating promising avenues for future entrepreneurship education research. Overall, this investigation contributes new insights and explanations regarding gender dynamics in entrepreneurship education, shedding light on potential areas for further exploration in the field.

KEYWORDS: *entrepreneurial intentions, Theory of Entrepreneurial Event, entrepreneurship education, entrepreneurial desirability, entrepreneurial feasibility*

Introduction

Female entrepreneurship education research represents a gendered perspective on entrepreneurship education and has been researched by researchers in different countries, most prolific in terms of publications being the authors from the USA, UK, Spain, Canada and Germany, followed by authors from Italy, Malaysia, South Africa and Sweden (Slavinski et al., 2020). This is a developing field of study, with publications increasing steadily over the years and therefore demonstrating the increasing attention of the scientific community.

Previous literature regarding gender and entrepreneurial intention often deals with the moderating role that gender plays in shaping entrepreneurial intention from the perspective of the Theory of Planned Behavior (Arshad et al., 2016; Bagheri & Lope Pihie, 2014). This stream of literature focuses on entrepreneurial attitudes, social norms and behavioral control to explain entrepreneurial intentions (Ajzen, 2011, 2020). However, there is a paucity of literature in terms of the gender gap and its specificities from the perspective of the similar, but more appropriate Theory of Entrepreneurial Event, developed by Shapero and Sokol (1982). This theory attempts to explain entrepreneurial intention through the desirability of entrepreneurship and feasibility of entrepreneurship, while also including the importance of entrepreneurial event in the realization of the entrepreneurial intention. Previous literature has studied the gender differences in terms of entrepreneurial intention and educational needs of students in different countries and has confirmed the difference between the female and male participants (Dabic et al., 2012). However, apart from this specific study, there is no other study dealing solely with entrepreneurial education in the

university context in terms of the gender gap, while applying the Theory of Entrepreneurial Event (Shapero & Sokol, 1982).

The institutional environment regarding the ease of starting a business and training/networking programs are shown to foster female entrepreneurship. (Kaya, 2021) More specifically, the university environment is shown to impact the entrepreneurial thinking and intention of female students, both through normative and cognitive dimensions (Saadaoui et al., 2024). The research design of the present study relies on the notion in the previous literature that entrepreneurial action is a complex phenomenon, consisting of two components: perceptions of desirability (values) and perceptions of feasibility (Schlaegel & Koenig, 2014; Shapero & Sokol, 1982). The present research extends the research framework on gender differences in entrepreneurial education, proposed by Dabic et al. (2012), by differentiating between curricular and extracurricular education preferences, but retaining the core structure of the research framework: gender differences (gap) regarding education, desirability, feasibility, and entrepreneurial intention. Considering the previously mentioned research gaps and the proposed research framework, this study sets out to uncover the gender gap in entrepreneurial education. As an operationalization of this overall goal, the following research hypotheses were posed, which served as the main objectives of the study:

H1: There is a significant gender difference among university students regarding entrepreneurial intentions.

H2: There is a significant gender difference among university students regarding desirability (reasons for/against starting a business).

H3: There is a significant gender difference among university students regarding feasibility (entrepreneurial self-efficacy).

H4: There is a significant gender difference among university students regarding curricular entrepreneurship education preferences.

H5: There is a significant gender difference among university students regarding extracurricular entrepreneurship education preferences.

The article begins with introducing the relevance of the topic researched, major research gaps and the five hypotheses which guided the research. Moreover, the literature on the gender gap in terms of entrepreneurial intention, self-efficacy, desirability, and education preferences is presented. After this section, the research framework and the

study context are presented, followed by detailed results. Finally, theoretical and practical implications, limitations, and future research directions are discussed, followed by a brief conclusion section.

Literature Review

Gender Gap Regarding Entrepreneurial Intention

Entrepreneurial intention is one of the most researched phenomena in entrepreneurship in recent decades (Liñán, 2005; Lopez & Alvarez, 2019; Mmadu & Egbule, 2014). It is relevant both for researching the interaction with entrepreneurship education and beyond. Previous literature has determined that designing and executing entrepreneurial education and support programs can also have a decisive impact on entrepreneurial intention. For example, it has been proved that a small group size can have a major positive impact on entrepreneurial intention, compared to a large group size (Paunović & Bog, 2009). Moreover, the importance of entrepreneurial intention is not limited solely to the pre-start-up phase but extends to the post-start-up phase of the entrepreneurial journey, transforming into entrepreneurial performance (Brandstätter, 2011; Gerke et al., 2023). Regarding the differences between females and males in terms of entrepreneurial intention, previous research is divided into three schools of thought: contextual, individual/personal, and other. Prior research, in the transition country context, reported that women are likely to show lower entrepreneurial intention (Westhead & Solesvik, 2016). However, researchers also found that the higher risk perception directly impacts the lower entrepreneurial intention, regardless of gender. Research in a developing country found that female students score not only lower entrepreneurial intention than male students but that this difference is consistent across all four subsections of the entrepreneurial attitudes survey instrument (Barber et al., 2021). Another interesting finding from a developing country context is that passion positively mediates the relationship between entrepreneurial attitudes and intentions, whereas the opposite mediating effect was found for creativity (Monica & Anuradha, 2024).

Gender Gap Regarding Entrepreneurial Self-efficacy

Previous research has found that self-efficacy is essential for each phase of the female entrepreneurial process, with autonomy being crucial during pre-launch and launch and locus of control in pre-launch and post-launch (Gerke et al., 2023). Self-efficacy is a motivational characteristic, shown to mediate the impact of personal and context factors on entrepreneurial intention (Molino et al., 2018). The university entrepreneurial ecosystem can positively influence self-efficacy, while self-efficacy can positively impact entrepreneurial intention (Pelegrini & Moraes, 2022). In this sense, previous studies have also demonstrated that entrepreneurial self-efficacy is a viable entrepreneurship education evaluation tool both for females and males. Moreover, it was found that it is correlated with previously having taken an entrepreneurship course (Mozahem, 2021). However, international comparative studies in terms of self-efficacy and entrepreneurship education research are very rare, representing a major research gap (Mueller & Conway Dato-on, 2013; Nowiński et al., 2019).

Gender Gap Regarding Desirability, Attitudes, and Social Norms towards Entrepreneurship

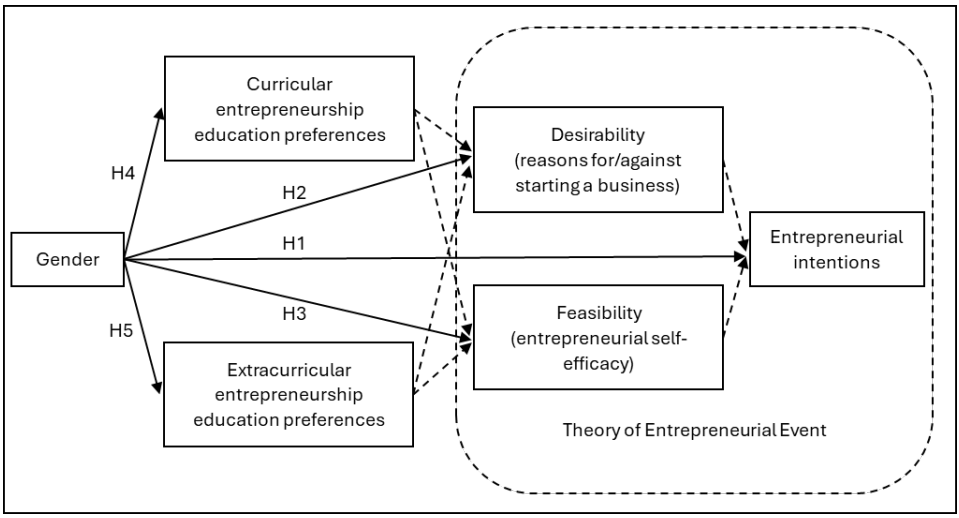
Entrepreneurial desirability is differently conceptualized in previous studies. It has been defined as the attractiveness of the idea of starting a business (Guerrero et al., 2008) or the perceived attractiveness of different career profiles (Fitzsimmons & Douglas, 2011). Other research has used multiple batteries with attractiveness and appeal of starting a business, satisfaction perception and perception of entrepreneurship as a calling (Giordano Martínez et al., 2017). Desirability is theoretically thought to be roughly equivalent to social norms and attitudes in the Theory of Planned Behavior (Fitzsimmons & Douglas, 2011; Mair & Noboa, 2003). In the present study, desirability is conceptualized as a battery of items concentrating on a set of reasons for and against starting a business. Previous research on the gender gap in entrepreneurial desirability has shown that male students show consistently higher perceived entrepreneurial desirability than female students (Abdelkarim, 2021). A gender gap regarding entrepreneurial intentions has also been confirmed from the perspective of the Theory of Planned Behavior, where social norms are the equivalent of desirability (El Harbi et al., 2009). There is a research

gap in comprehending and interpreting the gender gap concerning the desirability of entrepreneurship in entrepreneurial education, concerning the question of whether entrepreneurship education can help overcome gendered socialization effects and incentives. Moreover, effective approaches to achieving this remain understudied (Pergelova et al., 2023).

Model Development

The research design of the present study is grounded in the previous literature's conceptualization of entrepreneurial action as a complex phenomenon, encompassing two primary components, according to the Theory of Entrepreneurial Event: perceptions of desirability (values) and perceptions of feasibility (Shapero & Sokol, 1982). The present research deploys and extends this model in order to evaluate the impact of a gender gap, or gender differences, on curricular and extracurricular entrepreneurial education preferences, desirability (reasons for/against starting a business), feasibility (entrepreneurial self-efficacy), and entrepreneurial intention. Therefore, the research framework on gender differences in entrepreneurial education, proposed by Dabic et al. (2012) is extended in the present research, by differentiating between curricular and extracurricular education preferences, but retaining the core structure of the previous research framework. Similarly to previous research, we assume in our model that gender has an indirect effect on entrepreneurial intention, by directly impacting desirability and feasibility. Another assumption is that gender affects both curricular as well as extracurricular entrepreneurship education preferences, which then impact (entrepreneurial) desirability and feasibility. The solid lines in Figure 1 indicate the scope of the present paper, while the dashed lines indicate the assumed theoretical connections not addressed by this paper, with one exception. Namely, we assume that the impact of gender on entrepreneurial intention is indirect. However, we test it both for the gender gap as an overarching concept and as a basis for further analysis of underlying antecedents such as desirability, feasibility, and preferences for curricular and extracurricular entrepreneurship education.

Figure 1: Research framework



Source: Authors

Data and Methods

The data collection took place from October 21st until November 28th, 2021 in Germany, at the Bonn-Rhein-Sieg University of Applied Sciences. It was part of the evaluation activities of the project „Start-up Manufaktur". This project deals with entrepreneurship support, upskilling and the creation of an entrepreneurship culture at the university. The students were contacted via Email and LinkedIn to fill out the online questionnaire, hosted on the Unipark platform for a total sample of n=156 students. The respondents were informed in detail on the content and the goals of the study, that the study is anonymous and that no data which can be traced back to a single person will be collected. An informed consent was obtained from all the participants in the study. The data collection was conducted in accordance with the Declaration of Helsinki from 1964. The respondents were asked to answer the questions on ordinal Likert scales, ranging from 1=completely disagree to 6=completely agree. There were 2 items related to the intention to start a business, 8 items related to reasons of why to start a business, 9 items related to reasons for not starting a business, 7 items related to self-efficacy, 9 items related to curricular entrepreneurship education preferences, and 9 items related to extracurricular entrepreneurship education preferences.

Non-binary genders represented a very small subsample (n=2) and were thus excluded for further analysis. The total data set covers 156 students. On average, participants were 22.92 years old (SD=3.48) and 47.44% were female.

To examine gender differences in entrepreneurial intentions, self-efficacy, and entrepreneurial education preferences, Mann-Whitney U Tests were conducted as Kolmogorov-Smirnov and Shapiro-Wilk Tests revealed that the data is not normally distributed ($p \leq .001$). The Mann-Whitney U Test is a non-parametric test to examine whether there are statistically significant differences between two independent groups of an independent variable (gender: female and male students) on an ordinal dependent variable (entrepreneurial intentions, reasoning, self-efficacy, and preferences). It represents the non-parametric alternative to the test for independent variables, which is aimed at the metric-scaled dependent variable.

Results

Gender Differences in Entrepreneurial Intentions

In Table 1, discernible differences between women and men are apparent in different criteria of entrepreneurial intentions. Noteworthy distinctions emerge concerning the inclination to start a business, $p \leq .001$ (r=.313). Men exhibit a significantly higher intention to initiate a business compared to women. A similar pattern is observed in the context of business acquisition, $p=.034$ (r=.170), where male students manifest a substantially greater intention towards taking over a business compared to female students.

Table 1: Mann-Whitney U Test results for behavioral intention

		M (SD)	$\lvert M_{fe} - M_{ma} \rvert$	Mean Rank	*p*
I want to start a business	female male	3.28 (1.74) 4.37 (1.48)	1.09	63.88 91.70	<.001*
I want to take over an existing business	**female** **male**	**2.24 (1.50)** **2.65 (1.42)**	**.41**	**70.67** **85.57**	**.034***

Source: Authors

Gender Differences in Entrepreneurial Reasoning

Substantial variations exist concerning specific motivations and inhibitors for entrepreneurship (desirability), as presented in Table 2 below. Women attribute significantly greater importance to the perceived threat of impending unemployment as a motivator for starting a business compared to men, p=.014 (r=.196). Conversely, the financial risk emerges as a more potent deterrent for female than for male students, p≤.001 (r=.345). Moreover, the perceived burden of perceived excessive responsibility as a business manager constitutes a significantly greater impediment for women as opposed to men, p≤.001 (r=.286).

Table 2: Mann-Whitney U Test results for reasoning on entrepreneurship

		M (SD)	**$\lvert M_{fe} - M_{ma} \rvert$**	**Mean Rank**	***p***
Reasons for starting a business					
Potential for good earning	female	4.58 (1.12)	.08	74.82	.311
	male	4.66 (1.33)		81.82	
Self-realization	female	5.41 (.76)	.04	76.65	.583
	male	5.45 (.77)		80.17	
Innovative business idea	female	4.88 (1.09)	.11	80.05	.667
	male	4.77 (1.22)		77.10	
Independence	female	4.97 (1.34)	.21	75.44	.387
	male	5.18 (1.08)		81.26	
The existence of market potential	female	4.15 (1.18)	.13	74.40	.263
	male	4.28 (1.31)		82.28	
Good market and industry knowledge	female	4.08 (1.45)	.13	81.39	.473
	male	3.95 (1.43)		75.90	
Looming unemployment	**female**	**2.77 (1.40)**	**.51**	**87.55**	**.014***
	male	**2.26 (1.28)**		**70.34**	
Following a current trend towards starting their own business	female	2.53 (1.38)	.25	83.28	.193
	male	2.27 (1.40)		74.19	

		M (SD)	$\lvert M_{fe} - M_{ma} \rvert$	Mean Rank	*p*
Reasons against starting a business					
Financial risk which is too high	**female**	**4.96 (1.13)**	**.87**	**94.36**	**<.001***
	male	**4.09 (1.41)**		**64.18**	
Too much responsibility on the part of the business manager	**female**	**4.34 (1.57)**	**.90**	**91.86**	**<.001***
	male	**3.44 (1.61)**		**66.44**	
Lack of professional competence/ soft skills/market knowledge	female	4.18 (1.40)	.28	83.89	.147
	male	3.90 (1.37)		73.64	
Lack of professional experience	female	4.08 (1.49)	.13	77.09	.705
	male	4.21 (1.39)		79.77	
Lack of or too low capital	female	4.81 (1.29)	.27	83.78	.150
	male	4.54 (1.34)		73.73	
Lack of co-founders and/or partners	female	3.92 (1.42)	.19	80.75	.546
	male	3.73 (1.66)		76.47	
Too much time investment needed	female	3.95 (1.68)	.22	81.54	.416
	male	3.73 (1.70)		75.76	
Lack of business idea	female	4.46 (1.59)	.24	81.22	.463
	male	4.22 (1.75)		76.05	
Currently good career entry opportunities for graduates	female	3.54 (1.42)	.28	83.07	.219
	male	3.26 (1.51)		74.37	

Source: Authors

Gender Differences in Entrepreneurial Self-efficacy

As presented in Table 3, women and men feel significantly different prepared by their studies in product-related and technical areas, $p \leq .001$ (r=.333), whereby women feel less prepared than men. All other criteria do not show statistical evidence in terms of gender differences in self-efficacy.

Table 3: Mann-Whitney U Test results for self-efficacy

		M (SD)	$\lvert M_{fe} - M_{ma} \rvert$	Mean Rank	*p*
Commercial area	female	3.23 (1.60)	.06	79.62	.764
	male	3.17 (1.59)		77.49	
Product-related and technical area	**female**	**2.70 (1.25)**	**1.04**	**62.96**	**<.001***
	male	**3.74 (1.59)**		**92.52**	
Marketing	female	3.55 (1.80)	.07	80.75	.546
	male	3.48 (1.61)		76.47	
Soft Skills (presentation and negotiation skills and similar)	female	3.82 (1.32)	.17	75.79	.461
	male	3.99 (1.36)		80.95	
Legal area	female	3.14 (1.36)	.32	83.95	.143
	male	2.82 (1.38)		73.58	
Inter-disciplinary Know How	female	3.76 (1.17)	.20	83.02	.337
	male	3.56 (1.37)		75.32	
Practical experience (through orientation on the practice)	female	3.72 (1.40)	.02	79.03	.885
	male	3.74 (1.34)		78.02	

Source: Authors

Gender Differences in Entrepreneurial Education Preferences

Regarding entrepreneurial education preferences, there are partly gender differences in both curricular and extracurricular offerings, as illustrated in Table 4. Female students express a stronger desire for additional courses focusing on soft skills within the curricular framework, p=.003 (r=.237). Furthermore, gender-specific differences in curricular preferences occur in terms of seminars, related to marketing and sales, p=.050 (r=.157), with women displaying a greater interest in these topics compared to men. Variations in preferences for curricular seminars covering employee management are evident, p=.014 (r=.196), with women exhibiting a heightened interest in these areas, compared to men. Regarding extracurricular offers, females also exhibit higher intention to engage with soft skill seminars, p=.007 (r=.218), as well as exchange with existing companies and institutions p=.035 (r=.169).

Table 4: Mann-Whitney U Test results for entrepreneurial education preferences

		M (SD)	$\lvert M_{fe} - M_{ma} \rvert$	Mean Rank	*p*
Curricular offers					
Introductory and overview lectures	female male	4.07 (1.31) 3.99 (1.44)	.08	79.22 77.85	.846
Soft Skills (presentation and negotiation skills and similar)	**female** **male**	**4.59 (1.47)** **3.94 (1.53)**	**.65**	**89.49** **68.59**	**.003***
Creating a business plan	female male	3.95 (1.70) 3.71 (1.58)	.24	82.43 74.95	.294
Simulation games for starting a business.	female male	3.84 (1.68) 3.56 (1.72)	.28	82.30 75.07	.311
Seminars on marketing and sales	**female** **male**	**4.23 (1.65)** **3.78 (1.56)**	**.45**	**85.84** **71.87**	**.050***
Seminars on financial management, financing, and liquidity planning	female male	4.24 (1.65) 3.85 (1.63)	.39	84.30 73.27	.120
Seminars on employee management	**female** **male**	**4.30 (1.59)** **3.71 (1.61)**	**.59**	**87.64** **70.25**	**.014***
Seminars on organizational structure, company types, start-up types, legal aspects	female male	4.00 (1.74) 3.85 (1.71)	.15	80.62 76.59	.571
Exchange with existing companies and institutions	female male	4.07 (1.64) 3.74 (1.70)	.33	83.00 74.44	.229
Extracurricular offers					
Introductory and overview lectures	female male	3.73 (1.56) 3.24 (1.78)	.49	85.24 72.41	.072
Soft Skills (presentation and negotiation skills and similar)	**female** **male**	**4.62 (1.32)** **3.93 (1.62)**	**.69**	**88.61** **69.38**	**.007***
Creating a business plan	female male	4.23 (1.62) 3.89 (1.71)	.34	83.21 74.25	.207
Simulation games for starting a business	female male	4.03 (1.70) 3.62 (1.84)	.41	83.62 73.88	.172

		M (SD)	$\lvert M_{fe} - M_{ma} \rvert$	Mean Rank	*p*
Seminars on marketing and sales	female	4.20 (1.45)	.38	83.67	.167
	male	3.82 (1.67)		73.84	
Seminars on financial management, financing, and liquidity planning	female	4.03 (1.75)	.10	80.53	.588
	male	3.93 (1.64)		76.67	
Seminars on employee management	female	4.34 (1.62)	.32	83.94	.145
	male	4.02 (1.55)		73.59	
Seminars on organizational structure, company types, start-up types, legal aspects	female	4.20 (1.66)	.33	83.35	.194
	male	3.87 (1.66)		74.12	
Exchange with existing companies and institutions	**female**	**4.69 (1.38)**	**.56**	**86.30**	**.035***
	male	**4.13 (1.63)**		**71.46**	

Source: Authors

Discussion

Theoretical Implications

The present research confirms findings from previous literature that entrepreneurial education should not be designed as "one-size-fits-all", but should be gender-sensitive (Westhead & Solesvik, 2016; Wilson et al., 2007). Entrepreneurial education should acknowledge different entrepreneurial mindsets between female and male students in terms of entrepreneurial desirability (reasons for/against starting a business) and entrepreneurial feasibility (self-efficacy), leading to varying levels of entrepreneurial intention.

The finding that women attach greater importance to the perceived threat of impeding unemployment with regard to the desirability of starting a business can be interpreted in two ways. Firstly, it confirms a widely cited phenomenon in the literature that females are generally risk-averse towards entrepreneurship (Fossen, 2012), particularly when it comes to having low entrepreneurial intentions (Brandstätter, 2011). Coupled with two other results from the present study - that financial risk and responsibility are a more potent deterrents for female students than for male students - the argument for risk aversion is even more supported. However, a second,

alternative interpretation of the higher perceived threat of impending unemployment, along with financial risk and high responsibility, could be that women have more awareness about the necessity of a displacement event (negative information, event, displacement), as the Theory of Entrepreneurial Event suggests (Shapero & Sokol, 1982). This is a possibility not previously explored in empirical literature. Hence, the displacement event and its role in female entrepreneurship, in particular, is worth further exploration in future literature. This is probably the most important contribution to researching the gender gap through the lens of the Theory of Entrepreneurial Event.

Previous research into gender differences in entrepreneurial education does not differentiate between curricular and extracurricular offers, nor does it provide evidence of differences in terms of specific offers, needed by female and male students (Mozahem, 2021; Nowiński et al., 2019; Westhead & Solesvik, 2016). The present research closes this research gap and provides general insights that females are more interested in entrepreneurial education in general. Women are significantly more interested in developing soft skills, marketing and sales, and employee management skills as part of the curriculum, as well as soft skills and exchange with existing companies and institutions as extracurricular activities. This confirms previous findings in the literature that entrepreneurial education benefits more female than male students, as they use it to leverage change and break down societal barriers related to classical gender roles (van Ewijk & Belghiti-Mahut, 2019). Even small changes to entrepreneurial education, such as group size, can significantly affect entrepreneurial intention (Paunović & Bog, 2009). This needs to be considered for planning gender equitable entrepreneurship education which should explain desirability (demonstrate reasons for and against starting a business), and enhance self-efficacy (feasibility), thereby increasing ultimately entrepreneurial intent for all groups and all genders.

Practical Implications

The findings from the present study provide important practical implications for entrepreneurship educators, coaches, and mentors in a university context and beyond. The approach to entrepreneurship and consequently entrepreneurship education varies significantly between female and male students in several domains. Consequently, entrepreneurship education programs need to take into account these

differences and focus on developing the needed and preferred skills, while also addressing the need for mixed (cross-gender) entrepreneurial teams. It pertains not solely to entrepreneurs as individuals but also to entrepreneurial teams. A well-designed entrepreneurial education needs to answer and differentiate the following crucial points both for females as well for males: What are the reasons for/against starting a business? How can entrepreneurial self-efficacy be improved and in which areas? Should the education activities be rewarded with credits or some other form of monetary/non-monetary reward? What monetary/non-monetary incentives for young and aspiring entrepreneurs should be put in place to develop their sense of entrepreneurial self?

Conclusion

The current study addresses the gender gap in entrepreneurial education within a university context. This is an important and previously understudied topic, relevant to both the theory and practice of entrepreneurial universities and the third mission of the university. Designing entrepreneurial education at universities is confronted with a series of challenges, including those addressed in this research paper – namely, entrepreneurial desirability, feasibility, education preferences, and gender disparities. Gender disparities are important not only on an individual level but also on the level of group dynamics and in entrepreneurial teams. This is an important notion that needs to be considered both in terms of the limitations of the present study as well as a call on future research regarding the gendered perspective of entrepreneurship dynamics.

The present research deploys a Theory of Entrepreneurial Event Model for researching the gender gap in entrepreneurial education. This contributes twofold to the literature. Firstly, it confirms that it is a relevant and plausible model to research the gender gap in entrepreneurship education. Secondly, this theoretical framework provides a new perspective and insights into the much-cited female risk aversion in entrepreneurship. Female entrepreneurial intention differs from that of males in its greater consideration of entrepreneurial events as essential elements in potential entrepreneurial endeavors, whereas males may not prioritize this aspect. Therefore, it is not relevant to focus solely on ways to reduce female risk aversion in entrepreneurship. Instead, the focus should be on demystifying, inspiring,

and providing a path that leads from entrepreneurial intention to successful entrepreneurial endeavors.

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References

[1] **Abdelkarim, A.** (2021). From entrepreneurial desirability to entrepreneurial self-efficacy: The need for entrepreneurship education - A survey of university students in eight countries. *Entrepreneurship Education*, *4*(1), 67–88. https://doi.org/10.1007/s41959-021-00046-8

[2] **Ajzen, I.** (2011). The theory of planned behaviour: Reactions and reflections. In *Psychology & Health* (Bd. 26, Nummer 9, S. 1113–1127). Taylor & Francis. https://doi.org/10.1080/08870446.2011.613995

[3] **Ajzen, I.** (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314–324. https://doi.org/10.1002/hbe2.195

[4] **Arshad, M., Farooq, O., Sultana, N., & Farooq, M.** (2016). Determinants of individuals' entrepreneurial intentions: A gender-comparative study. *Career Development International*, *21*(4), 318–339. https://doi.org/10.1108/CDI-10-2015-0135

[5] **Bagheri, A., & Lope Pihie, Z. A.** (2014). The moderating role of gender in shaping entrepreneurial intentions: Implications for vocational guidance. *International Journal for Educational and Vocational Guidance*, *14*, 255–273. https://doi.org/10.1007/s10775-014-9269-z

[6] **Barber, D., Ghouse, S. M., Gibson, S. G., & Harris, M. L.** (2021). Gender and exposure differences in entrepreneurial attitudes of Indian university students. *International Journal of Entrepreneurship and Small Business*, *44*(4), 435. https://doi.org/10.1504/IJESB.2021.119728

[7] **Brandstätter, H.** (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, *51*(3), 222–230. https://doi.org/10.1016/j.paid.2010.07.007

[8] **Dabic, M., Daim, T., Bayraktaroglu, E., Novak, I., & Basic, M.** (2012). Exploring gender differences in attitudes of university students towards entrepreneurship: An international survey. *International Journal of Gender*

and Entrepreneurship, *4*(3), 316–336. https://doi.org/10.1108/17566261211264172

[9] **El Harbi, S., Anderson, A., & Mansour, N.** (2009). The attractiveness of entrepreneurship for females and males in a developing Arab Muslim country; entrepreneurial intentions in Tunisia. *International Business Research*, *2*(3), 47–53. https://doi.org/10.5539/ibr.v2n3p47

[10] **Fitzsimmons, J. R., & Douglas, E. J.** (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venturing*, *26*(4), 431–440. https://doi.org/10.1016/j.jbusvent.2010.01.001

[11] **Fossen, F. M.** (2012). Gender differences in entrepreneurial choice and risk aversion–a decomposition based on a microeconometric model. *Applied Economics*, *44*(14), 1795–1812. https://doi.org/10.1080/00036846.2011.554377

[12] **Gerke, A., Ianiro-Dahm, P., Muck, P., Lehmann-Willenbrock, N., & Hell, B.** (2023). How Do Female Entrepreneurs Differ From Male Entrepreneurs? Distinguishing Personality Traits Throughout the Entrepreneurial Journey. *The Journal of Entrepreneurship, 32*(3), 525-552. https://doi.org/10.1177/09713557231210684

[13] **Giordano Martínez, K. R., Herrero Crespo, Á., & Fernández-Laviada, A.** (2017). Influence of perceived risk on entrepreneurial desirability and feasibility: Multidimensional approach for nascent entrepreneurs. *Journal of Risk Research*, *20*(2), 218–236. https://doi.org/10.1080/13669877.2015.1042506

[14] **Guerrero, M., Rialp, J., & Urbano, D.** (2008). The impact of desirability and feasibility on entrepreneurial intentions: A structural equation model. *International Entrepreneurship and Management Journal*, *4*, 35–50. https://doi.org/10.1007/s11365-006-0032-x

[15] **Kaya, H. D. (2021).** Do Business-Friendly States Attract Female Entrepreneurs? *Journal of Women's Entrepreneurship and Education*, 3–4, 1–21. https://doi.org/10.28934/jwee21.34.pp1-21

[16] **Liñán, F.** (2005). Development and validation of an Entrepreneurial Intention Questionnaire (EIQ). *15th Internationalizing Entrepreneurship Education and Training Conference (2005),* p. 1-14. https://doi.org/10.1007/s11365-010-0154-z

[17] **Lopez, T., & Alvarez, C.** (2019). Influence of university-related factors on students' entrepreneurial intentions. *International Journal of Entrepreneurial Venturing*, *11*(6), 521. https://doi.org/10.1504/IJEV.2019.103751

[18] **Mair, J., & Noboa, E.** (2003). *Social entrepreneurship: How intentions to create a social enterprise get formed*, IESE Working Paper No. D/521. https://ssrn.com/abstract=462283

[19] **Mmadu, B. A., & Egbule, S.** (2014). Intention for entrepreneurship among students of Delta State University Abraka Nigeria: An empirical investigation. *International Journal of Entrepreneurship and Small Business*, *22*(2), 196. https://doi.org/10.1504/IJESB.2014.062501

[20] **Molino, M., Dolce, V., Cortese, C. G., & Ghislieri, C.** (2018). Personality and social support as determinants of entrepreneurial intention. Gender differences in Italy. *PloS one*, *13*(6), e0199924. https://doi.org/journal.pone.0199924

[21] **Monica, J., & Anuradha, P. S.** (2024). Entrepreneurial Attitude and Entrepreneurial Intentions of Female Engineering Students: Mediating Roles of Passion and Creativity. *Journal of Women's Entrepreneurship and Education*, 1–2, 19–39. https://doi.org/10.28934/jwee24.12.pp19-39

[22] **Mozahem, N. A.** (2021). Gender differences in entrepreneurial self-efficacy: An educational perspective. *The International Journal of Management Education*, *19*(3), 100535. https://doi.org/10.1016/j.ijme.2021.100535

[23] **Mueller, S. L., & Conway Dato-on, M.** (2013). A cross cultural study of gender-role orientation and entrepreneurial self-efficacy. *International Entrepreneurship and Management Journal*, *9*, 1–20. https://doi.org/10.1007/s11365-011-0187-y

[24] **Nowiński, W., Haddoud, M. Y., Lančarič, D., Egerová, D., & Czeglédi, C.** (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. *Studies in Higher Education*, *44*(2), 361–379. https://doi.org/10.1080/03075079.2017.1365359

[25] **Paunović, I., & Bog, P.** (2009). Uticaj veličine grupe na motivisanost polaznika u uvodnim kursevima. *Prilozi*, *6*(1).

[26] **Pelegrini, G. C., & Moraes, G. H. S. M. de.** (2022). Does gender matter? A university ecosystem, self-efficacy and entrepreneurial intention analysis in Brazilian universities. *Gender in Management: An International Journal*, *37*(2), 271–286. https://doi.org/10.1108/GM-01-2021-0007

[27] **Pergelova, A., Angulo-Ruiz, F., Manolova, T. S., & Yordanova, D.** (2023). Entrepreneurship education and its gendered effects on feasibility, desirability and intentions for technology entrepreneurship among STEM students. *International Journal of Gender and Entrepreneurship*, *15*(2), 191–228. https://doi.org/10.1108/IJGE-08-2022-0139

[28] **Saadaoui, A., Mohamad, A., & Abd Rani, S. H.** (2024). Investigating the Relationship between University Environment and Female Student's Entrepreneurial Thinking in Algeria. *Journal of Women's Entrepreneurship and Education*, 1–2, 115–140. https://doi.org/10.28934/jwee24.12.pp115-140

[29] **Schlaegel, C., & Koenig, M.** (2014). Determinants of Entrepreneurial Intent: A Meta–Analytic Test and Integration of Competing Models.

Entrepreneurship Theory and Practice, *38*(2), 291–332. https://doi.org/10.1111/etap.12087

[30] **Shapero, A., & Sokol, L. (1982).** Social dimensions of entrepreneurship. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72–90). Englewood Cliffs: Prentice Hall. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1497759

[31] **Slavinski, T., Todorović, M., Vukmirović, V., & Montenegro, A. M.** (2020). Women, entrepreneurship and education: Descriptive bibliometric analysis based on scopus database. *Journal of Women's Entrepreneurship and Education*, 3–4, 181–201. https://doi.org/10.28934/jwee20.34.pp181-201

[32] **van Ewijk, A. R., & Belghiti-Mahut, S.** (2019). Context, gender and entrepreneurial intentions: How entrepreneurship education changes the equation. *International Journal of Gender and Entrepreneurship*, *11*(1), 75–98. https://doi.org/10.1108/IJGE-05-2018-0054

[33] **Westhead, P., & Solesvik, M. Z.** (2016). Entrepreneurship education and entrepreneurial intention: Do female students benefit? *International Small Business Journal*, *34*(8), 979–1003. https://doi.org/10.1177/026624261561253

[34] **Wilson, F., Kickul, J., & Marlino, D.** (2007). Gender, entrepreneurial self–efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship Theory and Practice*, *31*(3), 387–406. https://doi.org/10.1111/j.1540-6520.2007.00179.x

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ORIGINAL SCIENTIFIC PAPER

Sustainable Entrepreneurial Orientation (SEO), and Organizational Performance: A Gender-Moderated Perspective in Peru

Andrea Lazarte-Aguirre[1]
CENTRUM Católica Graduate Business School (CCGBS), Lima, Peru
Pontificia Universidad Católica del Perú (PUCP), Lima, Peru

A B S T R A C T

Sustainable Entrepreneurial Orientation (SEO) is an emergent concept and a complex dynamic capability that could explain the behavioral predisposition of individuals and organizations to contribute to sustainable development. This study examined the impact of decision-makers' SEO on the organizational performance of their companies. In addition, the study evaluated the moderating role of gender in the relationship between SEO and performance. The approach of the study was explanatory and non-experimental. It used a PLS-SEM technique on a sample of 121 decision-makers of micro and small enterprises operating in different sectors in Peru, a highly entrepreneurial country in Latin America. After validating the SEO measurement from the individual perspective, the results showed that SEO does affect performance. However, the moderating role of gender on the SEO-performance relationship was not empirically validated. This study contributes to the literature on sustainable entrepreneurship by confirming that the phenomenon of SEO, typically assessed at the organizational level, is also an important antecedent of organizational performance when viewed from the individual perspective. Although the moderating effect of gender was not proven, this study provides insightful directions on the SEO-performance relationship. Thus, by validating the SEO instrument that considers its components from an individual perspective, the literature on this strategic orientation has been expanded.

[1] E-mail: alazartea@pucp.edu.pe

KEYWORDS: *sustainable entrepreneurial orientation, performance, gender, PLS-SEM*

Introduction

In today's rapidly evolving business landscape, organizations face multiple challenges stemming from globalization, technological innovation, and increased environmental awareness and concern. In the midst of these complexities, the pursuit of sustainability practices has emerged as a strategic imperative for organizations seeking to enhance their competitive advantage, long-term viability, and overall performance. At the heart of this effort is the concept of dynamic capabilities, which encapsulates an organization's ability to adapt, innovate, and orchestrate resources in response to changing environmental conditions. Dynamic Capabilities Theory (hereafter DCT) posits that sustainable organizational success depends not only on the competent use of current resources, but also on the ability to reconfigure these resources dynamically in line with changing market demands and competitive pressures (Teece et al., 1997).

In the field of sustainability, dynamic capabilities play a key role in facilitating the integration of environmental, social, and economic considerations into organizational strategy and operations. In this quest, the relationship between Entrepreneurial Orientation (EO), a widely studied concept in the field of entrepreneurship (Wales et al., 2011), dynamic capabilities, and organizational performance is widely confirmed and accepted in the literature. Moreover, the literature continues to explore the role of gender in entrepreneurship, acknowledging that it is a fundamental issue for both theory and practice. However, there is conflicting evidence in the studies, making it difficult to determine whether women are more entrepreneurial or possess more entrepreneurial characteristics than men (Efendi et al., 2024).

While previous studies confirmed the relationship between EO and performance, by introducing the sustainability component as Sustainability Orientation (SO), Sustainable Entrepreneurial Orientation (SEO) has begun to attract the attention of several scholars seeking to understand this concept. SEO emerges as a novel concept and high-level strategic dynamic capability that could potentially explain the behavioral predisposition of individuals and organizations to contribute to sustainable development and, consequently, positively impact organizational performance (Ameer &

Khan, 2022; Criado-Gomis et al., 2017, 2020; Jiang et al., 2018). By recognizing the relevance of sustainable entrepreneurship over conventional entrepreneurship, new promising topics emerge that provide insights into this phenomenon and contribute to the global agenda. Moreover, a major puzzle in gender and sustainable entrepreneurship research remains under debate due to the inconclusive evidence in the literature.

In order to achieve the Sustainable Development Goals (SDGs) with the contribution of entrepreneurship, the present study aimed to contribute to expanding the current state of the literature on dynamic capabilities and their impact on performance by assessing the effect of SEO of decision-makers of micro and small enterprises on performance. In addition, it aimed to demonstrate that this relationship is moderated by gender, meaning that being female or male, or vice versa, in leadership or decision-making roles in organizations could improve the strength and/or direction of the SEO performance relationship. Considering the aforementioned issues, this study is based on two research questions:

RQ1. What is the effect of SEO on organizational performance?

RQ2. What is the effect of gender on the SEO-performance relationship?

The purpose of this paper is to provide insights into the impact of sustainable entrepreneurial orientation (SEO) as an emerging and complex concept in the sustainability arena on organizational performance. It also seeks to understand whether gender is a determinant of this relationship. Therefore, this study aimed to fundamentally advance scholars' understanding of the impact of dynamic capabilities, such as SEO, on sustainability. The remainder of the paper is organized as follows: First, the theoretical framework is presented along with the proposed hypotheses. Second, the methodology is explained, including the research design, sampling, data collection, and procedure. Third, the results of the model under investigation are presented. Finally, theoretical implications are discussed, and future research directions are outlined.

Literature Review and Hypothesis Development

Sustainable entrepreneurs, especially women, need to look for business opportunities that can lead to better economic, social, and environmental performance (Criado-Gomis et al., 2020; Hernández-Perlines & Rung-Hoch,

2017). Therefore, this research considers the general hypothesis that the individual level of SEO can help to understand the nature of sustainable practices that decision-makers foster within their organizations to seek sustainable development, environmental protection, and improved organizational performance.

First, SEO is a high-level strategic construct that explains the tendency or predisposition of entrepreneurial behavior to achieve sustainable development based on individuals' concern for the environment (Criado-Gomis et al., 2017; Wu et al., 2019). Given the dual orientation of SEO through its EO and SO components (Criado-Gomis et al., 2017), it allows organizations to seek a level of social responsibility (Hernández-Perlines & Cisneros, 2018) and environmental, social, and financial performance (Afum et al., 2023) as desirable goals of a sustainable entrepreneurial organization (Criado-Gomis et al., 2017). EO is the most important category of SEO and contributes greatly to SEO having a positive and significant relationship with organizational performance (Ameer & Khan, 2020; Criado-Gomis et al., 2017; Hernández-Perlines et al., 2017; Tze San et al., 2022).

Furthermore, it has been found that in small firms under high competition, EO is oriented towards increasing sustainable practices to achieve high levels of performance (Akomea et al., 2022). Under these conditions, EO would be a precursor of SO (Ruiz-Ortega et al., 2021). For these reasons, SO can contribute to solving the problems caused by environmental degradation by creating sustainable products and services (Cohen & Winn, 2007; Dean & McMullen, 2007; Soo Sung & Park, 2018). Therefore, based on these arguments, the following hypothesis was proposed:

> ***Hypothesis 1.*** SEO is positively related to the organizational performance of micro and small-sized companies.

Second, the literature provides conflicting results regarding the relationship between gender and SEO or its components. Gender disparities in sustainable entrepreneurship often revolve around which gender tends to score higher. For instance, women, on average, exhibit higher levels of altruism or passion compared to men (Manjaly et al., 2022). These variations don't suggest that men and women only experience traits at opposing ends of the spectrum; rather, there can be notable distinctions alongside a substantial overlap between their distributions. However, by prioritizing sustainable well-being, women entrepreneurs contribute to

reducing environmental impact and promoting social welfare (Fallah & Soori, 2022). Thus, women entrepreneurs could assert environmental control through sustainable entrepreneurship (Sharma et al., 2023).

Women entrepreneurs are known to identify new entrepreneurial opportunities, which can contribute to global entrepreneurship through their resilient spirit, risk-taking ability, perseverance, and innovativeness, some of which are EO components (Agu et al., 2024). On the one hand, Sonfield et al. (2001) found that small business owners have similar levels of risk-taking and innovativeness, two of the five dimensions of EO. Similarly, studies comparing EO with organizations managed by men and women and its relationship to performance show no significant differences. For example, the study of Hosseininia and Ramezani (2016) suggested that sustainable entrepreneurship of small businesses in the Iranian context is moderated by education and experience rather than age and gender. In addition, the study of Fuentes-Fuentes et al. (2015) confirmed that the EO of men and women do not show significant differences in performance.

On the other hand, other studies have shown that based on the fact that EO is a positive and significant indicator of organizational performance (Runyan et al., 2006), women tend to show higher EO through risk-taking and innovativeness (Runyan et al., 2006; Zeb & Ihsan, 2020). Furthermore, Feng et al. (2023) found that EO has a significant impact on the financial and operational performance of women-led organizations only when external knowledge acquisition is considered. In summary, women show higher EO than men, which, together with SO, would lead to high SEO, which contributes to positive organizational performance, as confirmed by Criado-Gomis et al. (2020). In this regard, Criado-Gomis et al. (2020) sought to understand how gender moderates the relationship between SEO and organizational performance and, through an empirical model, confirmed that women have higher EO than men, which, together with their sustainability orientation, would translate into their undertaking sustainable initiatives. This means that companies with SEO have a positive performance, demonstrating a higher relationship in organizations managed by women.

In summary, gender differences in sustainable entrepreneurship are context-dependent, as culture influences orientation towards green behavior (Chowdhury & Audretsch, 2021; Rauch et al., 2009; Wiklund & Shepherd, 2003). Therefore, it is important to understand how men and women differ in SEO and its components, and how this variable affects performance,

although this is a complex issue and results in a conflicting evidence gap in the literature. The arguments suggest that SEO is not only an antecedent of performance, but also a positive predictor in female-led ventures. Therefore:

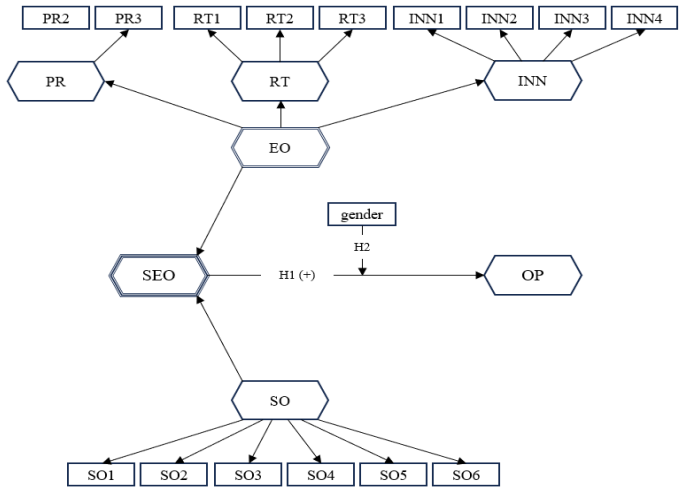
> ***Hypothesis 2.*** The relationship between SEO and organizational performance of micro and small-sized companies is moderated by gender.

Research Methodology

Research Design

This study used a quantitative approach with an explanatory and non-experimental research design to investigate the relationships between SEO, performance, and gender. The explanatory nature of the study aimed to go beyond merely describing the relationships between variables. It sought to explore why certain phenomena occur and why two or more variables are interconnected (Cazau, 2006; Ramos-Galarza, 2020). In this quantitative study, the scope was to establish a causal relationship between the SEO of the decision-maker and organizational performance, considering gender as a moderating factor. **Figure 1** presents the proposed SEO-Performance structural model.

Figure 1: Proposed model of SEO-Performance with gender



Source: Authors own source. Notes (1) Triple-line hexagon refers to a third-order construct. Doubled-line hexagon refers to a second-order construct. (2) INN = Innovativeness; PR = Proactivity; RT = Risk-taking; SO = Sustainability Orientation; EO = Entrepreneurial Orientation; SEO = Sustainable Entrepreneurial Orientation; OP = Organizational Performance.

Sample Design

The population under study comprised Peruvian decision-makers from micro and small-sized enterprises with sustainability reports according to the Global Reporting Initiative (GRI) Standards. Peru was chosen because it is considered one of the most entrepreneurial countries worldwide (GEM, 2019) and has a high number of micro and small enterprises, which make up 96% of the total businesses in the country (ComexPerú, 2021).

Given the absence of records on the size of the population of Peruvian enterprises with sustainability reports, the 2021 database was provided by the GRI. This private and non-public database was granted by the Latin America regional manager of the GRI upon request. The complete database included all the Peruvian companies that delivered a GRI report in 2021; however, the main inclusion criteria was the firm size, thus only micro and small-sized enterprises were considered for being in the scope of this study. However, since accurate information about the decision-maker was crucial for data collection, micro and small-sized companies with incomplete or incorrect details were excluded from further contact.

Consequently, out of the complete database of micro and small-sized enterprises, which accounted for 303, 280 had valid contacts of decision-makers from micro and small-sized enterprises. As the expected response rate for surveys is typically very low (Kumar, 2011), it was decided to send invitations to as many companies as possible. By sending the questionnaire to the entire database with valid contact information, probabilistic sampling was pursued. A total of 126 responses were received, resulting in a 45% response rate; however, after eliminating outliers, 121 responses were used to conduct the structural analysis.

Data and Methods

This study employed a survey method to collect primary data from a sample of decision-makers in Peruvian micro and small-sized enterprises. The survey was prepared using validated instruments from the literature and operationalized the constructs of SEO and organizational performance. SEO

was measured using two scales developed following the recommendations of Miles et al. (2009), one for SO and the other for EO. The former utilized the scale developed by Kuckertz and Wagner (2010), based on the work of Bos-Brouwers (2010), while the latter employed the scale developed by Bolton and Lane (2012), who adapted the original EO scale to enhance accuracy at the individual level. Consequently, IEO was assessed using the dimensions of risk-taking (RT), proactivity (PR), and innovativeness (INN) from Covin and Slevin's (1989) EO framework. To measure organizational performance (OP), the study followed the suggestions of Wiklund (1999) and considered indicators such as sales growth, market share growth, and profit growth, benchmarked against main competitors over the past three years. OP was quantified using the scale developed by Rodríguez et al. (2011).

Data were collected using a 5-point Likert scale. All survey items underwent double translation (English to Spanish and Spanish to English) to ensure clarity and ease of understanding. In addition, an extensive content validity process was conducted through expert judgment (Escobar-Pérez & Cuervo-Martinez, 2008). A pilot study using a sample of 30 enterprises with sustainability reports according to the Global was conducted to assess the consistency of the measurement scales and overall instrument validity using correlational criteria before applying the selected technique of PLS-SEM.

Procedure

The methodological decision to apply the PLS-SEM relied on the evaluation of the proposed hypotheses through a complex model (Chin, 1998). Additionally, the study aimed to assess the moderating effect of gender on the relationship between SEO and organizational performance. The analytical framework adhered to the methodology outlined by Hair et al. (2017), ensuring rigor and consistency throughout the study. Initially, the data underwent thorough examination, including checks for anomalies such as inconsistencies, missing values, skewed distributions, and outliers. This was particularly important because when the same person provides both the independent and dependent variable data (i.e., SEO and performance), it can result in inflated correlations due to the shared method of data collection, which is called common method bias (CMB). In the case of assessing CMB for this study, Harman's factor analysis yielded a factor that accounted for 23.19% of the variance, meeting the threshold of less than 50% (Fuller et al., 2016).

Subsequently, reliability tests were conducted, followed by the application of the structural model and a comprehensive analysis of the results in relation to the research hypotheses. In this final phase, hypotheses were evaluated for acceptance or rejection, accompanied by an exploration of the significance of the findings within the broader context of existing literature. In summary, the implications of these findings for both the studied population and future research endeavors were delineated (Creswell, 2009).

Results

The demographic composition of the respondents shows that the sample consisted of 56% male decision-makers and 44% female decision-makers from micro and small-sized companies. Furthermore, 54% of the sampled companies were classified as small companies, with the remaining 46% classified as micro-sized companies. The majority of companies were in the service sector, followed by manufacturing and fishery-related industries, among others.

Evaluation of Measurement Models

The estimation of reflective and formative measurement models adheres to different criteria (Sarstedt et al., 2016). By prioritizing composite reliability over Cronbach's α (Cho, 2016), the assumptions of internal consistency for the first-order reflective constructs are fulfilled (Hair et al., 2019a, 2019b). Furthermore, all item loadings exceeded the threshold of 0.7 (Hair et al., 2019a, 2019b). Regarding convergent validity, it was assessed using the criterion of AVE values above 0.5 (Hair et al., 2019a, 2019b). Discriminant validity was evaluated according to the Fornell and Larcker criterion and the HTMT matrix, where the off-diagonal values were found to be lower than the diagonal values, and the HTMT values for first-order constructs were below 0.85, respectively (Henseler et al., 2015). Table 1 presents the results of the evaluation of the first-order reflective model.

In the evaluation of the second-order reflective variable, a two-staged approach was employed. Significant loadings from the second-order variable to the first-order variables, all greater than 0.7, are shown in Table **2**. Using these loadings, composite reliability, Cronbach's alpha, and AVE were manually calculated, resulting in values of 0.819, 0.660, and 0.601 respectively, meeting validation criteria.

Table 1: Evaluation of first-order reflective measurement model

Construct	Internal consistency			AVE
	αC	ρA	ρC	
INN	0.644	0.649	0.788	0.483
OP	0.880	0.887	0.926	0.806
PR	0.694	0.695	0.831	0.621
RT	0.557	0.573	0.773	0.535
SO	0.812	0.816	0.865	0.518

Source: Authors own source. Notes (1) INN = Innovativeness; PR = Proactivity; RT = Risk-taking; OP = Organizational Performance; SO = Sustainability Orientation. (2) SEO and EO are not reported because they are higher-order constructs.

Table 2: Evaluation of second-order reflective measurement model

Construct	Internal consistency		AVE	Loading		
	αC	ρA		Score	*p*-value	CI 97.5%
INN ← EO				0.811	***	[0.718; 0.880]
PR ← EO	0.660	0.819	0.601	0.745	***	[0.597; 0.843]
RT ← EO				0.768	***	[0.666; 0.844]

*Source: Authors own source. Notes (1) EO = Entrepreneurial Orientation; INN = Innovativeness; PR = Proactivity; RT = Risk-taking. (2) ***p-value < 0.001.*

In the case of formative variables, multicollinearity among components was assessed using the variance inflation factor (VIF). Table 3 indicates that the VIF for both EO and SO was below 3.3, which is considered the maximum acceptable threshold (Diamantopoulos & Siguaw, 2006). Secondly, the significance of the weights and loadings of the components was evaluated, retaining components with significant weights (p-value < 0.05) and loadings greater than 0.5 (Hair et al., 2014). In addition, bootstrapping was employed as a resampling method (Guenther et al., 2023; Streukens & Leroi-Werelds, 2016). For EO, the p-value is significant at the 10% level and is theoretically related to SEO. Therefore, despite the results of the evaluation of the formative measurement model, the analysis of the relevance and significance of the weights and loadings of the indicator variables suggests that none should be excluded (Sarstedt et al., 2016).

Table 3: Evaluation of the formative measurement model

Construct	Collinearity (VIF)	Outer weights		Outer loadings	
		Score	*p*-value	Score	*p*-value
EO → SEO	1.094	0.239	0.499	0.482	0.094
SO → SEO	1.094	0.837	***	0.906	***

*Source: Authors own source. Notes (1) EO = Entrepreneurial Orientation; SO = Sustainability Orientation; SEO = Sustainable Entrepreneurial Orientation. (2) ***p-value < 0.001.*

Evaluation of the Structural Model

From the evaluation of the structural model, as presented previously, the assumptions of non-collinearity are met (Becker et al., 2015). In addition, bootstrapping with 10,000 resamples was performed to obtain the path coefficients and to evaluate the statistical significance of the structural model (Guenther et al., 2023; Hair et al., 2019a, 2019b). As can be seen in Table 4, there is strong support in the empirical data for the main hypothesis proposed in the model. The assessed direct path coefficient (SEO performance) was found to be significant at a higher level of significance (*p*-value < 0.001).

In addition to assessing the significance and relevance of path coefficients, the evaluation of the structural model also involves determining its predictive accuracy and relevance, as outlined by Hair et al. (2017). It is crucial to emphasize that the evaluation of the predictive accuracy parameters describes the explanatory power of the model, as highlighted by Shmueli et al. (2019). The most important parameter indicating predictive accuracy is the variance explained (R^2), with thresholds of 0.67 indicating strong significance, 0.33 indicating moderate significance, and 0.19 weak significance, as established by Chin (1998). In addition, the effect size (f^2) was assessed according to Cohen's (1988) criteria, where 0.02 reflects a small effect, 0.15 is moderate, and 0.35 is large. Consequently, these metrics helped to identify the variables that predominantly contribute to the explanation of variance, as highlighted by Hair et al. (2017). The analysis revealed a weak R^2 effect and a moderated f^2 effect for OP, indicating an overall low explanatory power. Both the precision and predictive relevance scores proved that the model is a first approximation to explain the impact of SEO on performance in emerging economies such as Peru, providing support for the acceptance of hypothesis H1.

Table 4: Evaluation of the structural model

Construct	Exogenous variable	Score	*t* value	*p*-value	R^2	f^2
OP	SEO	0.265	3.329	0.001***	0.063	0.067

*Source: Authors own source. Notes (1) OP = Organizational Performance; SEO = Sustainable Entrepreneurial Orientation. (2) ***p-value considers a statistical significance level of 1%.*

To verify the moderating role of the decision maker's gender in the SEO-performance relationship, the path of this relationship considered the inclusion of the moderating variable gender. According to Table 5, the effect was not confirmed, so hypothesis H2 was rejected. The results indicate that the proposed moderating influence does not exist, meaning that the gender of the decision-maker does not affect the influence of SEO on business performance.

Table 5: Evaluation of the moderating effect of gender

Construct	Score	*t* value	*p*-value	f^2
Gender x SEO → OP	0.128	1.472	0.141	0.019

Source: Authors own source. Notes OP = Organizational Performance; SEO = Sustainable Entrepreneurial Orientation.

While the use of any single parameter to assess the overall goodness-of-fit of the model requires caution, goodness-of-fit alone will not define the model quality. The quality has been determined through the evaluation of both measurement and structural models. Goodness-of-fit parameters will instead serve as additional criteria for model evaluation. In this study, goodness-of-fit parameters applied in CB-SEM with some corrections to be applied in PLS-SEM were assessed. In this sense, these are the standardized root mean square residual (SRMR), which must be less than 0.08; and the Bentler-Bonett normed fit index (NFI), which varies between 0 and 1, with a value greater than 0.90 and close to 1 indicating an acceptable model fit (Chin et al., 2020). Likewise, following the procedure proposed by Dijkstra and Henseler (2015), two metrics were considered: geodesic distance (d-G) and squared Euclidean distance (d-ULS). Values must be less than 0.10 to indicate an acceptable model fit. Table 6 presents the goodness-of-fit indexes for the current study, showing satisfactory results for the

saturated model with SRMR, NFI, and d-G. In summary, the proposed model exhibits low explanatory accuracy, as evidenced by the weak R^2 of the main endogenous variable, despite the results of the goodness-of-fit measures.

Table 6: Goodness of fit assessment

Index	Saturated model	Estimated model
SRMR	0.050	0.050
NFI	0.831	0.831
d-ULS	0.025	0.025
d-G	0.006	0.006

Source: Authors own source. Notes SRMR = Standardized root mean square residual; NFI = Normed fit index OF Bentler& Bonett (1980); d-ULS = Squared Euclidean distance; d-G = Geodesic distance.

Discussion

The application of PLS-SEM has allowed us to confirm that SEO, in the Peruvian context, could affect the performance of micro and small companies with sustainability reports according to the GRI standards. The main results of this research are discussed in the following lines.

The results of this study shed light on the relationship between SEO and organizational performance. In particular, previous research on this relationship has been conducted primarily at the organizational level. In contrast, this study examines SEO at the individual level, considering it as a decision-maker skill and exploring its relationship to organizational performance. An extensive literature highlights the positive impact of organizational SEO on performance (Criado-Gomis et al., 2017; Jiang et al., 2018) and its subconstructs, such as EO (Aftab et al, 2022; Covin & Slevin, 1989; Wiklund & Shepherd, 2005) and SO (Córcoles Muñoz et al., 2023; Porter & van der Linde, 1995), in the Peruvian context. However, this study provides a unique perspective by examining this relationship from an individual perspective. Specifically, it elucidates how SEO at the individual level contributes to the performance of micro and small firms. With strong results, Hypothesis 1 was confirmed.

Given these findings, it becomes imperative to examine EO as a primary driver of SEO, given its well-established relationship with performance. The influence of EO represents a complex interplay that varies based on

organizational contexts and internal capabilities, such as decision-maker characteristics and knowledge-based resources (Rauch et al., 2009; Wiklund & Shepherd, 2003). EO has been found to thrive in dynamic yet stable environments, especially when coupled with minimal financial resources (Kreiser & Davis, 2010; Wiklund & Shepherd, 2005). By contrast, its effect on performance can be positive in hostile environments (Covin & Slevin, 1989; Lee et al., 2019), highlighting the need for decision-makers to possess certain characteristics such as charisma and leadership (Todorovic & Schlosser, 2007). Essentially, EO provides significant explanatory power as to why Peruvian entrepreneurs' SEO has a remarkable and strong relationship with performance. Nevertheless, contextual factors such as cultural norms, regulatory frameworks, market dynamics, economic development, and political stability need to be evaluated in future studies (Akomea et al., 2022; Rauch et al., 2009). This is particularly important given Peru's political turbulence (Jütten, 2023) and in the light of previous studies, which are explained as follows.

Positive cultural norms can enhance the relationship between SEO performance by fostering routines that prioritize environmental impact, for instance, through place attachment, where sustainable entrepreneurs' strong connection to their location leads to sustainable actions (Ameer & Khan, 2022; Sankaranarayanan & Ray, 2019; Meek et al., 2010). Therefore, Peruvian managers ought to foster their place attachment to influence strategic decisions, aiming to benefit both people and the environment. Furthermore, aggressive competitive strategies driven by SEO, particularly through EO, are perceived differently across cultures, which impacts performance. Interestingly, despite the EO-performance relationship being similar among countries within a continent, it varies with firm size, being stronger in micro businesses than in small ones (Rauch et al., 2009). Other environmental factors such as dynamism and hostility moderate the EO-performance relationship (Rauch et al., 2009), warranting further study when turning attention to SEO.

Concerning institutional frameworks, small firms face institutional challenges such as weak regulations, limited financial access, and inadequate market support (Amoako, 2018). Consequently, resource constraints and underdeveloped regulatory environments in developing countries hinder small firms from engaging in sustainability (McAdam et al., 2019). These limit investment in innovation, weakening the EO-performance link (Amoako, 2018). However, small firms, characterized by

fewer structures, independence, and owner-manager control, can leverage their flexibility to focus on innovativeness and proactiveness, leading to economically viable sustainability (McAdam et al., 2019; Akomea et al., 2022). In the Peruvian context, with institutional constraints, and financial access restrictions (Cordova & Cancino, 2020), companies can enhance the SEO-performance relationship by directing their competitive efforts towards risk-taking, innovation, and proactive capabilities in response to sustainability practices, to strengthen the SEO-performance relationship (Amoako, 2018). Nevertheless, regulatory authorities should also establish a clear institutional framework to encourage sustainable activities in emerging countries such as Peru (Ameer & Khan, 2022).

The results indicate that gender does not exert a significant moderating effect on the relationship between SEO and organizational performance, thus failing to support Hypothesis 2. This finding is consistent with theoretical expectations, as the empirical evidence collected to date has been inconclusive. While some studies (Costa & Pita, 2020; Criado-Gomis et al., 2020; Feng et al., 2023; Runyan et al., 2006; Zeb & Ihsan, 2020) have found significant evidence for the moderating effect of gender, others have not (Chen et al., 2023; Fuentes-Fuentes et al., 2015; Hosseininia & Ramezani, 2016; Ong & Ismail, 2011). Despite joining the latter group, it is imperative to address the discrepancy between theory and empirical findings.

First, the lack of a moderating effect of gender implies that the gender of the decision-maker does not alter the magnitude of the SEO-performance relationship. Second, given the significant relationship between SEO and performance, the discrepancy between theoretical expectations and empirical results may be due to contextual nuances. The descriptive analysis reveals a slight gender imbalance among the decision-makers surveyed, with 56% men and 44% women. This demographic composition provides a plausible explanation for the lack of a moderating effect of gender in this study. Although Latin American countries represent a suitable context for studying women's labor force participation (Bazán & Rivera, 2024), which in this study is sustainable entrepreneurship, further research is warranted to explore whether the Peruvian socio-political context influences the SEO-performance relationship and, subsequently, the moderating effect of gender.

Conclusion

The SEO in the incipient Peruvian entrepreneurial ecosystem could potentially explain the nature of the decision-makers or founders of sustainable organizations and, at the same time, elucidate why they demonstrate higher levels of performance. This is based on the fact that sustainable entrepreneurship is a complex phenomenon and that not all entrepreneurs are equally concerned with environmental and social issues. Thus, the general hypothesis that guides this research has been proven. SEO can positively affect the performance of micro and small enterprises with sustainability reports in the context of Peru.

The study has some theoretical implications because it helps fill two gaps identified in the literature on SEO. First, this study introduces a novel approach to assessing SEO at the individual level. The study confirms the validity of evaluating SEO through an approximation of EO at the individual level, referred to as individual entrepreneurial orientation (IEO) (Bolton & Lane, 2012) and SO (Bos-Brouwers, 2010). Traditionally, SEO has been assessed using instruments designed for EO (Covin & Slevin, 1989; Matsuno et al., 2002) and SO (Bos-Brouwers, 2010; Kuckertz & Wagner, 2010), as recommended by Miles et al. (2009). However, this study validates the use of the individual scale, IEO, as an important component of SEO at the individual level. Consequently, a significant contribution of this research lies in providing a more accurate method for measuring entrepreneurial SEO. In addition, while previous studies have predominantly focused on the influence of organizational SEO on performance in developed countries, the results extend this relationship to developing countries such as Peru.

Second, by including the moderation of gender between SEO and organizational performance in the field of micro and small enterprises, it was possible to evaluate the impact in the context of Peru as one of the most entrepreneurial countries in the world. While studies show a significant and positive relationship between internal factors such as risk-taking, and external factors such as sociocultural issues when it comes to female entrepreneurship in developing countries (Stanković et al., 2023), the present study could not close the gap regarding the relationship between SEO and performance. Given the conflicting evidence in previous research indicating the positive influence of gender on sustainable entrepreneurship, the present study provides evidence that organizations led by men and women do not

show significant differences in performance. Thus, although the structural model provides evidence supporting the relationship of SEO performance, it does not support the moderating effect of gender. Therefore, it remains uncertain whether female or male decision-makers have anything to do with the performance of their organizations to the extent that they exhibit high levels of SEO.

In conclusion, this study advances the understanding of the complex relationship between SEO, performance, and gender in Peruvian micro and small enterprises. While it demonstrates the importance of promoting high levels of SEO to influence performance, it also highlights the need for nuanced approaches to address gender disparities in the SEO-performance relationship. Further research could explore strategies to strengthen the relationship between SEO and performance to more effectively assess gender impacts.

Limitations and Future Research

As with any scientific study, there are limitations to this research. Based on these limitations, research opportunities were identified. A primary limitation is the use of self-reported data (Podsakoff & Organ, 1986). Self-reports are inherently subjective and reflect the personal perceptions and biases of the respondents, thus, different decision-makers may interpret and report their actions and outcomes differently, leading to variability in the data. However, as mentioned before, the study provided an absence of CMB evidence, confirming that the observed relationship between SEO performance is less likely to be artificially inflated due to the method of data collection. Consequently, this increases confidence that the findings reflect true relationships rather than artifacts of the measurement method, and confirms that the conclusions drawn from the study are more reliable and can be considered a more accurate reflection of the true state of the studied phenomena.

Nevertheless, given the recent emergence of sustainability reporting in Peru, participant responses, particularly regarding performance, may be susceptible to recall bias, which means that the respondents may not accurately remember past behaviors or outcomes, leading to inaccuracies in the data. Another potential bias based on the self-reported data is the non-response bias, thus, the evaluated sample of 121 decision-makers who chose to respond might differ systematically from those who did not, potentially

limiting the generalizability of the findings. If non-respondents are less engaged in sustainability practices, the results may present an overly optimistic view of the state of sustainability among these enterprises. Furthermore, due to limited access to updated data, the sample was drawn from the GRI's non-public database of 2021 reports, which means that the organizations contacted may no longer maintain sustainable practices or may have ceased to operate. As a result, it was challenging during data collection to determine whether participating firms maintained sustainable practices similar to those reported in 2021. Future research could expand beyond Peru's nascent sustainable entrepreneurial ecosystem to explore diverse contexts, thereby stimulating new studies in politically, socially, and economically stable environments where firms have stronger incentives to engage in sustainable practices. Future studies should also consider using a more updated database and multiple data sources, such as objective performance metrics, for instance, to measure performance.

Another limitation relies on the assessment of the model using PLS-SEM. While PLS-SEM is considered suitable for smaller sample sizes compared to other techniques, such as CB-SEM, this could also represent a limitation. Therefore, larger sample sizes can provide more robust and generalizable results. Despite the study reporting the goodness of fit indices such as SRMR, NFI, d-ULS, and d-G, CB-SEM offers a wider range of global fit indices that can improve the potential estimation bias. Additionally, PLS-SEM's reliance on variance-based estimation, despite the favorable results, can introduce multicollinearity issues and less precise bootstrapping results, making it less effective for theory testing and model validation. To address these limitations, future research should consider larger sample sizes, integrate objective data sources to mitigate self-report biases and evaluate the pertinence of advanced techniques like Bayesian SEM to address estimation bias and multicollinearity.

Despite the fact that the present study validates the SEO instrument at the individual level, this also implies a limitation, as it was a novel approach to the construct. Given the conceptual novelty of SEO and the complexities involved in measuring its associations with different variables, certain analytical limitations arise. Future research efforts could explore and further validate the individual SEO scale across different populations and contexts. Therefore, there are many opportunities for further research.

References

[1] **Aftab, J., Veneziani, M., Sarwar, H., & Ishaq, M. I.** (2022). Entrepreneurial orientation and firm performance in SMEs: the mediating role of entrepreneurial competencies and moderating role of environmental dynamism. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJOEM-07-2021-1151

[2] **Afum, E., Issau, K., Agyabeng-Mensah, Y., Baah, C., Dacosta, E., Essandoh, E., & Agyenim Boateng, E.** (2023). The missing links of sustainable supply chain management and green radical product innovation between sustainable entrepreneurship orientation and sustainability performance. *Journal of Engineering, Design and Technology, 21*(1), 167–187. https://doi.org/10.1108/JEDT-05-2021-0267

[3] **Agu, G., Godswill, I., & Salamzadeh, A.** (2024). Women Entrepreneurship Development During COVID- 19 Pandemic: Perspectives Based on Framing Effect Theory. *Journal of Women's Entrepreneurship and Education*, (1-2), 227–247. https://doi.org/10.28934/jwee24.12.pp227-247

[4] **Akomea, S. Y., Agyapong, A., Ampah, G., & Osei, H. V.** (2022). Entrepreneurial orientation, sustainability practices and performance of small and medium enterprises: evidence from an emerging economy. *International Journal of Productivity and Performance Management.* https://doi.org/10.1108/IJPPM-06-2021-0325

[5] **Ameer, F., & Khan, N. R. (2020).** Manager's age, sustainable entrepreneurial orientation and sustainable performance: A conceptual outlook. *Sustainability (Switzerland), 12*(8). https://doi.org/10.3390/SU12083196

[6] **Ameer, F., & Khan, N.R. (2022).** Green entrepreneurial orientation and corporate environmental performance: A systematic literature review. *European Management Journal, 41*, 755-778. https://doi.org/10.1016/j.emj.2022.04.003

[7] **Amoako, I.O.** (2018). *Trust, Institutions and Managing Entrepreneurial Relationships in Africa: An SME Perspective*, Palgrave Studies of Entrepreneurship in Africa (PSEA), Springer.

[8] **Bazán, C., & Rivera, J.** (2024). Psychological Capital and Work Stress Mediated by Authentic Leadership and Moderated by Gender. *Journal Women's Entrepreneurship and Education,* (1–2), 177–206. https://doi.org/10.28934/jwee24.12.pp177-206

[9] **Becker, J., Ringle, C., Sarstedt, M., & Völckner, F.** (2015). How collinearity affects mixture regression results. *Marketing Letters, 26*(4), 643–659. https://doi.org/10.1007/s11002-014-9299-9

[10] **Bolton, D. L., & Lane, M. D.** (2012). Individual entrepreneurial orientation: Development of a measurement instrument. *Education and Training, 54*(2–3), 219–233. https://doi.org/10.1108/00400911211210314

[11] **Bos-Brouwers, H. E. J.** (2010). Sustainable innovation processes within small and medium-sized enterprises. VU.

[12] **Cazau, P.** (2006). *Introducción a la Investigación en Ciencias Sociales* (3ra ed.). Rundinuskín.

[13] **Chen, S., Shen, W., Qiu, Z., Liu, R., & Mardani, A.** (2023). Who are the green entrepreneurs in China? The relationship between entrepreneurs' characteristics, green entrepreneurship orientation, and corporate financial performance. *Journal of Business Research, 165*(April). https://doi.org/10.1016/j.jbusres.2023.113960

[14] **Chin, W.** (1998). Issues and Opinion on Structural Equation Modeling. *MIS Quarterly, 22*(1), vii–xvi. http://www.jstor.org/stable/249674

[15] **Chin, W., Cheah, J., Liu, Y., Ting, H., Lim, X., & Cham, T.** (2020). Demystifying the role of causal-predictive modeling using partial least squares structural equation modeling in information systems research. *Industrial Management and Data Systems*. https://doi.org/10.1108/IMDS-10-2019-0529

[16] **Cho, E.** (2016). Making reliability reliable: A systematic approach to reliability coefficients. *Organizational Research Methods, 19*(4), 651–682. https://doi.org/10.1177/1094428116656239

[17] **Chowdhury, F., & Audretsch, D. B.** (2021). A dynamic relationship between entrepreneurial orientation and entrepreneurial activity. *Journal of International Entrepreneurship, 19*(3), 339-356.

[18] **Cohen, J.** (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Lawrence Erlbaum Associates.

[19] **Cohen, B., & Winn, M.I.** (2007). Market imperfections, opportunity and sustainable entrepreneurship. *Journal of business venturing, 22*(1), 29-49.

[20] **Córcoles Muñoz, M. M., Parra Requena, G., García Villaverde, P. M., & Ruiz Ortega, M. J.** (2023). Relational antecedents of sustainability orientation in hospitality and tourism firms: the mediating role of absorptive capacity. *Journal of Sustainable Tourism, 31*(3), 778–800. https://doi.org/10.1080/09669582.2021.2023166

[21] **Cordova, M. & Cancino, C. A.** (2020). Constraints and opportunities for entrepreneurship in Peru and Chile: A discussion about institutions and social networks in Latin America. *Revista Virtual Universidad Católica del Norte,* (60), 6-30. https://www.doi.org/10.35575/rvucn.n60a2

[22] **Costa, J., & Pita, M.** (2020). The Context Facets of Sustainability Entrepreneurial Orientation (SEO) through the lense of gender: A quantitative measurement approach. *Building an Entrepreneurial and*

Sustainable Society, 96–113. https://doi.org/10.4018/978-1-7998-2704-7.ch005

[23] **Covin, J.G., & Slevin, D.P.** (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75–87.

[24] **Creswell, J. W.** (2009). Quantitative Methods. In *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (pp. 129-171). Sage.

[25] **Criado-Gomis, A., Cervera-Taulet, A., & Iniesta-Bonillo, M.A.** (2017). Sustainable entrepreneurial orientation: A business strategic approach for sustainable development. *Sustainability, 9*(9). https://doi.org/10.3390/su9091667

[26] **Criado-Gomis, A., Iniesta-Bonillo, M.A., Cervera-Taulet, A., & Ribeiro-Soriano, D.** (2020). Women as Key Agents in Sustainable Entrepreneurship: A Gender Multigroup Analysis of the SEO-Performance Relationship. *Sustainability, 12*, 1-17. https://doi.org/10.3390/su12031244

[27] **Dean, T. J., & McMullen, J. S.** (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing, 22*(1), 50–76. https://doi.org/10.1016/j.jbusvent.2005.09.003

[28] **Dijkstra, T. K., & Henseler, J.** (2015). Consistent and asymptotically normal PLS estimators for linear structural equations. *Computational Statistics and Data Analysis, 81*, 10–23. https://doi.org/10.1016/j.csda.2014.07.008

[29] **Efendi, R., Mulyadi, H., Disman, D., Purnamasari, I., & Angel Tantri, P.** (2024). The Role of Gender in Fostering Interest in Entrepreneurship in Indonesia. *Journal of Women's Entrepreneurship and Education*, (1-2), 141–156. https://doi.org/10.28934/jwee24.12.pp141-156

[30] **Escobar-Pérez, J., & Cuervo-Martínez, Á.** (2008). Validez De Contenido Y Juicio De Expertos: Una Aproximación a Su Utilización. *Avances En Medición, 6*, 27–36.

[31] **Feng, J., Ahmad, Z., & Zheng, W.** (2023). Factors influencing women's entrepreneurial success: A multi-analytical approach. *Frontiers in Psychology, 13*(January), 1–15. https://doi.org/10.3389/fpsyg.2022.1099760

[32] **Fuentes-Fuentes, M. del M., Bojica, A. M., & Ruiz-Arroyo, M.** (2015). Entrepreneurial orientation and knowledge acquisition: effects on performance in the specific context of women-owned firms. *International Entrepreneurship and Management Journal, 11*(3), 695–717. https://doi.org/10.1007/s11365-014-0336-1

[33] **Fuller, C. M., Simmering, M. J., Atinc, G., Atinc, Y., & Babin, B. J.** (2016). Common methods variance detection in business research. *Journal*

of Business Research, 69(8), 3192–3198. https://doi.org/https://doi.org/10.1016/j.jbusres.2015.12.008

[34] **Global Entrepreneurship Monitor - GEM** (2019). *2018/2019 Global Report.* Global Entrepreneurship Research Association. https://www.gemconsortium.org/report/gem-2018-2019-global-report

[35] **Guenther, P., Guenther, M., Ringle, C. M., Zaefarian, G., & Cartwright, S.** (2023). Improving PLS-SEM use for business marketing research. *Industrial Marketing Management, 111(October 2020)*, 127–142. https://doi.org/10.1016/j.indmarman.2023.03.010

[36] **Hair, J. F., Black, W., Babin, B., & Anderson, R.** (2019a). *Multivariate Data Analysis* (8th ed.). CENGAGE Learning.

[37] **Hair, J. F., Hult, G. T., Ringle, C. M., & Sarstedt, M.** (2014). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (1st ed.). SAGE Publications, Inc.

[38] **Hair, J. F., Hult, G. T., Ringle, C. M., & Sarstedt, M.** (2017). *A primer on partial least squares structural equation modeling (PLS-SEM) (2 ed.)*. Thousand Oaks, CA: Sage.

[39] **Hair, J., Risher, J., Sarstedt, M., & Ringle, C.** (2019b). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

[40] **Henseler, J., Ringle, C.M., & Sarstedt, M.** (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Market. Sci., 43*, 115–135.

[41] **Hernández-Perlines, F., & Rung-Hoch, N.** (2017). Sustainable entrepreneurial orientation in family firms. *Sustainability, 9*(7), 1-16. https://doi.org/10.3390/su9071212

[42] **Hernández-Perlines, F., & Cisneros, M. A. I.** (2018). The role of environment in sustainable entrepreneurial orientation. The case of family firms. *Sustainability (Switzerland), 10*(6). https://doi.org/10.3390/su10062037

[43] **Hosseininia, G., & Ramezani, A**. (2016). Factors influencing sustainable entrepreneurship in small and medium-sized enterprises in Iran: A case study of food industry. *Sustainability (Switzerland), 8*(10). https://doi.org/10.3390/su8101010

[44] **Jiang, W., Chai, H., Shao, J., & Feng, T.** (2018). Green entrepreneurial orientation for enhancing firm performance: A dynamic capability perspective. *Journal of Cleaner Production, 198*, 1311–1323. https://doi.org/10.1016/j.jclepro.2018.07.104

[45] **Jütten, M.** (2023, April 13). Political turmoil in Peru. EPRS | European Parliamentary Research Service. https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/747092/EPRS_ATA(2023)747092_EN.pdf

[46] **Kreiser, P. M., & Davis, J**. (2010). Entrepreneurial Orientation and Firm Performance: The Unique Impact of Innovativeness, Proactiveness, and Risk-taking. *Journal of Small Business and Entrepreneurship, 23*(1), 39–51. https://doi.org/10.1080/08276331.2010.10593472

[47] **Kuckertz, A., & Wagner, M.** (2010). The influence of sustainability orientation on entrepreneurial intentions - Investigating the role of business experience. *Journal of Business Venturing, 25*(5), 524–539. https://doi.org/10.1016/j.jbusvent.2009.09.001

[48] **Kumar, R.** (2011). *Research Methodology: A Step-by-Step Guide for Beginners* (3rd ed.). Sage, New Delhi.

[49] **Lee, Y., Zhuang, Y., Joo, M., & Bae, T. J.** (2019). Revisiting Covin and Slevin (1989): Replication and extension of the relationship between entrepreneurial orientation and firm performance. *Journal of Business Venturing Insights, 12*(August), e00144. https://doi.org/10.1016/j.jbvi.2019.e00144

[50] **Manjaly, N. B., Nimmi, P. M., Joseph, G., & Kailash, N. K. S.** (2022). Entrepreneurial Intention of Indian Women University Students: The Role of Entrepreneurial Self-Assessment and Entrepreneurial Passion. *Journal Women's Entrepreneurship and Education,* (3–4), 273–290. https://doi.org/10.28934/jwee22.34.pp273-290

[51] **Matsuno, K., Mentzer, J.T., & Ozsomer, A.** (2002). The effects of entrepreneurial proclivity and market orientation on business performance. *J. Mark., 66*, 18-32.

[52] **Meek, W. R., Pacheco, D. F., & York, J. G.** (2010). The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context. *Journal of Business Venturing, 25*(5), 493–509.

[53] **McAdam, M., Crowley, C., & Harrison, R.T.** (2019). 'To boldly go where no [man] has gone before' – institutional voids and the development of women's digital entrepreneurship. *Technological Forecasting and Social Change, 146*, 912-922.

[54] **Miles, M.P., Munilla, L.S., & Darroch, J.** (2009). Sustainable corporate entrepreneurship. *Int. Entrep. Manag J., 5*, 65-76

[55] performance: Is gender a matter? *International Journal of Entrepreneurship and Small Business, 13*(4), 499–517. https://doi.org/10.1504/IJESB.2011.041840

[56] **Podsakoff, P. M., & Organ, D. W.** (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*(4), 531–544. https://doi.org/10.1177/014920638601200408

[57] **Porter, M.E., & Van der Linde, C.** (1995). Green and competitive: ending the stalemate. *Harvard Business Review, 73*, 120-134.

[58] **Ramos-Galarza, C.** (2020). Los alcances de una investigación. *CienciAmérica, 9*(3). http://dx.doi.org/10.33210/ca.v9i3.336

[59] **Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M.** (2009). Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future. *Entrepreneurship: Theory and Practice, 33*(3), 761–787.

[60] **Ruiz-Ortega, M. J., Parra-Requena, G., & García-Villaverde, P. M.** (2021). From entrepreneurial orientation to sustainability orientation: The role of cognitive proximity in companies in tourist destinations. *Tourism Management, 84*, 104265. https://doi.org/10.1016/j.tourman.2020.104265

[61] **Rodríguez, N. G., Álvarez, B. Á., & Vijande, M. L. S.** (2011). Aplicación de la Lógica Dominante del servicio (LDS) en el sector turístico: El marketing interno como antecedente de la cultura de co-creación de innovaciones con clientes y empleados. *Cuadernos de Gestion, 11*(2), 53–75. https://doi.org/10.5295/cdg.100238ng

[62] **Runyan, R.C., Huddleston, P., & Swinney, J.** (2006). Entrepreneurial orientation and social capital as small firm strategies: A study of gender differences from a resource-based view. *The International Entrepreneurship and Management Journal, 2*, 455–477. https://doi.org/10.1007/s11365-006-0010-3

[63] **Sankaranarayanan, V., & Ray, S.** (2019). Do sustainability practices reveal cultural biases? Exploring the influence of national culture on corporate responsibility orientations. *Academy of Management Global Proceedings, 294*.

[64] **Sarstedt, M., Hair, J., Ringle, C., Thiele, K., & Gudergan, S.** (2016). Estimation issues with PLS and CBSEM: Where the bias lies! *Journal of Business Research, 69*(10), 3998–4010. https://doi.org/10.1016/j.jbusres.2016.06.007

[65] **Sharma, V., Maheshkar, C., Poulose, J., Kapse, M., & Mahajan, Y.** (2023). Women Entrepreneurs: A Study of Psychological Well-being and Empowerment in Indian Social Context. *Journal Women's Entrepreneurship and Education,* (3–4), 95–121. https://doi.org/10.28934/jwee23.34.pp95-121

[66] **Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M.** (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing, 53*(11), 2322–2347.

[67] **Sociedad de Comercio Exterior del Perú - ComexPerú** (2021). *Informe anual de diagnóstico y evaluación acerca de la actividad empresarial de las micro y pequeñas empresas en el Perú, y los determinantes de su capacidad formal.* https://www.comexperu.org.pe/upload/articles/reportes/reporte-comexperu-001.pdf

[68] **Sonfield, M., Lussier, R., Corman, R., & McKinney, M.** (2001). Gender comparisons in strategic decision making: An empirical analysis of the

entrepreneurial strategy matrix. *Journal of Small Business Management, 39*(2), 165–173.

[69] **Soo Sung, C., & Park, J. Y.** (2018). Sustainability orientation and entrepreneurship orientation: Is there a tradeoff relationship between them? *Sustainability (Switzerland), 10*(2). https://doi.org/10.3390/su10020379

[70] **Stanković, S., Vujičić, S., & Radović-Marković, M.** (2023). Using Structural Equation Modeling in the Analysis of the Relationship Between Internal and External Factors and Women Entrepreneurs' Success. *Journal Women's Entrepreneurship and Education,* (1–2), 167–187. https://doi.org/10.28934/jwee23.12.pp167-187

[71] **Streukens, S., & Leroi-Werelds, S.** (2016). Bootstrapping and PLS-SEM: A step-by-step guide to get more out of your bootstrap results. *European Management Journal, 34*(6), 618–632. https://doi.org/10.1016/j.emj.2016.06.003

[72] **Teece, J.D., Pisano, G., & Shuen, A.** (1997). Dynamic capabilities and strategic management. *Strat. Manag. Journal, 18*(7), 509–533.

[73] **Todorovic, Z. W., & Schlosser, F.K.** (2007). An Entrepreneur and a Leader! A Framework Conceptualizing the Influence of Leader Style on a Firm's Entrepreneurial Orientation-Performance Relationship. *Journal of Small Business and Entrepreneurship, 20*(3), 289-308.

[74] **Tze San, O., Latif, B., & Di Vaio, A.** (2022). GEO and sustainable performance: the moderating role of GTD and environmental consciousness. *Journal of Intellectual Capital, 23*(7), 38–67. https://doi.org/10.1108/JIC-10-2021-0290

[75] **Wales, W., Monsen, E., & McKelvie, A.** (2011). The organizational pervasiveness of entrepreneurial orientation. *Entrepreneurship Theory and Practice, 35*(5), 895-923.

[76] **Wiklund, J.** (1999). The Sustainability of the Entrepreneurial Orientation Performance Relationship. *Entrepreneurship Theory & Practice, 24*, 37-48. https://doi.org/10.1177/104225879902400103

[77] **Wiklund, J., & Shepherd, D.** (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal, 24*(13), 1307–1314. https://doi.org/10.1002/smj.360

[78] **Wiklund, J., & Shepherd, D.** (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing, 20*(1), 71–91. https://doi.org/10.1016/j.jbusvent.2004.01.001

[79] **Wu, W., Wang, H., Lee, H. Y., Lin, Y. T., & Guo, F.** (2019). How Machiavellianism, psychopathy, and narcissism affect sustainable entrepreneurial orientation: The moderating effect of psychological resilience. *Frontiers in Psychology*, *10*(APR). https://doi.org/10.3389/fpsyg.2019.00779

[80] **Zeb, A., & Ihsan, A.** (2020). Innovation and the entrepreneurial performance in women-owned small and medium-sized enterprises in Pakistan. *Women's Studies International Forum, 79*(July 2019), 102342. https://doi.org/10.1016/j.wsif.2020.102342

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ORIGINAL SCIENTIFIC PAPER

Promoting Economic Inclusivity in Serbia - Recommendations for Enhancing National and Local Policies in Women's Entrepreneurship

Sonja Đuričin[1]
Isidora Beraha[2]
Institute of Economic Sciences, Innovation Economics Department,
Belgrade, Republic of Serbia

A B S T R A C T

The aim of the research is to assess current practices supporting women's entrepreneurship and employment in Serbia. Based on the findings, recommendations are developed to enhance national and local policies in this area, alongside indicators for monitoring progress. The research includes an analysis of the legal and institutional framework, supplemented by data from surveys of local self-government unit (LSGU) representatives and focus groups involving women entrepreneurs and city administration officials. The research spans the period from 2019 to 2022. Key findings underscore significant barriers encountered by women entrepreneurs, such as inadequate access to financial resources, limited educational programs, and a lack of mentorship opportunities. Recommendations encompass the introduction of specialized support programs, the integration of a gender perspective across all facets of the legal and institutional framework, and ongoing alignment with European and international standards. These proposals are expected to bolster national and local policies, thereby fostering improved economic participation and sustainability in women's

[1] Corresponding author, e-mail: sonja.djuricin@ien.bg.ac.rs
[2] E-mail: isidora.beraha@ien.bg.ac.rs

entrepreneurship. Future research should concentrate on the long-term impacts of these policies and comparative analyses with countries that have adopted advanced, gender-sensitive entrepreneurial policies.

KEYWORDS: *women entrepreneurs, economic inclusiveness, national and local policies, recommendations*

Introduction

The sector of small and medium-sized enterprises (SMEs), where entrepreneurs are recognized as catalysts of economic development, represents the backbone of economic activity both globally and at national and local levels (Gherghina et al., 2020). The scope of operations endows entrepreneurs with the descriptor of highly flexible market participants with significant potential for assuming risks in implementing new business models. Entrepreneurs provide a continuous flow of new ventures in a dynamic market, thereby developing new and enhancing existing effects (products and services) and business processes, rightfully considered drivers of innovative activities and competitiveness within the SME sector (Beraha & Đuričin, 2020).

Entrepreneurship allows both men and women to express personal ideas and talents. Supporting and creating equal opportunities for women entrepreneurs is crucial for economic inclusivity (Adegbile, 2024). According to the Chamber of Commerce and Industry of Serbia, Serbia has 98,098 SMEs and 269,069 entrepreneurs (CCIS, 2022). The project "Continued Support for Women Entrepreneurship, Sustainable Model of Cooperation between Large Corporations and Technologically Innovative Companies, Methodology and Reporting on Indicators of MSMEEs' Development and Risk Management - Women Entrepreneurship", implemented by CCIS in cooperation with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in 2022, found that women are the majority owners in 18.6% of micro, small, and medium-sized enterprises and in 32.8% of entrepreneurial ventures. Women who own a majority capital in total enterprises represent 17.5%, generating 6.8% of employment and 5.4% of business revenue. Women entrepreneurs make up 31.4% of all entrepreneurs, generating 30.6% of employment and 27.6% of revenue. According to the 2022 census data, women comprise 51.4% of Serbia's population. Despite their numerical dominance, women's unemployment rate is above the national average, and they earn 11% less than men, as

highlighted in "Serbia and Agenda 2030". Wage disparities by education level or profession are often greater than the average gap, usually favoring men (SCTM, 2022).

Tailored incentives for women's entrepreneurship are essential due to the specific challenges they face. Women often struggle to access financing due to traditional gender roles and stereotypes about their financial management (Đuričin & Pantić, 2015). They need greater flexibility to balance career and business obligations. Women entrepreneurs typically work in industries like fashion, cosmetics, healthcare, and education, and they often emphasize sustainability and social responsibility. They contribute to balanced local economic development by promoting activities in less developed areas and investing in their communities. Women's entrepreneurship also involves mentorship, associations, and networks that aid market entry and knowledge transfer, and they commonly support local charities and entrepreneurial initiatives.

The research hypothesis is that there is room for improvement in policies at the national and local levels regarding women's entrepreneurship, and that recommendations for enhancement should be based on scientifically grounded evidence. The research aims to examine current practices in promoting women's entrepreneurship and women's employment. Based on the findings, it will create recommendations and indicators for monitoring the situation at both national and local levels in this area. Research data were collected through survey methods and focus groups, preceded by an analysis of the legal and institutional framework in this field, existing programs, projects, measures, and support provided by local self-government units (LSGUs) implemented during the period from 2019 to 2022.

The results of current practices in promoting women's entrepreneurship and women's employment indicate the need for further enhancement of public policy elements in this field.

Literature Review

The literature review highlights the importance of academic contributions in women's entrepreneurship research. It stresses scholarly engagement, thematic analysis, and collaboration as key to policy development and addressing the diverse needs of women entrepreneurs. Foss et al. (2018) emphasize the impact of research on policy, while Orser

(2022) conducted a thematic analysis of academic literature. This analysis underscores the need for enhanced solidarity among researchers, clarification of areas of gender expertise, integration of policy domains, and a deeper understanding of the contributions made by women entrepreneurs, advocates for women's enterprises, and entrepreneurship scholars. These insights are crucial in shaping effective policies and economic recovery measures during the pandemic. Academic contributions play a pivotal role in designing entrepreneurial policies and initiatives for economic recovery.

Supporting women entrepreneurs is essential for achieving broader economic benefits and fostering a more inclusive entrepreneurial landscape (Yadav & Unni, 2016). The vital contribution of entrepreneurship, particularly women's entrepreneurship, in promoting inclusive economic development on a global scale is highlighted (Ajide et al., 2021). Women's entrepreneurship significantly impacts economic growth, gender equality, and human resource optimization (Gulvira, 2024). Chaikin and Kirieieva (2020) add to this by discussing the importance of gender equality, social protection, and sustainability in the context of inclusive economic systems. Challenges and opportunities in financing rural women's entrepreneurship highlight their role as major drivers of social and economic growth through entrepreneurship development (Nso, 2022). Inclusive entrepreneurship policies and their impact on economic growth are crucial for improving entrepreneurial conditions (Yeasmin & Hasanat, 2022). The relationship between women's entrepreneurship and economic growth is notable, particularly in combating poverty and insecurity (Morched & Jarboui, 2018). Empowerment through entrepreneurship for young women is essential for them to become empowered economic agents and contribute to community development (Johnson, 2020). Increasing economic empowerment through entrepreneurship for various demographic groups, including women, underscores the economic potential and critical role of women in achieving inclusive and sustainable industrial development (Rolle et al., 2020).

The literature review on policies to promote women's entrepreneurship covers a wide range of topics, including normative context, policy implications, the effectiveness of entrepreneurship programs, and the need for standardized data and comparative studies to inform public policy and support systems.

The literature on the normative context of women's entrepreneurship explores the impact of norms, socio-cultural factors, and institutional

structures on women's entrepreneurial experiences and opportunities. It highlights the need to consider the complex interplay of societal norms, gender dynamics, and cultural contexts. Policies promoting women's entrepreneurship are seen as a core component of the entrepreneurial ecosystem (Foss et al., 2018). Lower participation of women in entrepreneurial activities may result from a lack of national initiatives (Baughn et al., 2006). Baughn et al. (2006) note that norms supporting women's entrepreneurship differ between countries, providing insights from the Global Entrepreneurship Monitor. Harrison et al. (2020) emphasize understanding contextual and institutional factors shaping women's entrepreneurship and the role of social and cultural structures. Additionally, the literature underscores the intersection of gender, entrepreneurship, and social change, highlighting the potential of women's entrepreneurship to challenge prevailing norms and contribute to social change (Trivedi & Petkova, 2021).

The literature review by Moreira et al. (2019) highlights the support for research on women's entrepreneurship by focusing on the policy implications and emphasizing the importance of scientific contributions in this area. The literature review on promoting women's entrepreneurship, which focuses on the policy implications, highlights the need for gender-sensitive policy development, tailored support approaches, and contextualization of policies to meet the diverse needs of women entrepreneurs. Foss et al. (2018) conducted a systematic literature review to critically examine the policy implications of research on women's entrepreneurship from a gender perspective. This study provides a comprehensive overview of the policy implications of women's entrepreneurship research, highlighting the importance of considering gender perspectives in policy development. In addition, Harrison et al. (2020) emphasized the need for a gendered examination of support services for women entrepreneurs and pointed out that most entrepreneurship policies are gender-blind or gender-biased. This underlines the importance of research that focuses on the specific support needs of women entrepreneurs and the implications for policy development. In addition, Nziku and Henry (2020) argue for the formalization and contextualization of policies to support women's entrepreneurship in specific geographical and cultural settings and emphasize the need for tailored policy approaches that consider the different contexts in which women entrepreneurs operate.

The literature on the evaluation of the effectiveness of Women Entrepreneurship Programs (WEPs) provides valuable insights into the impact of these programs on women entrepreneurs. Athayde (2009) emphasized the necessity of evaluating enterprise programs to provide evidence of their effectiveness to policymakers and guide future enterprise policy direction. This highlights the importance of rigorous evaluation as a basis for policy decisions and program improvements. Moreover, the study by Azlan et al. (2022) evaluated the effectiveness of the Women Entrepreneurship Program, demonstrating its positive impact on the performance of women entrepreneurs. These studies contribute to understanding the contextual factors and effectiveness of entrepreneurship programs for women. This proves the positive impact of specific entrepreneurship programs on the skills and performance of women entrepreneurs. In contrast, Fairlie et al. (2015) conducted a large, randomized evaluation in the United States and found no strong or lasting effects of subsidized entrepreneurship training on individuals with credit or human capital constraints. This study provides a critical perspective on the limitations and challenges of WEPs in meeting the needs of women entrepreneurs. Furthermore, Coelho et al. (2018) emphasized the importance of analyzing the evaluations of entrepreneurship training programs based on the opinions of managers, teachers, and participants to prove their impact on participants' lives. This underlines the importance of multi-stakeholder perspectives when evaluating the effectiveness of WFPs. In addition, Lyons and Zhang (2017) went beyond estimating the average effect of entrepreneurship education on career outcomes and examined the heterogeneity of treatment effects to create a more nuanced understanding of who benefits from entrepreneurship programs. This highlights the need for tailored approaches to assess the impact of WEPs on different groups of women entrepreneurs.

Chu et al. (2022) emphasize the importance of standardized data, comparative studies, and measurement methods for women's entrepreneurship to develop effective public policies and support systems, highlighting the crucial role of data in policy decisions. Similarly, Presley et al. (2015) stress the importance of standardized data collection and analysis for monitoring public policies, applicable to women's entrepreneurship policy development. Shepherd et al. (2019) also highlight the significance of accessible standardized data for informed decision-making in public policy, including support systems for women entrepreneurs.

The literature review underscores female entrepreneurship's pivotal role in fostering economic development and inclusivity, aligning closely with this research's goals. It highlights key challenges, such as limited access to finance and balancing business with family responsibilities, underscoring the necessity for targeted support and tailored interventions. This review's significance lies in laying a robust groundwork for formulating evidence-based recommendations and indicators to enhance public policies at both national and local levels, specifically focusing on advancing female entrepreneurship. Furthermore, it advocates for leveraging scientific evidence to design effective policies and support programs that cater directly to the unique needs of women entrepreneurs, thereby aligning closely with the research objectives**.**

Data and Methodology

To formulate recommendations for enhancing national and local policies in the field of women's entrepreneurship, both desk and field research methods were applied. The desk method involved gathering and analyzing aggregate data relevant to the research, primarily focusing on the legal and institutional framework, existing programs, projects, measures, and support provided by LSGUs from 2019 to 2022. Field research was conducted using survey and focus group methods.

Data necessary for analyzing the current state of support for women's entrepreneurship at the local level and identifying areas for improvement were collected through a survey. A semi-structured questionnaire was used for the survey, covering topics such as the types of incentives provided, the number of women benefiting from these incentives, the effectiveness of incentive measures, and barriers encountered during implementation. The aim of the survey was to gather quantitative data to enable analysis of the current state of support for women's entrepreneurship at the local level and identify areas for enhancement. The survey targeted a representative sample of LSGUs. The sample included all LSGUs that provided support for women's entrepreneurship from 2019 to 2022. A total of 32 LSGUs were surveyed. The survey was distributed via email and completed online, ensuring accessibility and ease of use for respondents. The survey was conducted from August to September 2022. Participants in the survey were representatives of LSGUs directly involved in the implementation of incentive measures for women's entrepreneurship. To gain deeper insights

into the effects and experiences of using support measures, the research employed the focus group method. The focus group method facilitated the collection of qualitative data through dynamic and direct interaction among participants during a discussion guided and directed by a moderator using predefined questions. The moderators guided the discussion according to the following predefined set of questions: a) Basic characteristics - motivations for starting entrepreneurial endeavors, years in business, support from family and surroundings, key issues and challenges in business operations; b) Use of incentive measures - types of incentive measures used, experiences with applying for and implementing measures, assessment of the effects of the measures used; c) Recommendations for enhancing support measures. The focus group was conducted in October 2022 in Kragujevac, at the premises of the City Administration. Seven women entrepreneurs participated in the focus group, operating in various sectors including traditional crafts, mushroom production and cultivation, pharmaceuticals, vehicle maintenance and taxi services, pastry production, apartment rentals, and social entrepreneurship. Selection criteria for participants included motivation for starting entrepreneurial ventures, years in business, and utilization of incentive measures. Participant selection was carried out in collaboration with the Office for Local Economic Development. Representatives from the City Administration of Kragujevac and the Standing Conference of Towns and Municipalities (SCTM) also attended the focus group. The decision to conduct a single focus group in Kragujevac was strategically made due to the city's pivotal role as a representative sample of the broader regional context. Kragujevac not only serves as a key economic hub with a diverse range of industries but is also one of the few cities in the region that has significantly implemented policies supporting women's entrepreneurship. This made it an ideal location for gathering valuable insights from women entrepreneurs across various sectors. The participants were carefully selected to reflect the diversity of the entrepreneurial landscape, ensuring that the findings would be relevant and applicable to similar contexts within the region. Given Kragujevac's proactive approach to supporting women entrepreneurs, the conclusions drawn from this focus group are robust and provide a solid foundation for broader recommendations

Results and Discussion

The research results are crucial for understanding the current situation and identifying areas that require improvement, enabling the formulation of specific recommendations for enhancing national and local policies.

Overview of Integral Results

Through analysis, it has been determined that the legal framework in the Republic of Serbia prohibits discrimination based on gender. The Labor Law regulates rights and obligations in employment relationships, while the Law on Occupational Health and Safety prescribes measures for women in hazardous workplaces, particularly regarding maternity. The Law on Gender Equality and the National Strategy for Gender Equality implement international standards, including the Convention on the Elimination of All Forms of Discrimination against Women. The institutional framework includes various organizations and institutions. The Ministry of Economy coordinates the work of the Development Agency of Serbia which supports SMEs, including programs for women entrepreneurs. The Ministry of Finance provides favorable loans through the Development Fund and offers training. The Ministry of Labor regulates labor relations and workplace safety, implementing employment policy measures for women. The Ministry for Demography improves demographic policy. The Coordination Body for Gender Equality monitors the implementation of laws and strategies in the field of gender equality. Institutions such as the Serbian Development Agency, the National Employment Service, the Business Registers Agency, the Chamber of Commerce and Industry of Serbia, and the National Alliance for Local Economic Development provide specialized support to women entrepreneurs.

The national legal framework in Serbia does not adequately recognize the specific challenges faced by women entrepreneurs. While laws provide general regulations, there is a lack of targeted programs to provide additional support to women in entrepreneurship, such as access to financial resources, specific education, and mentoring. Existing institutions offer support to entrepreneurship but often lack specialization for women entrepreneurs, failing to address their specific needs and challenges, such as balancing business and family obligations, accessing support networks, and overcoming market barriers. Analysis has identified the need to expand the

gender perspective across all elements of the legal and institutional framework. According to the European Institute for Gender Equality (EIGE), integrating a gender perspective is crucial for achieving real equality. Gender-responsive budgeting is recognized as an effective tool to ensure that budgetary funds are used in ways that promote gender equality. Serbia has taken steps in this direction, but there is room for further improvement. The Gender Equality Index by EIGE shows that Serbia lags behind the EU-28 average in all domains of gender equality. According to the EIGE Index for 2023, Serbia has a score of 55.8, which is 11.6 index points lower than the EU average. The largest gap is in the domain of money, where Serbia trails by 19.4 index points, indicating significant economic barriers faced by women, including lower wages, fewer opportunities for advancement, and limited access to financial resources. The data underscores the need for additional efforts and specific programs to enable women entrepreneurs to overcome barriers and participate equally in economic activities. According to the World Economic Forum's Global Gender Gap Report for 2023, Serbia has dropped 15 places on the global gender equality list, ranking 38th out of 146 countries. This decline highlights worsening conditions for women in key areas such as economic opportunities (Antonijević et al., 2022), education, health, and political representation.

The second set of research results examined support through Local Employment Action Plans (LEAP) as the primary framework for implementing local employment policies. The data necessary for the analysis were obtained from the SCTM. Research findings show that significant financial resources were allocated for active employment measures at the local level from 2019 to 2022, totaling over 2.4 billion RSD. Cities allocated twice as much funding from their local budgets compared to the national budget, indicating a commitment to local employment initiatives. The total implemented funds for active employment measures amounted to approximately 2 billion RSD, with an implementation rate of 87%. Women received an average of 48.9% of the total allocated funds for active employment measures. Distribution of funds varied among different territorial units, with cities generally having a higher percentage of female participation compared to municipalities. The largest percentage of female beneficiaries of active employment measures were in the age group of 25-29 years (15%). They were followed by women aged 30-34 years (14%) and 35-39 years (13.7%). The lowest participation was recorded in the age group of 15-19 years (1.5%). Regarding educational qualifications, women with

completed secondary education were the dominant beneficiaries (37%), followed by women with a four-year university degree at 18%, and those with higher vocational education at only 2%. A significant portion of female beneficiaries belonged to vulnerable categories, with 45% being long-term unemployed, 28.3% over the age of 50, and 23.8% under the age of 30, highlighting the effectiveness of employment measures in targeting women facing significant barriers to employment. From 2019 to 2022, a total of 2 billion RSD was allocated for subsidies for opening new jobs and self-employment, with nearly 1 billion RSD (49.3%) granted to women. Women utilized subsidies more for self-employment than for creating new jobs. The geographic distribution of subsidies showed that cities like Niš, Novi Sad, and Smederevo received the highest amounts for opening new jobs, while municipalities like Raška, Vladičin Han, and Svrljig led in subsidies for self-employment. The participation of women varied significantly among these regions, reflecting local socio-economic conditions.

The third set of research results obtained through a survey examined the level of support provided by local governments to women's entrepreneurship and women's employment. According to the survey findings, 67% of representatives from LSGUs confirmed that women's entrepreneurship and women's employment were recognized in their strategic planning documents, while 33% gave a negative response. This indicates a significant but not universally comprehensive approach to integrating a gender perspective into local strategic plans. Regarding support for women's employment and entrepreneurship from 2019 to 2022, 64% of LSGU representatives confirmed their support, while 36% stated they did not provide such support. Among those who provided support, 58% cited specific documents or projects through which this support was implemented, with LEAPs being the most frequently mentioned overarching support programs. Active employment policy measures, such as subsidies for self-employment, were the most common means of supporting women's entrepreneurship, applied in more than 50% of LSGU. Additionally, subsidies for employing unemployed persons from harder-to-employ categories and public works were also significant support mechanisms. The total amount of funds realized for supporting women's entrepreneurship and women's employment amounted to approximately 102,710,600 RSD, 6,955 USD, and 88,745 EUR. This funding supported over 430 women, with individual support ranging from approximately 22,000 RSD to 480,000 RSD. Monitoring of support implementation was conducted through various mechanisms, including annual reports, data from the Business Registers

Agency, city-level commissions, and visits from the National Employment Service.

The fourth set of data collected through a focus group analyzed the motivations, use of incentives, and effects of these measures among women entrepreneurs. Motivations for starting entrepreneurial ventures included necessity entrepreneurship, passion for their work, job loss, difficulty finding new employment, balancing family and business obligations, and a desire for financial independence. Women entrepreneurs are often dedicated and prepared for hard work, with significant support from their families, especially spouses. Most participants utilized various forms of support, including local budgets, subsidies from the National Employment Service, and support from the Ministry of Trade and Tourism. There was a highlighted need to enhance support by providing funds for trade fairs, streamlining administrative procedures, improving information dissemination, and providing advisory support. The effects of these measures were assessed as positive, particularly in facilitating the employment of new workers. Key recommendations from the focus group participants for enhancing existing support measures and programs include: a) Establishing a local office to provide information and technical support for starting businesses; b) Simplifying administrative and technical procedures for applying to public calls/competitions for incentives; c) Providing free accounting and legal services in the first year of business; d) Developing a mobile application with information on available programs and support measures for women entrepreneurs; e) Allocating funds to finance the participation of women entrepreneurs in domestic and international trade fairs as part of the Local Economic Development Plan. These recommendations aim to contribute to greater economic inclusivity for women and strengthen their entrepreneurial potential in Serbia, building on their past experiences and insights.

Recommendations for Improving National and Local Policies in the Field of Women's Entrepreneurship

Based on the research results, recommendations have been generated to improve local and national policies in the field of women's entrepreneurship. To enhance local policies supporting women's entrepreneurship, the following recommendations are proposed:

1) **Establishing a strategic approach to the development of women's entrepreneurship** by introducing women entrepreneurs as a distinct category in planning and implementing measures aimed at local economic development.
2) **Creating a database on women entrepreneurs,** which involves making decisions regarding the type of data, data sources, data collection methods, frequency of data collection and analysis, data management activities, identifying responsible parties, and allocating budget resources for funding these activities.
3) **Conducting an evaluation of implemented measures** from the Local Economic Development Plan according to a predetermined methodology and establishing mechanisms to use evaluation results as a basis for improving existing measures and creating new incentive measures.
4) **Enhancing the efficiency of implementing local employment policies** by monitoring the effects and evaluating the implemented measures from the LEAPs according to a predetermined methodology. This includes analyzing the needs of women entrepreneurs and ensuring mechanisms are in place to incorporate the evaluation and analysis results into the LEAP development process.
5) **Launching a campaign to raise awareness about the importance of women's entrepreneurship** for local economic development. The campaign aims to increase visibility by showcasing successful local women entrepreneurs, thereby empowering, and promoting women's entrepreneurship.
6) **Creating local portals for women's entrepreneurship** to ensure full and timely information for women entrepreneurs about available programs and support measures.
7) **Providing expert and advisory support for women entrepreneurs** through measures such as offering free legal, financial, marketing, and other services in the first year of operation.
8) **Expanding support for women entrepreneurs** to include other aspects of business beyond employment, such as capacity building through training in financial management, business digitalization (Lazić et al., 2022), promotion, and local networking.

9) **Creating support measures for women entrepreneurs** tailored to identified specific needs based on the sector of activity, stage in the entrepreneurial lifecycle, business goals, and similar factors.
10) **Increasing the number of women utilizing incentives for women entrepreneurship** by establishing mechanisms to inform about available measures and providing support during the application process.
11) **Increasing the percentage of the budget allocated for incentives for women entrepreneurship** based on goals defined in strategic planning documents.

To enhance national policies in supporting women's entrepreneurship, the following recommendations are proposed:

1) **Systematic approach in establishing policies for the development of women entrepreneurship,** considering existing national strategic documents, and aligning with the European integration process and EU strategic documents. To systematically develop policies to support women's entrepreneurship, it is recommended to systematically integrate a gender perspective into the legal framework and develop a specific strategy with an action plan for the development of women's entrepreneurship, along with establishing a monitoring and reporting system to track the implementation progress of defined goals and activities. The implementation of this recommendation is considered significantly realistic, as neighboring countries such as Croatia and Montenegro have already implemented similar strategies. Furthermore, national decision-makers emphasize the need to adopt a Strategy for improving the position of women in business.
2) Considering recommendations to enhance existing measures, **the creation of new national support programs tailored to the specific needs of women entrepreneurs** is proposed. Moving away from a "one size fits all" approach in designing support measures involves creating programs that align with the specific needs of women entrepreneurs based on sectors, stages in the entrepreneurial lifecycle, or other relevant criteria.
3) **Improving the institutional framework through the establishment of a specialized institution dedicated to the development of women's entrepreneurship is recommended.** The suggestion is to integrate the activities of this institution at the

national level with specialized branches responsible for the development of women entrepreneurship at the LSGU level.

4) **Collecting and analyzing data on women entrepreneurs at the national level as a basis for evidence-based policymaking is recommended.** This data collection should be conducted by national institutions already involved in gathering and analyzing statistical data, such as the Statistical Office of the Republic of Serbia, and the National Employment Service, among others. A good example of adopting recommendations of this kind is the initiative proposed by the Chamber of Commerce and Industry of Serbia to the Ministry of Economy. This initiative was adopted through an amendment to Article 9a of the Companies Act, introducing gender as a mandatory data point for registration under this law.
5) **Implementing entrepreneurship, with a specific focus on women's entrepreneurship, as a mandatory subject in the curriculum of primary and secondary schools, as well as universities,** aims to achieve the following objectives: promoting entrepreneurship, developing entrepreneurial skills, and changing attitudes towards entrepreneurship as a career choice (Ognjenović, 2022)
6) **Improving access to funding sources for women entrepreneurs** through establishing dedicated funds and enhancing financial literacy among women, along with developing capacities in financial management, is crucial.

By implementing the recommendations, improvement in support for women's entrepreneurship and increased economic inclusivity of women at all levels can be expected. Key indicators crucial for monitoring and evaluating programs and policies are shown in Table 1.

Table 1: Indicators for monitoring the state of women entrepreneurship and direct support from LSGUs

Indicator	Initial Value	Target Value Year 1	Target Value Year 2	Target Value Year 3
The share of women in the total number of entrepreneurs	30%	40%	45%	50%
Female entrepreneurship recognized in local documents	Yes/No	Yes	Yes	Yes
LEAP adopted	Yes/No	Yes	Yes	Yes
Female entrepreneurship recognized in the LED Program	Yes/No	Yes	Yes	Yes
Local database on women entrepreneurs	Yes/No	Yes	Yes	Yes
The share of women in the total number of beneficiaries of incentive funds	*	↑%	↑%	50%
% of the LSGU budget allocated to incentives for women's entrepreneurship	**	+10%	+10%	+10%
The degree of implementation of planned support measures	60%	75%	85%	100%
Monitoring the effects of implementing measures.	No	Yes	Yes	Yes

Source: According to the authors' research

*Notes: *Average value for the LSGU from 2019 to 2022 ** Average percentage of the LSGU budget allocated to the promotion of women's entrepreneurship for the respective LSGU from 2019 to 2022.*

These indicators enable measuring progress, identifying successes and challenges, and directing resources towards effective interventions. They also ensure transparency and accountability, allowing for tracking results and the effects of measures.

Conclusion

The research findings validate the initial hypothesis that both national and local policies aimed at promoting women's entrepreneurship can indeed be substantially enhanced. They underscore the necessity for evidence-based recommendations to refine policy frameworks. This research offers a

thorough examination of Serbia's legal and institutional structures supporting women's entrepreneurship, revealing crucial insights into current strengths and areas requiring significant improvement. Despite a solid foundation, the study indicates that existing measures often fail to adequately address the distinct challenges faced by female entrepreneurs. Key priorities for improvement include developing specialized support programs tailored to women entrepreneurs' needs, integrating gender perspectives comprehensively into all legal and institutional frameworks, and ensuring continuous alignment with European and global standards.

The empirical data from surveys and focus groups highlight that women, despite comprising a substantial portion of the entrepreneurial sector, continue to face significant barriers. These obstacles include restricted access to financial resources, inadequate training and mentorship opportunities, and societal norms that hinder their business activities. The need for more focused and efficient policy interventions is clear, with recommendations emphasizing the importance of strengthening support mechanisms, incorporating gender-sensitive budgeting, and enhancing data collection and analysis capabilities.

By implementing the recommended actions and continuously monitoring their impact through proposed indicators, policymakers can significantly strengthen the economic inclusiveness and sustainability of female entrepreneurship in Serbia. This strategic, data-driven approach not only supports the vital role of women entrepreneurs in economic growth and social development but also lays the groundwork for a more equitable and dynamic entrepreneurial landscape. The insights and recommendations derived from this research are crucial for informing future policy decisions, ensuring that support for women entrepreneurs evolves to meet their changing needs and maximizes their potential contributions to the broader economy.

The potential for future research in this area is substantial. Further studies could explore the long-term impact of these enhanced policy measures on women's entrepreneurial success and economic contribution. Comparative analyses between Serbia and countries with advanced gender-sensitive entrepreneurial policies could provide deeper insights into best practices and innovative approaches.

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References

[1] **Adegbile, A. S., Ogundana, O. M., & Adesola, S.** (2024). Adegbile, A. S., Ogundana, O. M., & Adesola, S. (2024). Gender-based policies and women's entrepreneurship: an fsQCA analysis of sub-Saharan African countries. *International Journal of Entrepreneurial Behavior & Research*. https://doi.org/10.1108/ijebr-04-2023-0394

[2] **Ajide, F. M., Osinubi, T. T., & Dada, J. T.** (2021). Economic globalization, entrepreneurship, and inclusive growth in Africa. *Journal of Economic Integration*, *36*(4), 689-717. https://doi.org/10.11130/jei.2021.36.4.689

[3] **Antonijević, M., Ljumović, I., & Ivanović, Đ.** (2022). Is there a gender gap in financial inclusion worldwide?. *Journal of Women's Entrepreneurship and Education*, (1-2), 79-96.

[4] **Athayde, R.** (2009). Measuring enterprise potential in young people. *Entrepreneurship Theory and Practice*, *33*(2), 481-500. https://doi.org/10.1111/j.1540-6520.2009.00300.x

[5] **Azlan, M. A., Baharudin, H., Ja'afar, M. F. A., Abdullah, A. W., & Ali, B. S. K. S.** (2022). The effectiveness of the mara entrepreneurship program on the performance of bumiputera entrepreneurs. *International Journal of Academic Research in Business and Social Sciences*, *12*(11). https://doi.org/10.6007/ijarbss/v12-i11/15703

[6] **Baughn, C. C., Chua, B., & Neupert, K. E.** (2006). The normative context for women's participation in entrepreneruship: a multicountry study. *Entrepreneurship Theory and Practice*, *30*(5), 687-708. https://doi.org/10.1111/j.1540-6520.2006.00142.x

[7] **Beraha, I., & Đuričin, S.** (2020). Survey on women's innovative entrepreneurship in Serbia. *Ekonomika*, *66*(1), 93-104

[8] **Chaikin, O., & Kirieieva, E.** (2020). Women's entrepreneurship as the part of economic systems inclusive development. *Herald of Kiev Institute of*

Business and Technology, *45*(3), 65-71. https://doi.org/10.37203/10.37203/kibit.2020.45.09

[9] **Chamber of Commerce and Industry of Serbia and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (2022).** Continued support for women entrepreneurship, sustainable model of cooperation between large corporations and technologically innovative companies, methodology and reporting on indicators of MSMEEs' development and risk management - Women Entrepreneurship. Available at: https://api.pks.rs/storage/assets/Sektor%20zenskog%20preduzetnistva%20u%20Srbiji%20-%20Analiza.pdf

[10] **Chu, C. M., Connaway, L. S., Kawooya, D., & Mfengu, A.** (2022). Research frameworks for multiple ways of knowing. *Proceedings of the ALISE Annual Conference*. https://doi.org/10.21900/j.alise.2022.1107

[11] **Coelho, F. J. M., Marques, C. S., Loureiro, A., & Ratten, V.** (2018). Evaluation of the impact of an entrepreneurship training program in recife, Brazil. *Journal of Entrepreneurship in Emerging Economies*, *10*(3), 472-488. https://doi.org/10.1108/jeee-10-2017-0077

[12] **Đuričin, S., & Pantić, O.** (2015). The Development of Micro-crediting as a Factor of Promoting Women's Entrepreneurship in Serbia. *Journal of Women's Entrepreneurship and Education*, 1/2, 50-66.

[13] **European Institute for Gender Equality (EIGE)**. (2023). *Gender Equality Index 2023*. https://eige.europa.eu/gender-equality-index/2023

[14] **Fairlie, R. W., Karlan, D., & Zinman,** J. (2015). Behind the gate experiment: evidence on effects of and rationales for subsidized entrepreneurship training. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2655431

[15] **Foss, L., Henry, C., Ahl, H., & Mikalsen, G. H**. (2018). Women's entrepreneurship policy research: a 30-year review of the evidence. *Small Business Economics*, *53*(2), 409-429. https://doi.org/10.1007/s11187-018-9993-8

[16] **Gherghina, Ş. C., Botezatu, M. A., Hosszu, A., & Simionescu, L. N.** (2020). Small and medium-sized enterprises (SMES): the engine of economic growth through investments and innovation. *Sustainability*, *12*(1), 347. https://doi.org/10.3390/su12010347

[17] **Gulvira, A., Ainash, M., Sagynysh, M., Meiramgul, A., & Aliya, K.** (2024). The impact of female entrepreneurship on economic growth in developing and developed economies. *Economics*, *12*(2). https://doi.org/10.2478/eoik-2024-0016

[18] **Harrison, R., Leitch, C., & McAdam, M.** (2020). Woman's entrepreneurship as a gendered niche: the implications for regional development policy. *Journal of Economic Geography*, *20*(4), 1041-1067. https://doi.org/10.1093/jeg/lbz035

[19] **Johnson, Z.** (2020). Young women and feminised work: complicating narratives of empowerment through entrepreneurship with the stories of coffeehouse owners in wukro, ethiopia. *Gender a Výzkum / Gender and Research*, *21*(1), 64-88. https://doi.org/10.13060/gav.2020.004

[20] **Labour Law**. Official Gazette of the Republic of Serbia, No. 24/2005, 61/2005, 54/2009, 32/2013, 75/2014, 13/2017 - Constitutional Court Decision, 113/2017, and 95/2018. https://www.paragraf.rs/propisi/zakon_o_radu.html

[21] **Law on Gender Equality**. Official Gazette of the Republic of Serbia, No. 52/2021. https://www.paragraf.rs/propisi/zakon-o-rodnoj-ravnopravnosti.html

[22] **Law on Occupational Safety and Health**. Official Gazette of the Republic of Serbia, No. 101/2005, 91/2015, and 113/2017

[23] **Law on the Prohibition of Discrimination**, Official Gazette of the Republic of Serbia, No. 22/2009 and 52 /2021. https://ravnopravnost.gov.rs/wp-content/uploads/2023/06/Law-on-the-Prohibition-of-Discrimination-ENG.docx

[24] **Lazić, M., Vukmirović, V., & Banović, J.** (2022). *Digitalne kompetencije osoba sa invaliditetom u Srbiji i uključivanje u rad na onlajn platformama (Digital Competencies of Persons with Disabilities in Serbia and Inclusion in Online Platform Work).* Policy brief. Institute of Economic Sciences, Belgrade,Serbia. https://ien.bg.ac.rs/cms_upload/pages/files/7793_digcomposi_sazetak_za_javne_politike.pdf

[25] **Lyons, E., & Zhang, L.** (2017). Who does (not) benefit from entrepreneurship programs?. *Strategic Management Journal*, *39*(1), 85-112. https://doi.org/10.1002/smj.2704

[26] **Morched, S., & Jarboui, A.** (2018). Does female entrepreneurship add in economic growth? evidence from twenty-five countries. *Journal of Academic Finance*, *9*(2), 20-35. https://doi.org/10.59051/joaf.v9i2.164

[27] **Moreira, J. A., Marques, C. S., Braga, A., & Ratten, V.** (2019). A systematic review of women's entrepreneurship and internationalization literature. *Thunderbird International Business Review*, *61*(4), 635-648. https://doi.org/10.1002/tie.22045

[28] **Nso, M. A.** (2022). An assessment of the challenges and opportunities in financing rural women entrepreneurship in the micro, small and medium enterprises sector in cameroon. *Journal of Management and Science*, *12*(4), 33-38. https://doi.org/10.26524/jms.12.60

[29] **Nziku, D. & Henry, C.** (2020). Policies for supporting women entrepreneurs in developing countries: the case of Tanzania. *Journal of Entrepreneurship and Public Policy*, *10*(1), 38-58. https://doi.org/10.1108/jepp-09-2020-0073

[30] **Ognjenović, K.** (2022). Planned behavior, gender, and attitudes towards entrepreneurship among business economics and electrical engineering students. *Stanovnistvo*, 60(2), 121–143. https://doi.org/10.2298/STNV2202121O

[31] **Orser, B.** (2022). Building back better through feminist entrepreneurship policy. *International Journal of Gender and Entrepreneurship*, *14*(4), 468-488. https://doi.org/10.1108/ijge-05-2022-0089

[32] **Presley, D., Reinstein, T. A., Webb-Barr, D., & Burris, S.** (2015). Creating legal data for public health monitoring and evaluation: delphi standards for policy surveillance. *Journal of Law, Medicine &Amp; Ethics*, *43*(S1), 27-31. https://doi.org/10.1111/jlme.12210

[33] **Rolle, J., Kisato, J., Rock, P., & Winstanley, J.** (2020). "inclusive entrepreneurship: a critical look at the inclusion of persons with disabilities". *International Journal of Business &Amp; Economic Development*, *08*(02). https://doi.org/10.24052/ijbed/v08n02/art-01

[34] **Shamsheri, R. F. A., Mukarram, S., Naveed, S., & Mukarram, A.** (2021). Impact of regional cultures on business performance of women entrepreneurs with reference to small and medium enterprises in Pakistan. *Liberal Arts and Social Sciences International Journal (LASSIJ)*, *5*(1), 182-196. https://doi.org/10.47264/idea.lassij/5.1.13

[35] **Shepherd, E., Bunn, J., Flinn, A., Lomas, E., Sexton, A., Brimble, S., & Page, J.** (2019). Open government data: critical information management perspectives. *Records Management Journal*, *29*(1/2), 152-167. https://doi.org/10.1108/rmj-08-2018-0023

[36] **Standing Conference of Towns and Municipalities – National Association of Local Authorities in Serbia (SCTM) (2022).** Analysis of incentives for women's entrepreneurship at the local level. Internal document within the project "Sustainable and Inclusive Services at the Local Level".

[37] Strategy for Gender Equality for the Period from 2021 to 2030. Official Gazette of the Republic of Serbia, No. 103 https://www.rodnaravnopravnost.gov.rs/sites/default/files/2022-03/National%20Strategy%20for%20GE%202021-2030.pdf

[38] **Trivedi, S. & Petkova, A. P.** (2021). Women entrepreneur journeys from poverty to emancipation. *Journal of Management Inquiry*, *31*(4), 358-385. https://doi.org/10.1177/10564926211017667

[39] **World Economic Forum (WEF).** (2023*). Global Gender Gap Report 2023*. https://www.weforum.org/reports/global-gender-gap-report-2023/

[40] **Yadav, V. & Unni, J.** (2016). Women entrepreneurship: research review and future directions. Journal of Global Entrepreneurship Research, 6(1). https://doi.org/10.1186/s40497-016-0055-x

[41] **Yeasmin, N. & Hasanat, W.** (2022). Understanding inclusive entrepreneurship. *Finnish Yearbook of Population Research*, 91-114. https://doi.org/10.23979/fypr.120379

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ORIGINAL SCIENTIFIC PAPER

Social Intelligence Management in the Context of Promoting Professional Self-Education: Gender Aspects

Daniela Palaščáková[1]
Technical University of Kosice, Faculty of Economics, Department of Economics, Košice, Slovak Republic
Ihor Liadskyi[2]
Dmytro Diachkov[3]
Poltava State Agrarian University, Poltava, Ukraine

A B S T R A C T

The importance of lifelong learning and professional self-education in the modern world is beyond doubt. The search for external and internal incentives to increase people's interest in self-development is an important task for management sciences. External motivation includes the efforts of managers and HR managers to encourage employees to learn. In childhood and adolescence, parents, teachers and professors perform this function. However, it is important to understand what internal factors affect the desire for new knowledge and experience. According to numerous studies, social intelligence plays this role, as it affects the formation of positive qualities of a person from a social point of view. The purpose of this research was to verify the correlation between the level of social intelligence of an individual and his/her desire for self-development and additional training. The survey was conducted on a sample of students from a private online school that provides soft skills, financial and digital literacy training. The research results have complemented the previous survey among senior university students to form a

[1] Corresponding author, e-mail: daniela.palascakova@tuke.sk
[2] E-mail: lyadskiy.igor@pdaa.edu.ua
[3] E-mail: mytro.dyachkov@pdau.edu.ua

*comprehensive picture. High statistical reliability (p≤0.001***) was found for a significant relationship between social intelligence and its components and the desire to study further. The research results indicate the importance of developing a person's social intelligence in order to stimulate professional self-education. Increasing the level of employees' competence has a positive influence on their loyalty to the corporate culture, enhancing the personnel security of enterprises.*

KEYWORDS: *social intelligence, social skills, social awareness, social perception, social capital, self-development, soft skills, meta-skills*

Introduction

The concept of lifelong learning and additional education is firmly rooted in the ideas of life and professional success of a modern person. Managers and educators are, therefore, looking for effective mechanisms to encourage future and current employees to pursue additional learning, expand their knowledge and acquire additional skills. This process takes place in two directions. The first one is related to external factors, including positive and negative motivation. The second direction is to stimulate personal qualities that are responsible for the tendency to self-development. Social intelligence can be seen as one of the candidates for this role. Despite the great importance of social intelligence for HR management, it was hardly studied in management, usually appearing in works on psychology and pedagogy. That is why this research is designed to actualize the importance of social intelligence to maintain corporate culture and ensure personnel security of the enterprise, in particular by increasing the competitiveness of employees through their professional self-development.

The previous research by Ukrainian scientists Liadskyi and Diachkov (2022) revealed the influence of this cognitive factor on a person's desire to develop soft skills by using a survey among university students. Broadening and deepening the horizons has a positive effect on the social competencies of people, allowing them to strengthen their own social capital - trust and respect in society. It is important to learn how to develop these skills at the stage of professional training of future specialists, starting with secondary and higher education institutions. Private educational centers play an important role alongside state colleges and universities, as they tend to attract the most motivated students. Therefore, the researchers focused on students at DarwinLand, a private online school that develops various soft skills (team building, creativity, leadership, etc.) as well as specialized

training for future programmers and 3D designers. This institution attracted attention due to the large number of students and their motivation to pass various tests.

Research by N. Iqbal and co-authors (2023) found that students in private educational institutions have a higher level of social intelligence than students in state institutions. They also found a correlation between the level of social intelligence and the academic performance of the students.

The working concept of the research is that people with developed social intelligence tend to self-educate, value new experiences and knowledge, and are willing to invest their time in self-development, starting from school and throughout their whole lives. Such behavior has a positive influence on the formation of their social capital, i.e. respect and trust from others. Accordingly, social intelligence management of future and current employees can positively affect the personnel and economic security of an enterprise and increase the competitiveness of the company.

Literature Review

The realities of the modern world require employees to develop in a harmonious way, which includes the equal development of soft skills as well as hard skills. Employers are looking for an ideal candidate who can combine both types of skills (Lamri, 2023). This is impossible without in-depth self-education, as schools and even universities in the post-Soviet space do not yet pay much attention to the development of soft skills.

The labor market requires workers to have developed soft skills due to their ability to provide flexibility and adaptability to the changes of today. There is a significant demand for critical and analytical thinking, problem-solving, communication skills and creativity (Poláková, 2023).

An important task for management sciences and pedagogy is to teach present-day students, who will become future employees, to transfer learning outcomes and acquired skills to different paradigms of the modern world that is constantly changing. It is also important to incentivize young people to learn throughout their lives (Bajis, 2020). It is reasonable to consider such a cognitive ability as social intelligence from the point of view of forming a person's professional profile. The graduates of higher education institutions should be prepared for professional life and work under the new economic conditions when the effectiveness of professional

activity depends not only on qualifications, but also on the ability to establish constructive relationships with other people.

Social intelligence is becoming a necessary professional quality for any person who aspires to successful professional and social activities (Paladi, 2023). It helps a person to acquire psychological and social maturity (Avlaev, 2021), which in turn promotes strong professional, friendly or family relationships.

Social intelligence is a system of cognitive properties of a person, the formation of which largely determines the effectiveness of communication. This component of communicative competence determines the ability of an individual to solve various communication tasks to ensure effective interaction between subjects (Ivashkevych, 2023). Social intelligence is a person's ability to build and maintain healthy interpersonal relationships in small and large teams (Boyatzis, 2020).

Numerous studies show that social intelligence is related to employee performance (Rotich, 2023), creativity (Katou, 2021), corporate engagement (Sanwal, 2023) and company loyalty (Eketu, 2019), which may be related to their worldview, communication skills and level of social capital. The connection with the ability to accumulate and share knowledge (Kularajasingam, 2022) and the ability to use it effectively is also important.

The scientific literature is actively promoting the point of view that social intelligence can be attributed to meta-skills that determine the desire to learn and develop other useful skills (Senova, 2021). British researchers Spencer and Lucas (2021) propose to refer to social intelligence and other meta-skills as the so-called skills 4.0 - the most important competencies of our time.

The TROMSØ test developed by Norwegian scientists Silvera et al. (2001), who identified three main components of social intelligence, has gained popularity among express methods of assessing social intelligence.

These are the components:

1. Social information processing (SP);
2. Social skills (SS);
3. Social awareness (SA).

These components of social intelligence cover various aspects of an individual: sensitivity to external factors, the ability to build an effective communication strategy, and knowledge of the necessary norms, rules, and traditions.

Social information processing SP is a process that involves perceiving, understanding, and interpreting information related to social situations and interaction with other people. This process includes awareness of external factors, such as body language, emotions, and intentions of others as well as using this information to build effective communication and interaction with other people. Social information processing comes in both conscious and unconscious forms (Cooke, 2017), relying on a person's feelings and intuition. The second type is formed on the basis of conscious perception, combined with emotions and becoming automatic. The component of social intelligence SP is important for career promotion and gaining a dominant position in society (Mast, 2020), as it makes it possible to better understand current trends and choose the right communication strategies.

Social skills SS are skills that help us to interact with other people. This includes the ability to communicate effectively, understand other people's feelings and emotions, resolve conflicts and collaborate with others. Social skills also include the ability to listen to others and show empathy and respect for others. These skills help us to build positive relationships with others and achieve success in various areas of life. Social skills enable more effective interactions with others, particularly in maintaining a positive atmosphere in the workplace (Soto, 2024) and overcoming conflict situations and misunderstandings (Breil, 2022).

Social awareness SA is the ability to be attentive to and understand the social environment in which we find ourselves. It means being aware of the situations that affect us and our interlocutors, the norms and rules of behavior that need to be followed, and the traditions that need to be respected. Social awareness also includes understanding how our actions and words can affect other people. It helps us to establish harmonious relationships with others, show empathy and respect for others, and be successful in social relationships. The rapid development of social media has only increased the importance of social awareness SA for the modern person (Ye, 2019), turning it into an important skill for adaptation to changes in the digital world. These components of social intelligence, along with other personal qualities, have a powerful influence on the further outcomes of a person's life (Soto, 2019), so future employees should actively develop them from childhood.

Data and Methods

The survey was conducted on a sample of 369 students aged 12-17 from DarwinLand, a private Ukrainian online school. There were 198 women and 171 men. The express questionnaire TROMSØ was used. It consists of three blocks of questions, with 7 questions in each block, for a total of 21 questions. This test allows for the assessment of the development of three basic components of social intelligence, namely SP, SS, and SA. Due to the equivalence of each of the questions, there is no need to introduce additional coefficients to determine the overall level of social intelligence. The developers of this test indicate the acceptable internal reliability of the indicators, with Social information processing = 0.81, Social skills = 0.86, and Social awareness = 0.79 according to Cronbach's coefficient. Their uniform distribution can be observed in determining the level of social intelligence, which does not require the introduction of additional coefficients.

The list of questions is as follows:

Social information processing (SP)

- *"I am able to predict the possible behavior of other people".*
- *"I know how other people will feel after my actions".*
- *"I understand the feelings of others well".*
- *"It is easy for me to understand other people's desires".*
- *"I understand the ambitions of others with no questions asked".*
- *"I can predict the reaction of others to my behavior".*
- *"Thanks to the facial expressions and body language of others, I can often understand what they really mean".*

Social skills (SS)

- *"I feel uncomfortable among strangers".*
- *"I can easily adapt to different social situations".*
- *"I get to know new people quickly and adapt to new situations".*
- *"I find it difficult to establish relationships with other people".*
- *"It takes me a long time to understand other people well".*
- *"It is easy for me to find the right words in a conversation with strangers".*
- *"It is difficult for me to find an interesting topic for conversation".*

Social awareness (SA)

- *"I find it difficult to understand other people's choices".*
- *"People's actions often surprise me".*
- *"I do not know why other people get angry with me".*
- *"When I say what I think, people often get angry or annoyed".*
- *"People seem unpredictable to me".*
- *"I often offend others without even realizing it".*
- *"I am often surprised by the reaction of others to my actions".*

The answers were rated on a scale from 1 to 7, where the first unit corresponds to the statement "Not at all about me" and the number seven corresponds to "Completely about me".

Three additional questions, which were also assessed on a seven-point scale, helped to identify the level of self-education among respondents:

1. *"How much do you enjoy attending various clubs and sections?"*
2. *"Do you like reading informative literature?"*
3. *"Do you think that success in the future depends on persistent professional self-education?"*

The main scientific hypotheses were three assumptions aimed at studying the gender peculiarities of the relationship between social intelligence and a person's desire to learn and develop:

- The first hypothesis is that the influence of social intelligence and its components on the voluntary desire to receive additional training and study is more pronounced for men than for women. — This is justified by the fact that an increase in the level of social intelligence in a person encourages him or her to receive not only formalized education (secondary or higher), but also to develop meta-skills and soft skills within the framework of professional activities through participation in professional associations, clubs, sections, etc.
- The second hypothesis is related to the belief that women with developed social intelligence are more interested in reading books than men. This is because women generally tend to show a greater interest in literature and fiction, which often feature complex characters, emotional plots and interpersonal relationships.
- The third hypothesis assumes that the influence of social intelligence and its components on understanding the importance

of self-education for building a successful future is equal for both men and women. This is because our previous research showed that entrepreneurial, political or civically active women exhibit nearly the same level of social intelligence as men, which confirms their equal chances of building a career in the public sphere (Palaščáková, 2023). This is due to the 'blurring' of gender in most professions in the modern labor market, so the issue of self-education is equivalent for men and women.

The anonymous online survey was conducted using a questionnaire created in a Google form. The results of the survey were interpreted using Microsoft Excel. The correlation between the two variables was established using Spearman's rank correlation coefficient, according to the recommendations of Bosniuk (2020), where the independent variable X is social intelligence and its components, and the dependent variable Y is a commitment to professional self-education. The correlation results were interpreted according to the recommendations of Turan (2020) based on the Chaddock scale, which allows for determining the strength of the relationship between two variables: 0.1-0.3 - weak; 0.3-0.5 - moderate; 0.5-0.7 - medium; 0.7-0.9 - strong; 0.9-1.0 - very strong.

Results and Discussion

The research revealed a statistically significant ($p \leq 0{,}001$***) positive correlation between social intelligence and the desire for additional training, interest in professional literature, and awareness of the importance of self-education in order to achieve life success.

Table 1: Gender division of survey participants

Women	53,7 %
Men	46,3 %

Source: developed by the authors on the basis of their own research

The level of social intelligence of female and male participants was found to be no different and demonstrated an average score of 4.3 points, which confirms our previous research, which found that men and women do not have significant differences in this respect (Palaščáková, 2023). Success in social, entrepreneurial and political activity depends on social

intelligence, regardless of gender. Students of a private online school also demonstrated homogeneity in terms of social competencies and knowledge.

Having analyzed the answers to the first question "How much do you enjoy attending various clubs and sections?", a statistically significant correlation (*p≤0.001****) with the level of social intelligence development was found, as shown in Table 2.

Table 2: Influence of social intelligence and its components on the desire to study and receive additional education

TROMSØ test criterion	**Social information processing**	**Social skills**	**Social awareness**	**General level of social intelligence**
Spearman's correlation coefficient	0.336	0.413	0.188	0.391
Strength of correlation by the Chaddock scale	moderate, positive	moderate, positive	weak, positive	moderate, positive
Statistical significance of the property dependence	*p≤0,001***	*p≤0,001***	*p≤0.05**	*p≤0,001***

Note: p≤0.05 – low statistical significance; p≤0.01 – medium statistical significance; p≤0,001 – high statistical significance.

Source: developed by the authors on the basis of their own research

When we compare the part of the sample having below-average SI scores with those respondents who demonstrated a level above the average, then in the answers to the question "How much do you enjoy attending various clubs and sections?" the latter showed 18% higher interest in additional activities on average. Separately, for the different components of social intelligence, the samples with above-average answers prevail over the rest of the respondents by 17%, 23%, and 8% in SP, SS, and SA, respectively. The lowest level of correlation with the desire to attend clubs and sections is demonstrated by social awareness (0.188), and the highest by social skills (0.413), which indicates the importance of empathy and sociability in order to be motivated to communicate with teachers and other students beyond the standard attendance at a state educational institution.

The first hypothesis was the assumption that the influence of social intelligence and its components on the desire for additional training and education will be stronger for men than for women. The results of testing

this hypothesis are shown in Tables 3 and 4. The general level of SI has a positive correlation of medium strength with the desire for self-education among men with high significance (*p≤0.001****), while among women this indicator is weaker. The social intelligence components were analyzed separately as follows. Among female respondents, a reliable (*p≤0.001****) moderate positive correlation with the desire for self-improvement was demonstrated by such SI components as social skills. In contrast, among male respondents, it was social information processing, followed by social skills. Social awareness revealed the lowest correlation with this parameter for both genders.

Table 3: Influence of social intelligence and its components on the desire to study and receive additional education among the female sample

TROMSØ test criterion	**Social information processing**	**Social skills**	**Social awareness**	**General level of social intelligence**
Spearman's correlation coefficient	0,224	0,387	0,005	0,274
Strength of correlation by the Chaddock scale	weak, positive.	moderate, positive	weak, positive	weak, positive.
Statistical significance of the property dependence	*p>0.05*	*p≤0,001***	*p>0.05*	*p≤0.05**

Note: p≤0.05 – low statistical significance; p≤0.01 – medium statistical significance; p≤0,001 – high statistical significance.

Source: developed by the authors on the basis of their own research

The research results confirm the validity of the first hypothesis – the influence of social intelligence and its components on the desire to study and receive additional education will be stronger for men than for women. At the same time, encouraging girls to study is the first step towards achieving gender equality in society (Wenzel, 2020).

Table 4: Influence of social intelligence and its components on the desire to study and receive additional education among the male sample

TROMSØ test criterion	**Social information processing**	**Social skills**	**Social awareness**	**General level of social intelligence**
Spearman's correlation coefficient	0,446	0,418	0,348	0,506
Strength of correlation by the Chaddock scale	moderate, positive	moderate, positive	moderate, positive	medium, positive
Statistical significance of the property dependence	*p≤0,001***	*p≤0,001***	*p≤0.01***	*p≤0,001***

Note: p≤0.05 – low statistical significance; p≤0.01 – medium statistical significance; p≤0,001 – high statistical significance.

Source: developed by the authors on the basis of their own research

Books are considered to be one of the best helpers on the way to self-development of personality. Both extroverts and introverts are fond of them, as reading does not involve active communication with others. Accordingly, this SI component of social awareness showed a high level of correlation. However, it is difficult to unambiguously answer the question of what is the prerequisite - either a higher level of SA induces a passion for books, or active reading develops social awareness. These processes are most likely interrelated, stimulating each other. When we compare the part of the sample with below-average SI scores with those respondents who demonstrated a level above the average, then in the answers to the question "Do you like reading informative literature?" the latter averaged 36% higher interest in reading, which can be seen in Table 5. Separately, for different components of social intelligence, the samples with above-average answers prevail over the rest of the respondents by 21%, 35%, and 40% for SP, SS, and SA, respectively. The highest level of correlation with interest in books is demonstrated by social awareness (0.373), and the lowest is demonstrated by social information processing (0.270), as reflected in the above percentages, where SA also dominates over other components of social intelligence.

Table 5: Influence of social intelligence and its components on interest in reading informative books

TROMSØ test criterion	Social information processing	Social skills	Social awareness	General level of social intelligence
Spearman's correlation coefficient	0.270	0.323	0.373	0.380
Strength of correlation by the Chaddock scale	weak, positive.	moderate, positive	moderate, positive	moderate, positive
Statistical significance of the property dependence	*p≤0.01***	*p≤0,001****	*p≤0,001****	*p≤0,001****

Note: p≤0.05 – low statistical significance; p≤,01 – medium statistical significance; p≤0,001 – high statistical significance.
Source: developed by the authors on the basis of their own research

The next hypothesis was the assumption that women with developed social intelligence are more interested in reading books than men. It was partially confirmed in our experiment. Women were indeed 15% more likely to be interested in books, given the respondents' answers. However, the influence of social intelligence and its individual components again indicates equal susceptibility of men and women to this cognitive ability, as can be seen by comparing Tables 6 and 7. A similar trend is confirmed by studies of female entrepreneurs (Prakash, 2023).

Table 6: Influence of social intelligence and its components on interest in reading informative books among women

TROMSØ test criterion	Social information processing	Social skills	Social awareness	General level of social intelligence
Spearman's correlation coefficient	0,207	0,274	0,381	0,349
Strength of correlation by the Chaddock scale	moderate, positive	moderate, positive	moderate, positive	moderate, positive
Statistical significance of the property dependence	*p>0.05*	*p≤0.05**	*p≤0.01***	*p≤0.01***

Note: p≤0.05 – low statistical significance; p≤0.01 – medium statistical significance; p≤0,001 – high statistical significance.
Source: developed by the authors on the basis of their own research

When we compare women with a level of social intelligence above and below average among the sample in terms of their desire to read books, the difference between them is 33% in favor of the former. For men, the gap is even more obvious. If we compare the results of men with a level of social intelligence development above and below average among the sample, then the difference between them is 53% in favor of the former. Therefore, the hypothesis that women with developed social intelligence are more interested in reading books than men turned out to be wrong. Both samples demonstrated the influence of social intelligence on reading motivation. Moreover, this difference was more significant among the male sample.

Table 7: Influence of social intelligence and its components on the interest in reading informative books among men

TROMSØ test criterion	**Social information processing**	**Social skills**	**Social awareness**	**General level of social intelligence**
Spearman's correlation coefficient	0,328	0,381	0,376	0,392
Strength of correlation by the Chaddock scale	moderate, positive	moderate, positive	moderate, positive	moderate, positive
Statistical significance of the property dependence	*p≤0.05**	*p≤0.01***	*p≤0.01***	*p≤0.01***

Note: p≤0.05 – low statistical significance; p≤0.01 – medium statistical significance; p≤0,001 – high statistical significance.

Source: developed by the authors on the basis of their own research

In accordance with the ideas about the importance of self-education, the respondents formed the belief that additional knowledge and skills are necessary for future success in life, in particular when applying for a job. The results of the survey are presented in Table 8.

Table 8: Influence of social intelligence and its components on understanding the importance of self-education for professional and personal development

TROMSØ test criterion	Social information processing	Social skills	Social awareness	General level of social intelligence
Spearman's correlation coefficient	0.295	0.288	0.292	0.345
Strength of correlation by the Chaddock scale	weak, positive	weak, positive	weak, positive	moderate, positive
Statistical significance of the property dependence	p≤0,001***	p≤0,001***	p≤0,001***	p≤0,001***

Note: p≤0.05 – low statistical significance; p≤0.01 – medium statistical significance; p≤0,001 – high statistical significance.

Source: developed by the authors on the basis of their own research

The general level of social intelligence demonstrated a statistically significant positive influence on a person's beliefs about the importance of professional self-education. When comparing the part of the sample with below-average SI scores with those respondents who demonstrated an above-average level, the latter showed an average of 21% higher conviction in the validity of this statement when answering the question "Do you think that future success depends on persistent professional self-education?"

Separately for different components of social intelligence, the samples with above-average answers prevail over the rest of the respondents by 11%, 13%, and 16% for SP, SS, and SA, respectively. The third hypothesis assumes that the influence of social intelligence and its components on understanding the importance of self-education for building a successful future is equal for both men and women. The comparison of Tables 9 and 10 proves the validity of this assumption. Both samples found almost the same level of influence of social intelligence on a person's self-awareness, both in terms of reliability (p≤0.01**) and the strength of the correlation on the Cheddock scale, which turned out to be moderate. Thus, gender equality was proved without the perceived advantage of either gender in the context of the social intelligence of an individual. Both men and women with developed SI are characterized by better motivation for learning and self-education and see it as a guarantee of a successful future.

Table 9: Influence of social intelligence and its components on understanding the importance of self-education for professional and personal development among women

TROMSØ test criterion	Social information processing	Social skills	Social awareness	General level of social intelligence
Spearman's correlation coefficient	0,248	0,298	0,259	0,342
Strength of correlation by the Chaddock scale	moderate, positive	moderate, positive	moderate, positive	moderate, positive
Statistical significance of the property dependence	*p≤0.05**	*p≤0.05**	*p≤0.05**	*p≤0.01***

Note: p≤0,05 – low statistical significance; p≤0,01 – medium statistical significance; p≤0,001 – high statistical significance.
Source: developed by the authors on the basis of their own research

The only notable difference, though small, that could hint at future research prospects is the relationship between individual components of social intelligence (SI) and the recognition of self-education's importance. A comparison of Tables 9 and 10 reveals the following peculiarity - the highest level of correlation among women is demonstrated by social competencies, while in contrast, among men this component showed the lowest value in comparison with others.

Table 10: Influence of social intelligence and its components on understanding the importance of self-education for professional and personal development among men

TROMSØ test criterion	Social information processing	Social skills	Social awareness	General level of social intelligence
Spearman's correlation coefficient	0,356	0,292	0,322	0,353
Strength of correlation by the Chaddock scale	moderate, positive	moderate, positive	moderate, positive	moderate, positive
Statistical significance of the property dependence	*p≤0.01**	*p≤0.05**	*p≤0.05**	*p≤0.01***

Note: p≤0,05 – low statistical significance; p≤0,01 – medium statistical significance; p≤0,001 – high statistical significance.
Source: developed by the authors on the basis of their own research

The previous research on a sample of senior university students found a statistically significant ($p < 0.05$*) direct relationship between social intelligence and the desire for self-development among students (Liadskyi, 2022). The ability to process social information was associated with the desire to learn soft skills with even higher significance ($p < *0.01*$**). The research results showed that 67% of respondents have above-average levels of social intelligence. Social information processing, characterized by the ability to correctly identify the feelings and emotions of others, empathy and speed of perception of social signals, was the most expressed component. Seventy percent of respondents developed this criterion very well. Motivation for self-development and learning additional knowledge was demonstrated by 79% of the surveyed students. These are not the only studies of social intelligence, carried out in the framework of the current research work. In general, this is a research work on the subject of the departmental theme (initiative research topic) 'Management of social intelligence in the context of ensuring personnel security of enterprises and social stability of the country' (2023-2026) of Poltava State Agrarian University. A significant impact ($p \leq 0.001$***) of social intelligence on a person's ability to resist bullying and help others to overcome conflict situations was established. A statistically significant impact ($p \leq 0.01$**) of social intelligence on labor market pricing in the context of wage formation was found. A statistical relationship of social intelligence ($p \leq 0.05$*) with the entrepreneurial and social activity of a person was revealed, which equally characterizes men and women. The study of the relationship between social intelligence and patriotism showed a significant tendency ($p \leq 0.001$***) to motivate young people to support their nation, state and armed forces (Palaščáková, 2023).

Combining the results of both studies with more than 500 respondents, it can be stated that social intelligence is crucial for the formation of interest in professional self-education and soft-skills training. Among the individual SI components studied, social skills (motivation for additional learning) and social awareness (reading additional professional literature) demonstrated the greatest influence on these indicators.

Although the ability to process social information was, on average, inferior to other components of social intelligence, the answers to the question "How much do you enjoy attending various clubs and sections?" showed it had twice the level of motivation compared to social awareness.

This highlights the importance of this cognitive ability in forming the professional profile of an employee, intern or student.

Conclusion

Social intelligence is one of the main soft skills that motivate individuals to study harder, develop professionally, and educate themselves. Our research found no significant gender differences between the effects of social intelligence on the listed components. Two of the three hypotheses that were posed at the beginning of the research found their confirmation. Firstly, it concerns the assumption that the influence of social intelligence and its components on the desire for additional education and learning will be more expressed for men than for women. Secondly, the influence of SI and its components on the understanding of the importance of self-education for building a successful future for both men and women was found to be equivalent. The hypothesis related to the belief that women with developed social intelligence are more interested in reading books than men turned out to be wrong, since the interest in reading among representatives of both genders increased in accordance with the growth of SI and its components.

Introducing training, lectures and workshops to develop social intelligence among schoolchildren, students and employees will definitely help to increase the level of cognitive abilities of the community, which will encourage them to use their potential more actively for self-realization.

One of the limitations of our study could be the relatively small sample of participants, which may affect the overall representativeness of the results. In future studies, we plan to expand the scope of the data and engage a more diverse group of participants, particularly in terms of age and social status, in order to obtain more accurate and comprehensive results. It is also important to study the impact of social intelligence on professional growth and interpersonal relationships. This can broaden our understanding of the meaning of social intelligence and its impact on human success.

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References

[1] **Avlaev, O. U.** (2021). The Role of Social Intelligence in Personal Development. *Journal NX – A Multidisciplinary Peer Reviewed Journal,* 692–698. https://repo.journalnx.com/index.php/nx/article/view/1637/1607

[2] **Bajis, D., Chaar, B., & Moles, R.** (2020). Rethinking Competence: A Nexus of Educational Models in the Context of Lifelong Learning. *Pharmacy. Vol. 8.* https://doi.org/10.3390/pharmacy8020081

[3] **Bosniuk, V. F.** (2020). Mathematical methods in psychology: A course of lectures. Multimedia training edition. Kharkiv : National University of Civil Defense of Ukraine, 141. http://surl.li/adcii

[4] **Boyatzis, R., Carducci, B., Nave, Ch., Fabio, A., Saklofske, D. & Stough, C.** (2020). Social Intelligence. *Encyclopedia of Personality and Individual Differences, Volume III: Personality Processes and Individual Differences*, 435-438. https://doi.org/10.1002/9781118970843.ch251

[5] **Breil, S. M., Mielke, I., Ahrens, H., Geldmacher, T., Sensmeier, J., Marschall, B., & Back, M. D.** (2022). Predicting actual social skill expression from personality and skill self-concepts. *Journal of Intelligence. Vol. 10,* 48. https://www.mdpi.com/2079-3200/10/3/48

[6] **Cooke T.** (2017). Social Information Processing: A Useful Framework for Educational Psychology. *Educational Psychology Research and Practice. Vol. 3,* 50–69. https://repository.uel.ac.uk/item/8870z

[7] **Develi, A., Pekkan, N. U., & Cavus, M. F**. (2022). Social intelligence at work and its implication for organizational identification: A sectoral comparison. Independent *Journal of Management & Production, 13,* 364-383. DOI: 10.14807/ijmp.v13i1.1555

[8] **Eketu, C. A., & Ogbu, E. F.** (2019). Social intelligence and employee intention to stay. *International Journal of Novel Research in Marketing Management and Economics. vol. 2*, 27-34. http://dx.doi.org/10.2139/ssrn.3480576

[9] **Gupta, S., De, M. M., & Sinha, S.** (2021). Theoretical architecture of social intelligence. *International Journal of Emerging Technologies and Innovative Research, 8(5)*, 525-534. https://www.jetir.org/papers/JETIR2105198.pdf

[10] **Iqbal, M. N., Kanwal, A., Nisar, A. & Mehreen, S.** (2023). Social Intelligence and Students' Academic Performance at Postgraduate Level. *Journal of Policy Research. Vol. 9,* 390–404. https://zenodo.org/records/8251025

[11] **Ivashkevych, E., & Spivak, V.** (2023). Intelligence, Social and Emotional Intelligence: Correlation of Concepts in Modern Psychology. Collection of Research Papers Problems of Modern Psychology, 9-29. DOI: https://doi.org/10.32626/2227-6246.2023-61

[12] **Katou, A. A., Budhwar, P. S., & Patel, C.** (2021). A trilogy of organizational ambidexterity: Leader's social intelligence, employee work engagement and environmental changes. *Journal of Business Research. Volume 128*, 688-700. DOI: 10.1016/j.jbusres.2020.01.043

[13] **Kularajasingam, J., Subramaniam, A., Singh, D. K. S., & Sambasivan, M.** (2022). The impact of knowledge sharing behaviour and social intelligence of university academics on their performance: The mediating role of competencies. *Journal of Education for Business, 97:1*, 54-61. https://www.tandfonline.com/doi/abs/10.1080/08832323.2021.1887794

[14] **Lamri, J. & Lubart, T.** (2023). Reconciling Hard Skills and Soft Skills in a Common Framework: The Generic Skills Component Approach. *Journal of Intelligence, Vol. 11, No. 6.* https://doi.org/10.3390/jintelligence11060107

[15] **Liadskyi, I. K., & Diachkov, D. V.** (2022). Management of social intelligence as a factor of influence on the formation of soft skills among higher education students. *Tavriyskyi scientific bulletin. Series: Economics, No 13,* 108-114. https://doi.org/10.32782/2708-0366/2022.13.13

[16] **Mast, M. S., Khademi, M., & Palese, T.** (2020). Power and social information processing. *Current Opinion in Psychology, Vol. 33*, 42-46. DOI: 10.1016/j.copsyc.2019.06.017

[17] **Mateiuk, O., & Sukhodolia, Yu. (**2021). Social intelligence: a psychological phenomenon and a theoretical problem. *Bulletin of Lviv University. Series of psychological sciences, Issue 11,* 113-123. https://doi.org/10.30970/PS.2021.11.15

[18] **Paladi, O. & Ilicciev, M.** (2023). The professional personality profile from the perspective of the social intelligence of the students. *International Journal of Innovative Technologies in Social Science,* 40. https://doi.org/10.31435/rsglobal_ijitss/30122023/8083

[19] **Palaščáková, D., Liadskyi I., & Senko I.** (2023). Gender aspects of social intelligence management in the context of entrepreneurial and civic engagement. *Journal of Women's Entrepreneurship and Education*, 92-108. https://doi.org/10.28934/jwee23.pp92-108

[20] **Poláková, M., Horváthová Suleimanová, J., Madzík, P., Copuš, L., Molnárová, I., & Polednová J. (**2023). Soft skills and their importance in the labour market under the conditions of Industry 5.0. *Heliyon. Vol. 9.* https://doi.org/10.1016/j.heliyon.2023.e18670

[21] **Prakash, D., Bisla, M., & Arora, T.** (2023). Gendered Aspect of Entrepreneurial Orientation: The Role of Mindfulness. *Journal of Women's Entrepreneurship and Education*, 76-91. https://doi.org/10.28934/jwee23.pp76-91

[22] **Rotich, B. & Maket, L.J.** 2023. How Social Intelligence Competency and Organizational Commitment affect Employee Performance. *International*

Journal of Business and Management Review, Vol.11, No.8, 17-34. https://doi.org/10.37745/ijbmr.2013/vol11n81734

[23] **Sanwal T., & Sareen P.** (2023). Higher Employee Engagement through Social Intelligence: A Perspective of Indian Scenario. *Employ Respons Rights J. Vol. 35,* 111–126. https://doi.org/10.1007/s10672-022-09404-7

[24] **Senova, M.** (2021). Meta-skills are the key to human potential. *Journal of behavioral economics and social systems, Vol. 2,* 133-137. DOI: 10.5278/ojs.bess.v2i1.6463

[25] **Silvera, D. H., Martinussen, M., & Dahl, T. I.** (2001). The TROMSØ Social Intelligence Scale, a self-report measure of social intelligence. *Scandinavian Journal of Psychology, Vol. 42,* 313–319. https://doi.org/10.1111/1467-9450.00242

[26] **Soto, C. J.** (2019). How replicable are links between personality traits and consequential life outcomes? The Life Outcomes of Personality Replication Project. *Psychological Science, 30(5),* 711–727. https://doi.org/10.1177/0956797619831612

[27] **Soto, C. J., Napolitano, C. M., Sewell, M. N., Yoon, H. J., & Roberts B. W.** (2024). Going Beyond Traits: Social, Emotional, and Behavioral Skills Matter for Adolescents' Success. *Social Psychological and Personality Science, Vol. 15,* 33-45. https://doi.org/10.1177/19485506221127483

[28] **Spencer, E., & Lucas, B.** (2021). Meta-Skills: Best practices in work-based learning A literature review. 75 p. DOI: 10.13140/RG.2.2.10399.84642

[29] **Starynska, O.** (2023). Relationships between components of social and emotional intelligence of higher education applicants. Scientific works of the Interregional Academy of Personnel Management. *Psychology, Vol. 1 (57),* 35-40. https://doi.org/10.32689/maup.psych.2023.1.6

[30] **Turan, U.** (2020). A correlation coefficients analysis on innovative sustainable development groups. *Eureka: Social and Humanities.*, 46-55. https://doi.org/10.21303/2504-5571.2020.001130

[31] **Wenzel, V., & Beck-Peter, T.** (2020). Educating Girls, Educated Women: Dehomogenizing the Impact of Education in Development. *Journal of Women's Entrepreneurship and Education*, (1-2), 103-124. https://doi.org/10.28934/jwee20.12.pp103-124

[32] **Ye, X., Zhao, B., Nguyen, T., & Wang, S**. (2019). Social Media and Social Awareness. Manual of Digital Earth, 425–440. https://doi.org/10.1007/978-981-32-9915-3_12

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ORIGINAL SCIENTIFIC PAPER

Exploring Gender Disparities in Digital Skills: Evidence from the Serbian Tourism Sector

Aleksandra Bradić-Martinović[1]
Institute of Economic Sciences, Innovation Economics Department, Belgrade, Serbia
Milena Lazić[2]
Institute of Economic Sciences, Digital Economics Department, Belgrade, Serbia
Jelena Banović[3]
Institute of Economic Sciences, Innovation Economics Department, Belgrade, Serbia

A B S T R A C T

The paper examines the digital skills of key stakeholders in the Serbian tourism industry (supply side) to identify potential gender gaps in digital proficiency. Employing a cross-sectional survey of 418 participants within the tourism industry, we utilized binomial logistic regression to parse out the effects of gender relative to other socio-demographic variables on digital skills. The descriptive results based on DigComp 2.0 methodology reveal notable gender differences, with women showing higher levels of information and communication skills but lagging men in problem-solving and content manipulation skills. However, the binomial logistic regression analysis indicates that gender does not significantly predict digital skill levels in the Serbian tourism sector. Instead, age and education are significant factors, with older individuals less likely to possess advanced digital skills and higher education levels correlating with greater digital

[1] Corresponding author, e-mail: abmartinovic@ien.bg.ac.rs
[2] E-mail: milena.lazic@ien.bg.ac.rs
[3] E-mail: jelena.banovic@ien.bg.ac.rs

proficiency. These findings underscore the critical role of education (formal and informal) in digital skills building, suggesting that comprehensive and targeted educational initiatives could effectively enhance digital skills and competencies across the sector.

KEYWORDS: *digital skills, tourism sector, gender gap, women, Serbia*

Introduction

In today's rapidly digitalizing landscape, mastering digital skills is essential in all professional fields, including tourism. Incorporating digital technologies has fundamentally revolutionized how businesses operate and interpersonal communication, making the development of digital skills a fundamental element for individual and organizational performance.

The significance of digital skills extends prominently into tourism, an industry undergoing profound transformations due to digitalization. The contemporary tourism sector increasingly relies on digital technologies to enhance visitor experiences, streamline operations, and tailor services to consumer preferences. From virtual tours and online bookings to digital marketing strategies and customer engagement through social media, leveraging digital tools is indispensable. Digital transformation not only improves accessibility and convenience but also opens up new avenues for cultural exchange and economic development. It allows tourism providers to reach a global audience, adapt to changing consumer behaviors, and respond dynamically to market trends. As such, digital skills are essential for stakeholders within the tourism sector to capitalize on these opportunities.

Serbian tourism holds significant potential due to its rich cultural and natural resources, pivotal for economic and regional development. Recognizing this, there is a compelling need to enhance all aspects of this sector to better integrate Serbia into the global tourism market (Micić, 2018). Strategic efforts incorporated in the last Tourism Development Strategy for the Republic of Serbia from 2016 to 2025 involve enhancing infrastructure, promoting regional tourism, and integrating sustainable practices to ensure long-term growth in this sector (Gushchina, Nesterova, & Hussein, 2023). However, the evaluation of the Strategy revealed significant challenges facing Serbian tourism, particularly the lack of adequate digitalization. Specifically, the Strategy failed to sufficiently address the digitalization needs of the sector, rendering it outdated. Apart from the digital platform *E-Turista* and several initiatives to enhance digital

literacy, there has been no systematic effort to develop comprehensive digital capabilities within the sector. Considering that the current Strategy is nearing the end of its implementation, conducting a more in-depth analysis of digital skills in tourism is vital. Such research would provide the necessary data and insights for developing the next Strategy, enabling policymakers to formulate appropriate measures for enhancing this critical dimension.

This study focuses on the tourism sector in Serbia, aiming to determine the extent and nature of digital skills among male and female employees (supply-side stakeholders). The research questions guiding this study are:

1. Is there a gender gap in the Serbian tourism sector regarding digital skills?
2. Do socio-demographic variables exhibit a statistically significant correlation with specific skills?

The inspiration for the research presented in this paper stemmed from the findings of a previous study that demonstrated that gender does not have a statistically significant impact on overall digital skills (Petković, et al., 2024). However, it was decided to raise whether these findings hold for various digital tasks performed by different groups of employees (i.e., the catering sub-sector, tourism organizations, tourism agencies, travel guides, tourism inspectors, and administrative officers).

The paper is organized as follows: the first part comprehensively reviews the relevant literature. This section establishes the context for the analysis by examining important themes and findings from previous studies on gender inequalities in digital skills within the tourism sector. The methodology section of the study describes the research design, data-collecting procedures, and statistical tools used to investigate the proposed relationships. The subsequent section presents the results, providing a comprehensive description of the evidence regarding gender disparities in different digital skills. The discussion section analyzes these results within the framework of current literature. In conclusion, the paper provides a concise overview of the main findings, constraints of the present study, and recommendations for future investigation.

Literature Review

Despite the growing importance of digital skills in general, the gender digital divide continues to disproportionately affect women, impacting

various sociological and economic aspects of their lives (Lestaria & Sunarto, 2018; Arroyo, 2020; Palomares-Ruiz et al., 2021a). Grande-de-Prado et al. (2020) noted that women face challenges in digital problem-solving, exhibit poorer navigation skills, and show less interest in ICT-related skills than men despite greater familiarity with social media. Such inequalities restrict access to information and communication technologies, limiting women's participation in the digital society and contributing to financial disparities, including limited mobile and e-banking services (Robinson et al., 2015; Kulkarni & Ghosh, 2021). Khumalo and Saurombe (2022) highlighted that gender disparities in digital skills affect employment opportunities and entrepreneurship while worsening inequalities in healthcare, politics, and social capital (Robinson et al., 2015). In developing countries, these challenges are exacerbated by socio-cultural norms (Antonio & Tuffley, 2014; Drabowicz, 2014; Nakajima et al., 2016). Achieving gender equality in digital access and skills is crucial for meeting Sustainable Development Goals (Kashyap et al., 2020) and fostering women's entrepreneurial potential (Setiawati et al., 2022), which plays a vital role in development indicators (Noor, Asghar & Sarwar, 2021).

Faced with swift technological progress, the tourism sector has progressively acknowledged the need for digital competencies. Despite the ongoing development of research in this field, recent studies offer valuable insights into the current digital skills and the areas that must be addressed to fulfill future requirements. Research highlights a growing mismatch between current digital proficiency levels and the technological demands of the tourism sector, with studies emphasizing the need for enhanced digital education, skills in online marketing, social media, artificial intelligence, and the development of online learning communities to foster continuous improvement and competitiveness in the sector. For instance, Zaragoza-Sáez, García-Haro and Buhalis (2021) emphasize the importance of improving digital education to meet the requirements of technology-driven settings in various areas of tourism, while Carlisle, Ivanov and Dijkmans (2021) underscore the need for future digital skills such as online marketing, social media, and artificial intelligence. Marx et al. (2021) also found that tourism stakeholders have a significant interest in online learning communities, indicating a strong desire to enhance digital skills through collaborative and ongoing learning environments. Lazić et al. (2023) highlight the importance of both formal and informal educational efforts in improving digital skills in Serbia's tourism sector, suggesting the incorporation of digital skills into educational curricula, preferable in

branded educational institutions (Marjanović, et al., 2023), while Gabidullina et al. (2022) stress the crucial importance of digital competencies for tourism students, equipping them with the necessary skills to adapt to the industry's changing demands.

The research that has been done on gender differences in digital skills reveals that there is a wide range of outcomes depending on the industries and population segments that are being considered. Martínez-Cantos (2017) and Grande-de-Prado et al. (2020) highlight notable gender inequalities, especially in complex digital tasks and among certain demographic groups. Generally, males perceive themselves as more skilled in ICT-related tasks. Rodríguez-Pasquín et al. (2023) and Singh (2017) underline the ongoing digital divide, particularly in developing countries, where women are often underrepresented in online communities and lack fundamental digital competencies. Kashyap et al. (2020) present further evidence of substantial discrepancies in digital proficiency between genders across different countries, particularly in less developed areas. Bradić-Martinović and Banović (2018) also highlight the disparity in digital skill levels between women and men in Serbia, with women exhibiting lower proficiency, while Kamberidou and Pascall (2019) state that despite efforts to attract and retain women in ICT and related sectors, a gender imbalance persists. The same is observed in the context of the population with disabilities in Serbia, as shown by Lazić et al. (2023b).

In contrast, some studies suggest that the digital skills disparity between genders may not be present in all occupations. For instance, Sánchez Prieto et al. (2020) found no notable gender disparities in digital teaching abilities among teachers in Andalusia. Similarly, Barbuta and Ghetau (2023) found that rural students in Moldova generally do not exhibit significant gender differences in digital competencies. However, girls outperform boys in digital content creation and online safety. Palomares-Ruiz et al. (2021) and Ilomäki (2011) demonstrate that gender disparities in digital competencies are negligible or absent in specific educational settings, suggesting that these discrepancies can vary considerably depending on the context and demographic factors. Montuori et al. (2022) report that boys initially demonstrate superior coding abilities in primary school, but this advantage is not influenced by variations in executive functions, indicating other contributing factors. Hervé et al. (2021) and Anderson (2004) highlight the substantial impact of socioeconomic status and gender attitudes on these disparities. Losh (2004) points out that although gaps in

digital access and usage have decreased over time, notable variations still exist based on gender, education, and occupation. Vasquez Huatay et al. (2023) propose comprehensive technological literacy workshops to address gender inequalities in digital competencies among secondary school students in Peru. These studies demonstrate a complex situation where differences in digital skills between genders continue to exist in various fields but are not consistently present. Consequently, this implies that focused actions may be required to address specific gaps in different contexts or sectors.

By studying the disparity in digital skills between genders in the tourism sector, we can draw attention to the research conducted by Carlisle et al. (2021). It offers valuable insights into the digital skills gap in the European tourism industry. It emphasizes the significance of addressing gender-specific obstacles in acquiring digital skills within the tourism and hospitality workforce. The study is foundational in understanding gender dynamics in digital skill acquisition in the tourism sector, highlighting the need for targeted interventions to bridge the gender gap. In addition, Petković et al. (2024) analyze the advancement of Serbian tourism's digitalization by studying skills development. Their discoveries stress the crucial importance of digital skills in promoting the digital revolution of the tourism sector, thereby contributing to a more detailed comprehension of the advancements and obstacles encountered by the industry. The authors observed that gender did not significantly impact the level of digital skills. This implies that other variables (education and tourism sub-sectors) may be more influential in this context. Lazić et al. (2023a) discovered that the Serbian tourism and hospitality workforce has fundamental digital skills, but substantial improvements are necessary to enhance these skills further.

While substantial research on digital skills in different sectors and population segments exists, there remains a significant gap in empirical studies explicitly focusing on the gender gap within the tourism sector. The reviewed studies collectively highlight the critical importance of digital skills, the need for innovative educational frameworks, and the challenges posed by gender disparities in the evolving landscape of tourism. Addressing these disparities requires a comprehensive approach involving educational reforms, targeted policy interventions, and ongoing support for women at all stages of their digital skills journey. By bridging this gap, more equitable access to the opportunities and benefits of the digital age can be ensured, and as the tourism sector continues to evolve, leveraging digital

skills to enhance competitiveness and sustainability will be crucial. This paper addresses a gap in the existing literature by providing first-hand evidence of gender disparities in the Serbian tourism industry (supply side). In addition, this paper builds upon the previous pilot study conducted by Lazić et al. (2023a) by including a larger sample of the respondents.

Data and Methodology

As part of developing the new Serbian tourism strategy, an in-depth analysis was conducted to assess the digital skills of the various stakeholders on the industry's supply side. The participants consisted of individuals employed in the catering sub-sector, tourism organizations, tourism agencies, guides for tourists, tourism inspectors, and administrative officers. In order to enhance stakeholder diversification, the administrative staff was categorized to encompass employees in tourism organizations, tourism inspectors, and civil servants at both the national and local (municipal) levels, as identified in a complementary study conducted by Van Deursen and Van Dijk (2010).

Data - The Ministry of Tourism and Youth of the Republic of Serbia distributed the questionnaire to stakeholders via local authorities and internally among the Ministry's employees. To gather primary data, an online survey was carried out with the assistance of Microsoft Office 365 Forms. The data collection period was from March 1 to April 14, 2023, with 422 participants from cities and municipalities (119). Following the initial analysis, four responses were identified as outliers - one from a respondent with a primary school qualification and three from participants over 65 years old. The study was performed on 418 submissions after removing these outliers. The survey was carried out anonymously, and participation was voluntary. According to the data from the Central Registry of Compulsory Social Insurance of the Republic of Serbia, 81,800 persons were employed in the tourism sector in 2023. Based on their assumptions, the Ministry demanded 4 representatives from the catering sub-sector, 2 from tourism organizations, 1 from tourism agencies, 1 from guides for tourists, 1 tourism inspector, and 2 administrative officers per municipality to fill out the survey. The sample structure, presented in Table 1, shows that the structure generally follows the request, except for a smaller number of respondents in catering and a larger number of employees in tourist organizations. This discrepancy is explained by the fact that employees of

private companies engaged in catering do not have the same obligation towards the Ministry as in tourist organizations.

Methodology - The research employs the Digital Competences Framework - DigComp 2.0 methodology (European Commission, 2016) to assess individuals' proficiency in digital skills. Although the EU has made progress in developing the DigComp methodology, with versions 2.1 (published in 2017) and 2.2 (published in 2022), the research conducted for the Ministry of Tourism and Youth of the Republic of Serbia uses version 2.0 of this methodology to maintain comparability with previous studies. Further information may be found in Bradić-Martinović (2022). This methodology is a widely accepted standard in the European Union for evaluating digital abilities. The central component of this framework is the Digital Skills Indicator (DSI), which consists of four dimensions: Information Skills - IS, Communication Skills - CS, Problem Solving Skills - PSS and Software Skills for Content Manipulation - SSCM (JRC & DG EAC, 2014). To ensure statistical comparability across Europe, European countries collect annual data from a representative sample of adults aged 16 to 74 to support this evaluation. The collected data is then used to compute the DSI, which has been tracked since 2015. In addition to questions extending beyond the DSI, the questionnaire also asks respondents to assess their level of digital competence. The questions related to the DSI were chosen from the original questionnaire for this study, as shown in Table 3. These questions encompassed information on gender, age, education, and the tourism sub-sectors.

The Chi-Squared Test of Independence was also utilized to assess whether there is a significant relationship between gender and various digital skills and abilities among stakeholders on the supply side in the tourism sector. Key metrics evaluated include the Pearson Chi-Square, Likelihood Ratio, and Linear-by-Linear Association values. The Pearson Chi-Square indicates whether the observed differences are statistically significant, with a p-value less than 0.05 suggesting a significant association. The Likelihood Ratio provides a measure of fit between the observed data and the expected model, also with a p-value threshold of 0.05. The Linear-by-Linear Association assesses the strength and direction of the relationship between the variables, with significance indicated by a p-value less than 0.05. These metrics collectively help identify whether variations in digital skills are due to chance or signify a significant association,

highlighting potential gender-related disparities in digital proficiency within the tourism sector in Serbia.

Results and Discussion

Table 1 provides a comprehensive description of the characteristics of the individuals who participated in the online survey.

Table 1: Characteristics of the entire sample in terms of socio-demographic attributes

Characteristics	**Categories**	***n* (%)**
Gender	Female	244 (58.4)
	Male	174 (41.6)
Age	16-28	23 (5.5)
	29-45	246 (58.9)
	46-65	149 (35.6)
Education	Secondary	71 (16.9)
	Higher	270 (64.7)
	Master or PhD	76 (18.2)
	Missing	*1 (0.2)*
Stakeholders involved in the supply side (employees)	Catering sub-sector	101 (24.2)
	Tourism organization	156 (37.3)
	Tourism agency	33 (7.9)
	Travel guide	24 (5.7)
	Tourism inspector	32 (7.7)
	Administrative officer*	71 (17.0)
	Missing	*1 (0.2)*

* Comprises individuals employed in the tourism industry within municipalities as well as those working for the Ministry of Tourism and Youth RS.

Source: Author's calculations

The socio-demographic characteristics of the sample highlight the fact that there is a diverse distribution of participants with regard to gender, age, education, and employment within the tourism sector. The majority of respondents were women (58.4%), with men comprising 41.6% of the sample. Based on the research of the Statistical Office of the Republic of Serbia (2019), the gender proportion in the Serbian tourism sector shows a higher representation of women compared to men. In 2019, women constituted approximately 59.85% of the workforce in this sector, indicating

a significant female presence in tourism-related jobs. This aligns with global trends, where women often make up a larger share of the tourism workforce due to the nature of the industry, which includes roles in hospitality, customer service, and administrative positions that are traditionally female-dominated (OECD, 2022). The age distribution was predominantly between 29-45 years (58.9%), followed by the 46-65 age group (35.6%), and a smaller proportion aged 16-28 years (5.5%). In terms of educational attainment, most participants had higher education (64.7%), with significant representation from those with Master's or PhD degrees (35.6%) and secondary education (17.0%). Finally, employment roles within the tourism sector were varied, as presented in Table 1. These demographic characteristics offer a comprehensive perspective on the individuals involved in the study, representing a diverse and representative sample from the tourism industry. Reports by the International Labor Organization (ILO, 2024) indicate that while many employees possess secondary education, there is a growing trend towards higher education and specialized training to meet the evolving demands of the industry.

Table 2: Characteristics of the females in terms of socio-demographic attributes

Characteristics	**Categories**	***n* (%)**
Age	16-28	14 (5.7)
	29-45	153 (62.7)
	46-65	77 (31.6)
Education	Secondary	35 (14.3)
	Higher	161 (66.0)
	Master or PhD	48 (17.7)
Stakeholders involved in the supply side (employees)	Catering sub-sector	41 (16.8)
	Tourism organization	109 (44.7)
	Tourism agency	16 (6.6)
	Travel guide	12 (4.9)
	Tourism inspector	18 (7.4)
	Administrative officer*	47 (19.3)
	Missing	*1 (0.3)*

Source: Authors' calculations

For a more comprehensive understanding, considering the significant involvement of women in the sample, Table 2 presents extensive information specifically related to this portion of the sample. The majority

of these women are aged 29-45 (62.7%) and have higher education (66.0%). Most are employed in tourism organizations (44.7%), followed by administrative officers (19.3%) and the catering sub-sector (16.8%). The distribution emphasizes the notable representation of highly educated women within the tourist industry (holding MA and PhD degrees) which can be attributed to targeted initiatives aimed at empowering and educating women (Banović, 2023). The Serbian government, in collaboration with international organizations, has implemented initiatives to advance gender equality and offer specialized educational opportunities for the tourism sector. These programs have greatly enhanced women's educational achievement and their active involvement in tourism, specifically in rural and less developed areas (Radović Marković & Živanović, 2019). Consequently, women in Serbia are more present in the Serbian tourism sector.

Initially, we conducted independent calculations for each DSI dimension for both women and men in order to provide a deeper understanding of the skill levels in individual activities. The results of this analysis are presented in Table 3.

Table 3: The distribution of respondents based on individual indicators within gender and the DSI dimensions

Dimensions and indicators	**Ability to execute***		**Dimensions and indicators**	**Ability to execute***	
	W (%)	**W (%)**		**W (%)**	**W (%)**
Dim. 1. Information skills			**Dim. 2.** Communication Skills	99.2	98.3
• Duplicated or relocated files or folders	89.3	88.5	• E-mail communication	86.5	85.1
• **Stored files on online storage (cloud)**	**48.8**	**54.6**	• Taking part in online communities	**61.6**	**66.7**
• Gathered data from websites of public authorities and services	82.0	78.2	• **Using the internet to make phone calls or video calls**	72.0	75.3
• Obtaining information regarding commodities or services	90.6	89.6	• Uploading self-produced material to any website for distribution.		
• **Searching for health-related web content**	**67.6**	**59.8**			

Dimensions and indicators	Ability to execute*		Dimensions and indicators	Ability to execute*	
	W (%)	W (%)		W (%)	W (%)
Dim. 3. Problem Solving Skills			**Dim. 4.** Software Skills for Content Manipulation		
A – Problem solving			*A – Basic*		
● Moving data between various electronic devices	89.8	88.5	● Worked with word processor	89.8	87.9
● **Setting up programs and mobile apps**	**58.6**	**68.4**	● **Worked with spreadsheet programs**	**57.8**	**41.4**
● Modifying the preferences of any program, such as security or operational system programs	48.0	50.0	● Managed media files (pictures, videos, and audio) using software	66.0	68.4
B – Familiarity with online services	81.6	75.3	*B – Above basic*		
● Recent 12 months of online shopping	**29.5**	**44.8**	● **Produced a presentation or document that incorporates text, images, tables, or charts**	**64.3**	**56.9**
● **Internet retail**	43.0	38.5			
● Make use of various educational tools available online	34.4	39.1	● Utilized advanced spreadsheet functions to efficiently arrange and analyze data, including sorting, filtering, employing formulas, and generating charts	42.2	41.4
● Online banking transactions			● Have created some computer code	6.1	8.6

* The respondents' answers (Yes/No) for each task show their ability to execute it successfully.

Source: Authors' calculations

Upon analyzing the indicative data in Table 3, it becomes evident that there are disparities in skill levels between men and women. However, it is worth noting that women exhibit higher proficiency in certain activities, while men excel in others. Hence, it is unfeasible to draw a general conclusion regarding the potential correlation between the respondents' gender and their level of digital skills. Furthermore, the existing literature also does not provide a universal conclusion on this matter. To gain a more thorough understanding of the potential presence of a statistically significant disparity, we began by assuming that gender plays a role in activities where there are substantial variations in skill levels between women and men. Once the activities were identified, we proceeded to develop the following hypotheses:

H_{01}: There is a statistically significant correlation between gender and the ability to store data on cloud-based storage platforms.

H_{02}: There is a statistically significant correlation between gender and the ability to search for health-related web content.

H_{03}: There is a statistically significant correlation between gender and the ability to use the internet to make phone calls or video calls.

H_{04}: There is a statistically significant correlation between gender and the ability to set up programs and mobile apps.

H_{05}: There is a statistically significant correlation between gender and the ability to sell items online.

H_{06}: There is a statistically significant correlation between gender and the ability to work with spreadsheet programs.

H_{07}: There is a statistically significant correlation between gender and the ability to produce a presentation or document that incorporates text, images, tables, or charts.

In order to evaluate the proposed hypotheses, we employed the chi-squared test of independence, which examines the relationship between gender and binary skills outcomes. The systematized results are shown in Table 4.

The test results indicate that the null hypothesis cannot be rejected for the following activities: storing data on cloud-based storage platforms (H_{01}), searching for health-related web content (H_{02}), making phone calls or video calls over the internet (H_{03}), working with spreadsheet programs (H_{06}) and creating presentations or documents that incorporate text, images, tables, or charts (H_{07}). This means there is no significant correlation between gender and listed activities. However, the results also show that the null hypothesis can be rejected in the case of the ability to set up programs and mobile apps (H_{04}) and sell items online (H_{05}), meaning that there is a correlation between gender and knowledge and ability to perform these tasks.

Table 4: Chi-Square test results for particular activities

Test / Skills	Value	*df*	Asymptotic Significance (2-sided)
Store data on cloud-based storage platforms			
Pearson Chi-Square	1.380	1	.240
Likelihood Ratio	1.382	1	.240
Linear-by-Linear Association	1.377	1	.241
Search for health-related web content			
Pearson Chi-Square	2.730	1	.098
Likelihood Ratio	2.720	1	.099
Linear-by-Linear Association	2.724	1	.0.99
Use the internet to make phone calls or video calls			
Pearson Chi-Square	2.970	2	.226
Likelihood Ratio	3.330	2	.189
Linear-by-Linear Association	2.863	1	.091
Set up programs and mobile apps			
Pearson Chi-Square	4.157	1	.041*
Likelihood Ratio	4.191	1	.041*
Linear-by-Linear Association	4.147	1	.042*
Sell items online			
Pearson Chi-Square	10.360	1	.001*
Likelihood Ratio	10.313	1	.001*
Linear-by-Linear Association	10.336	1	.001*
Work with spreadsheet programs			
Pearson Chi-Square	1.759	2	.415
Likelihood Ratio	2.110	2	.348
Linear-by-Linear Association	1.393	1	.238
Produce a presentation or document that incorporates text, images, tables, or charts			
Pearson Chi-Square	2.374	1	.123
Likelihood Ratio	2.367	1	.124
Linear-by-Linear Association	2.368	1	.124

Source: Author's calculations

The lack of significant gender gaps in these domains could be attributed to the prevalent availability and overall familiarity with these technologies in modern digital environments. Both genders have equal access and exposure to these tasks in their personal and professional lives, resulting in similar levels of proficiency. This is consistent with the overall trend of decreasing gender disparities in fundamental digital literacy skills as digital technologies become more embedded in daily life. Nevertheless, the analysis also pinpointed areas where gender disparities are more evident. More precisely, the null hypothesis was rejected for proficiency in setting up programs and mobile applications and selling goods online. The results demonstrate a noteworthy association between gender and the ability and competence to carry out these tasks, implying that there are disparities between men and women in their skill levels and potentially their self-assurance in these more complex or specialized digital activities.

These findings raise important considerations. The significant gender gap in setting up programs and mobile apps may reflect underlying differences in technical training, exposure to advanced digital tools, or even cultural influences that steer men and women towards different skill sets. Similarly, the ability to sell items online being gendered might point to disparities in e-commerce knowledge, entrepreneurial experience, or even access to resources and support systems necessary for online selling. Addressing these gaps is crucial for ensuring that both men and women can equally benefit from the digital transformation in the tourism sector. Targeted training programs and initiatives aimed at increasing women's proficiency in these areas could help bridge the gap.

To further explore the differentiation in digital skills between women and men, we undertook a detailed analysis of the particular dimensions of DSI. Prior to the analysis, we classified the respondents according to their participation in various sub-sectors of the tourism sector. The results can be seen in Table 5.

Table 5: Sector-specific frequencies for the Above basic level in each dimension of DSI and across genders (%)*

Sub-sector	IS		CS		PS		SS	
	W	M	W	M	W	M	W	M
Catering sub-sector	90.2	93.3	95.1	98.3	87.8	88.3	51.2	56.7
Tourism organization	99.1	91.3	98.2	95.7	89.9	85.1	76.1	78.7
Tourism agency	81.3	94.1	87.5	88.2	68.8	94.1	56.3	70.6
Travel guide	83.3	100.0	100.0	100.0	91.7	91.7	75.0	75.0
Tourism inspector	100.0	64.3	88.2	64.3	72.2	50.0	66.7	35.7
Administrative officer	83.0	100.0	76.6	79.2	80.9	95.8	68.1	50.0
Average	89.48	90.5	90.93	87.62	81.88	84.17	65.57	61.12

* Note: The above basic skill level is determined as follows: IS and CS - more than one `Yes` for the corresponding tasks in Table 3; for PSS, at least one `Yes` in either A or B for corresponding tasks; and for SSCM, at least one `Yes` for both A and for B, in line with JRC & DG EAC (2014).

Source: Authors' calculations

The table presents sector-specific frequencies for DSI's above basic level, comparing women (W) and men (M) across various sub-sectors. In the IS and CS women employed in "Tourism organizations" and "Tourism inspectors" exhibit higher proficiency compared to men. Conversely, men generally surpass women in "Travel guide" and "Administrative officer" roles in the same dimensions. The PSS dimension shows mixed results, with men slightly outperforming women in most sub-sectors except "Tourism organization" and "Travel guide." Finally, in the SSCM dimension, women consistently demonstrate lower proficiency across all sub-sectors compared to men, with notable gaps in "Tourism inspector" (66.7% vs. 35.7%) and "Administrative officer" (68.1% vs. 50.0%). Overall, the key results emphasize the existence of gender disparities in several dimensions.

Applying the same reasoning as before, we have determined the most notable differences between women and men, which has resulted in the development of the following hypotheses:

H_{08}: There is a statistically significant correlation between gender and Information skills of Tourism inspectors.

H_{09}: There is a statistically significant correlation between gender and Communication skills of Tourism inspectors.

H_{010}: There is a statistically significant correlation between gender and Problem-solving skills of employees in tourism agencies.

H_{011}: There is a statistically significant correlation between gender and Problem-solving skills of Tourism inspectors.

H_{012}: There is a statistically significant correlation between gender and Software skills for content manipulation of Administrative officers.

The results of the Chi-Square test are presented in Table 6.

Table 6: Chi-Square test results for particular sectors and dimensions of DSI

Test / Skills	**Value**	**df**	**Asymptotic Significance (2-sided)**
Information skills of Tourism inspectors			
Pearson Chi-Square	7.619	1	.006*
Likelihood Ratio	9.488	1	.002*
Linear-by-Linear Association	7.381	1	.007*
Communication skills of Tourism inspectors			
Pearson Chi-Square	2.789	1	.095
Likelihood Ratio	2.813	1	.093
Linear-by-Linear Association	2.702	1	.100
Problem-solving skills of employees in tourism agencies			
Pearson Chi-Square	3.566	1	.059
Likelihood Ratio	3.812	1	.051
Linear-by-Linear Association	3.458	1	.063
Problem-solving skills of Tourism inspectors			
Pearson Chi-Square	1.659	1	.198
Likelihood Ratio	1.662	1	.197
Linear-by-Linear Association	1.607	1	.205

Test / Skills	Value	df	Asymptotic Significance (2-sided)
Software skills for content manipulation of Administrative officers			
Pearson Chi-Square	2.205	1	.138
Likelihood Ratio	2.180	1	.140
Linear-by-Linear Association	2.174	1	.140

Source: Author's calculations

The test findings suggest that the null hypothesis cannot be rejected for Information skills of Tourism inspectors (H_{08}), which means that gender and their ability to perform tasks classified as information skills are correlated. On the other hand, the null hypothesis can be rejected in the case of Communication (H_{09}) and Problem-solving skills (H_{011}) of Tourism inspectors, Problem-Solving skills of employees in tourism agencies (H_{010}) and Software skills for content manipulation of Administrative Officers (H_{012}).

For Communication and Problem-solving skills among Tourism inspectors, the significant correlation with gender may point to differences in training, job roles, or also workplace culture that affect men and women differently. Male and female inspectors might receive different levels of encouragement or opportunities to develop these skills, or broader societal norms could influence confidence and competence in these areas. The disparity in Problem-solving skills among employees in tourism agencies could be due to varying degrees of exposure to problem-solving scenarios or different expectations placed on male and female employees. The significant gender difference in Software skills for content manipulation among Administrative Officers may indicate that women and men are not equally encouraged or required to develop these skills, potentially due to differing job responsibilities or access to training resources.

Our study's findings reveal a nuanced landscape of digital skills among tourism industry stakeholders, underscoring the absence of significant gender differences in fundamental digital tasks such as data storage on cloud platforms, internet communications, and basic software proficiency. These results align with existing literature that suggests minimal gender discrepancies in essential digital competencies, particularly within universal and routinely executed tasks (Martínez-Cantos, 2017). The findings of our study concerning the minimal gender discrepancies in essential digital

competencies also echo those of Zaragoza-Sáez et al. (2021), who also observed limited gender differences in fundamental digital skills across tourism and hospitality sectors. However, our research further identifies significant gender disparities in advanced digital skills, aligning with Zaragoza-Sáez et al.'s observations of varying digital competency levels in specialized ICT applications within the industry. The results presented in the study by Petković et al. (2024) highlight significant disparities in advanced digital skills within the Serbian tourism and hospitality sector, which aligns with findings from other research indicating a widespread skills gap in more complex ICT competencies across various industries. Notably, their analysis revealed that while basic digital skills are commonly possessed, more sophisticated skills like problem-solving in digital environments and software manipulation are lacking, especially among administrative officers and tourism inspectors. This observation is consistent with broader trends where advanced digital skills remain a challenge, underscoring the need for targeted educational and training programs to address these deficiencies effectively.

Even though our research explores digital skills in the tourism sector, particularly focusing on the gender disparities in digital skills acquisition, similar challenges are evident in other demographic sectors, as highlighted by a recent study on persons with disabilities in Serbia. This study underscores the gap in digital competencies and the necessity for targeted educational initiatives to enable inclusive participation in digital platforms (Lazić, Vukmirović, & Banović, 2022).

Contrastingly, our research indicates significant gender-related disparities in more complex digital functions like program setup and online sales, a finding that echoes broader studies which highlight pronounced gender gaps in advanced ICT usage and complex digital interactions in male-dominated fields (Sánchez-Rivero et al., 2023). Such disparities may reflect not only skill gaps but also differences in role assignments and professional encouragement within the workplace. Moreover, while no substantial gender-based differences were noted in the informational skills of tourism inspectors, significant divergences were identified in their communication and problem-solving abilities. This suggests that gender may influence the development of these skills differently, potentially due to varied workplace experiences or societal expectations. These findings are consistent with research that points to enduring gender divides in specific

ICT domains, influenced by both social norms and organizational structures (Grande-de-Prado et al., 2020).

Conclusion

The paper provides a comprehensive analysis of gender inequalities in digital skills within Serbia's tourism sector, revealing notable deficiencies, particularly in more complex digital activities. The findings highlight insignificant gender disparities in basic digital skills, yet point to significant inequalities in more advanced digital competencies. Such insights are crucial for developing targeted measures to promote equal improvement of digital skills among women in this important economic sector.

Considering these results, it is evident that there is a pressing need for specific to the sector digital training programs that are specifically designed to tackle and reduce these proficiency deficiencies. The primary focus of successful intervention programs should be the development of advanced digital skills, especially in domains where gender disparities are substantial. By implementing comprehensive training programs, organizations may guarantee that both male and female employees possess the necessary abilities to excel in an increasingly digital work environment. For example, the Ministry for Tourism and Sport of RS could consider implementing tailored training programs focusing on enhancing communication, problem-solving, and software skills, ensuring equal opportunities for both genders to develop and excel in these critical areas.

The research also highlights the wider implications that these findings have for digital equity in the workplace. A persuasive argument can be made for the implementation of legislative interventions that encourage the development of an inclusive digital culture within the tourism sector. In order to compensate for the inequities that have been identified, it is necessary to adopt policies that are intentionally tailored to support the development of advanced digital skills among under-represented groups, notably women. These gender differences in the tourism sector in Serbia could be a roadmap for tailor-made training that would precisely target the missing knowledge that is necessary for the further development of the sector and its digital transformation. Policy measures play a crucial role in reducing the digital divide and promoting the ongoing use of advanced digital tools that are necessary for navigating the changing technological environment. Chetty et al. (2018) propose a three-pronged digital skills

strategy that focuses on monitoring evolving digital skills requirements, incorporating extensive training in digital skills into national education programs and adapting these programs to fit with the existing socio-cultural norms. This holistic approach can help to create a favorable environment for the effective acquisition and use of digital skills.

Future studies should aim to delve deeper into the structural reasons behind these skill disparities and examine the long-term impacts of targeted training programs. Additionally, longitudinal research could assess the efficacy of policy changes and training implementations over time, providing a more dynamic understanding of how digital skill gaps in the tourism sector evolve in response to specific interventions. By addressing these areas, further research can continue to inform policy decisions and educational strategies that aim to foster a more equitable digital skill distribution, ultimately enhancing the overall competitiveness and efficiency of the tourism sector in Serbia.

Limitations and Future Research

While this paper addresses an important and underexplored topic in the existing literature, providing first-hand evidence of gender disparities in the Serbian tourism industry (supply side) using a robust sample constructed for the development of the Tourism Improvement Strategy, it is not without its limitations. The first limitation pertains to the evaluation method, specifically self-assessment. Although self-assessment is widely recognized as a common type of competence evaluation (Laanpere, 2019), its inherent characteristics can lead to biased evaluations. However, our analysis adhered strictly to the assessment type and methodology employed by the European Union over the past fifteen years, which underpins the calculation of the DSI. In light of the limitation, future research should explore alternative methods of incorporating knowledge and ability assessments within real-life scenarios.

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References

[1] **Anderson, R. E.** (2004). Gender and Computers: Understanding the Digital Divide. *Journal of Marriage and Family, 66*, 542-543.

[2] **Antonio, A. & Tuffley, D. (2014)**. The gender digital divide in developing countries. *Future Internet, 6*(4), 673-687.

[3] **Arroyo, L.** (2020). Implications of digital inclusion: Digitalization in terms of time use from a gender perspective. *Social Inclusion, 8*(2), 180-189.

[4] **Banović, J.** (2023). Digital Skills among Women in Tourism in Serbia. Proceedings, 85(1), 38. https://doi.org/10.3390/proceedings2023085038.

[5] **Barbuta, A. & Ghetau, C.** (2023). The Digital Divide and Gender Disparity: A Study of Rural Students in the Republic of Moldova. *International Journal of Advanced Studies in Sexology, 5*(1), 30-38.

[6] **Bradić-Martinović, A.** (2022). *Digitalne veštine građana Srbije*. Institut ekonomskih nauka. Beograd. https://www.library.ien.bg.ac.rs/index.php/monog/article/view/1554/1266

[7] **Bradić-Martinović, A. & Banović, J.** (2018). Assessment of Digital Skills in Serbia with Focus on Gender Gap. *Journal of Women's Entrepreneurship and Education, 1-2,* 54-67.

[8] **Carlisle, S., Ivanov, S., & Dijkmans, C.** (2021). The digital skills divide: Evidence from the European tourism industry. *Journal or Tourism Futures, 9(2)*, 240-266.

[9] **Chetty, K., Aneja, U., Mishra, V., Gcora, N., & Josie, J.** (2018). Bridging the digital divide in the G20: skills for the new age. *Economics*, 12. https://doi.org/10.5018/economics-ejournal.ja.2018-24

[10] **Drabowicz, T.** (2014). Gender and digital usage inequality among adolescents: A comparative study of 39 countries. *Computers & Education, 74,* 98-111. https://doi.org/10.1016/j.compedu.2014.01.016

[11] **EUROSTAT.** (2024). *Digital Skills in 2023: Impact of Education and Age*. Available at https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240222-1?&

[12] **European Commission.** (2016). DigComp 2.0: The Digital Competence Framework for Citizens. Joint Research Centre, European Commission. https://joint-research-centre.ec.europa.eu/digcomp_en

[13] **Esteve-Mon, F., Llopis-Nebot, M., & Adell-Segura, J.** (2020). Digital Competence and Computational Thinking of Student Teachers. *International Journal of Emerging Technology in Learning, 15*, 29-41. https://doi.org/10.3991/ijet.v15i02.11588

[14] **Gabidullina, E., Khalfin, A., & Khisamutdinova, A.** (2022). Formation of competencies of future tourism specialists in the context of digital transformation of the educational process. *Bulletin USPTU Science education economy Series economy*.

[15] **Grande-de-Prado, M., Cañón, R., García-Martín, S., & Cantón, I.** (2020). Digital Competence and Gender: Teachers in Training. A Case Study. *Future Internet, 12*, 204.

[16] **Hafkin, N. J. & Huyer, S.** (2007). Women and gender in ICT statistics and indicators for development. *Information Technologies and International Development, 4*(2), 25-41.

[17] **Hervé, J., Mani, S., Behrman, J., Nandi, A., Lamkang, A. S., & Laxminarayan, R.** (2021). Gender Gaps in Cognitive and Noncognitive Skills: Roles of SES and Gender Attitudes. *IZA Institute of Labor Economics Discussion Paper Series, No. 14132*. https://docs.iza.org/dp14132.pdf.

[18] **ILO.** (2024). International Labour Organization. Hotels, catering and tourism sector. https://www.ilo.org/industries-and-sectors/hotels-catering-and-tourism-sector

[19] **Ilomäki, L.** (2011). Does Gender Have a Role in ICT Among Finnish Teachers and Students? *Scandinavian Journal of Educational Research*, *55*(3), 325–340. https://doi.org/10.1080/00313831.2011.576910.

[20] **Ivanović, Đ., Simović, V., Domazet, I. & Antonijević, M.** (2021). Average Matching Levels for Two DigComp Competence Areas of the Female Entrepreneurs in Serbia. *Journal of Women's Entrepreneurship and Education*, 3-4. 42-60. https://doi.org/10.28934/jwee21.34.pp42-60

[21] **Fang, M. L., Canham, S. L., Battersby, L., Sixsmith, J., Wada, M., & Sixsmith, A.** (2019). Exploring Privilege in the Digital Divide: Implications for Theory, Policy, and Practice. The Gerontologist, *59*(1), e1–e15. https://doi.org/10.1093/geront/gny037.

[22] **Friemel, T. N.** (2014). The Digital Divide has Grown Old: Determinants of a Digital Divide Among Seniors. New Media & Society, *18*(2), 313–331. https://doi.org/10.1177/1461444814538648

[23] **Jiménez-Hernández, D., González-Calatayud, V., Torres-Soto, A., Mayoral, A., & Morales, J.** (2020). Digital Competence of Future Secondary School Teachers: Differences According to Gender, Age, and Branch of Knowledge. *Sustainability*. https://doi.org/10.3390/su12229473

[24] **JRC & DG EAC**. (2014). *Digital Skills Indicator – derived from Eurostat survey on ICT usage by Individuals, Methodological note – 2015*. Retrieved January 9, 2024 from https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=14342.

[25] **Kamberidou, I., & Pascall, N.** (2019). The digital skills crisis: engendering technology–empowering women in cyberspace. *European Journal of Social Sciences Studies, 4*(6), 1-33.

[26] **Kashyap, R., Fatehkia, M., Tamime, R. A., & Weber, I.** (2020). Monitoring global digital gender inequality using the online populations of Facebook and Google. *Demographic Research, 43*, 779-816.

[27] **Khumalo, Z. & Saurombe, M.** (2022). Women taking up space: a conceptual analysis of the gender-digital divide in south Africa. *Proceeding of the International Conference on Social Sciences, 8*(1), 2022, 118-136.

[28] **Kulkarni, L. & Ghosh, A.** (2021). Gender disparity in the digitalization of financial services: challenges and promises for women's financial inclusion in India. *Gender, Technology and Development, 25*(2), 233-250.

[29] **Laanpere, M.** (2019). Recommendations on assessment tools for monitoring digital literacy within UNESCO's Digital Literacy Global Framework. UNESCO Institute for Statistics Information, Paper No. 56, Montreal. https://doi.org/10.15220/2019-56-en

[30] **Lazić, M., Vukmirović, V. & Banović, J.** (2022). Digitalne kompetencije osoba sa invaliditetom u Srbiji i uključivanje u rad na onlajn platformama (Digital Competencies of Persons with Disabilities in Serbia and Inclusion in Online Platform Work). Policy brief. Institute of Economic Sciences, Belgrade, Serbia. https://ien.bg.ac.rs/cms_upload/pages/files/7793_digcomposi_sazetak_za_javne_politike.pdf

[31] **Lazić, M., Bradić-Martinović, A., & Banović, J.** (2023a). Digital skills in tourism and hospitality as a precondition for the sector resilient growth: The case of Serbia. *Hotel and Tourism Management, 11*(1), 25-40.

[32] **Lazić, M., Vukmirović, V., Banović, J., Simović, V., & Paunović, M.** (2023b). Digital competences as a precondition for an inclusive digital economy – Is there a gender gap among persons with disabilities in Serbia?. *Journal of Women's Entrepreneurship and Education*, 1-2, 51-71. https://doi.org/10.28934/jwee23.12.pp51-71

[33] **Lestaria, A. P. & Sunarto, S.** (2018). Digital gender gap pattern in Indonesia. *E3S Web of Conferences, 73*, 11007.

[34] **Losh, S.** (2004). Gender, Educational, and Occupational Digital Gaps 1983-2002. *Social Science Computer Review*, *22*, 152-166.

[35] **Majranović, J.**, **Domazet, I., Miljković, J.** (2023). Higher Education Branding through Instrumental Values. *Journal of Women's Entrepreneurship and Education*, *3-4*. 75-94. https://doi.org/10.28934/jwee23.34.pp75-94

[36] **Martínez-Cantos, J.L.** (2017). Digital skills gaps: A pending subject for gender digital inclusion in the European Union. *European Journal of Communication, 32*(5), 419-438.

[37] **Marx, S., Freundlich, H., Klotz, M., Kylänen, M., Niedoszytko, G., Swacha, J., & Vollerthum, A.** (2021). Towards an Online Learning

Community on Digitalization in Tourism. EMOOCs 2021, Potsdam, Universitätsverlag Potsdam. https://doi.org/10.25932/PUBLISHUP-51598

[38] **Montuori, C., Ronconi, L., Vardanega, T. & Arfé, B.** (2022) Exploring Gender Differences in Coding at the Beginning of Primary School. *Frontiers in Psychology, 13*, 887280.

[39] **Nakajima, N., Jung, H., Pradhan, M., Hasan, A., Kinnell, A., & Brinkman, S.** (2016). Gender Gaps in Cognitive and Non-Cognitive Skills in Early Primary Grades: Evidence from Rural Indonesia. Policy Research Working Paper; No. 7833. World Bank, Washington, DC.

[40] **Noor, A., Asghar, Z., Sarwar, H.& Arfeen, I.** (2021). Role of the ICT in Women Empowerment and Achieving SDGs: A Case Study of Women Labor Force in Developing Countries. Etikonomi, *20*(2), 339–348. https://doi.org/10.15408/etk.v20i2.22045.

[41] **OECD**. (2022). Tourism Trends and Policies. https://www.oecd-ilibrary.org/sites/a94c5f34-en/index.html?itemId=/content/component/a94c5f34-en

[42] **Palomares-Ruiz, A., Cebrián-Martínez, A., García-Toledano, E. & López-Parra, E. (2021).** Digital gender gap in university education in Spain. Study of a case for paired samples. *Technological Forecasting and Social Change, 173*, 1-9.

[43] **Petković, G., Bradić-Martinović, A. & Lazić, M.** (2024) Skills development as an indicator of the Serbian tourism digitalization progress. *Ekonomika preduzeća*, *72*(1-2), 137-149.

[44] **Radović-Marković, M. & Živanović, B.** (2019) Fostering Green Entrepreneurship and Women's Empowerment through Education and Banks' Investments in Tourism: Evidence from Serbia. *Sustainability, 11*(23), 6826..

[45] **Robinson, L., Cotten, S., Ono, H., Quan-Haase, A., Mesch, G., Chen, W., Schulz, J., Hale, T. & Stern, M.** (2015). Digital inequalities and why they matter. *Information Communication & Society, 18*(5), 569-582.

[46] **Rodriguez-Pasquín, M., Garcia-Luque, O. & Lopez-Martinez, M.** (2023). Digitalization and skills in Spain: regional differences and gender gaps. *Sociología y Tecnociencia, 13*(2), 94-117.

[47] **Sánchez Prieto, J., Trujillo Torres, J.M., Gómez García, M. & Gómez García,** G. (2020) Gender and Digital Teaching Competence. *Dual Vocational Education and Training. Education Sciences. 10*(3), 84.

[48] **Sánchez-Rivero, M., Gutiérrez-Fernández, M., Fernández-Torres, Y., & Gallego-Sosa, C.** (2023). A gender-oriented analysis of digital skills and ICT use intensity in tourism companies in Extremadura (Spain). *Gender in Management: An International Journal*. https://doi.org/10.1108/gm-04-2022-0147

[49] **Setiawati, R., Adriani, Z., & Wediawati, B.** (2022). Entrepreneurial interest in startup business based on entrepreneurial literacy and digital literacy. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, *10*(4), 235-250.

[50] **Singh, S. (2017).** Bridging the gender digital divide in developing countries. *Journal of Children and Media*, *11*(2), 245–247.

[51] **Statistical Office of the Republic of Serbia**. (2019) Tourism sector publications available at https://www.stat.gov.rs/sr-latn/publikacije/

[52] **Van Deursen, A., Van Dijk, J.** (2010) Civil Servants' Internet Skills: Are They Ready for E-Government?. *Part of the Lecture Notes in Computer Science book series* (LNISA,volume 6228). https://link.springer.com/chapter/10.1007/978-3-642-14799-9_12

[53] **Vasquez Huatay, K. C., Mendoza Mendoza, A. P., Farías Rodríguez, J. C., & Montes Ninaquispe, J. C.** (2023). Digital Literacy in Basic Secondary School Students: A Gender Comparative Study. *2023 IEEE 3rd International Conference on Advanced Learning Technologies on Education & Research (ICALTER)*, 1-4.

[54] **Zaragoza-Sáez, P., García-Haro, M., & Buhalis, D.** (2021). Developing digital skills in tourism and hospitality: A blueprint strategy from the Next Tourism Generation (NTG) Alliance. *Tourism Management Perspectives, 39*, 100812.

[55] **Zhou, M.** (2014). Gender difference in web search perceptions and behavior: Does it vary by task performance?. *Computers & Education*, *78*, 174-184.

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ORIGINAL SCIENTIFIC PAPER

Women-Led Social Entrepreneurship: A Phenomenological Study in Peru

Jussara Palmer Torres[1]
Pontificia Universidad Católica del Perú, Lima, Peru
Beatrice Avolio[2]
CENTRUM Católica Graduate Business School,
Pontificia Universidad Católica del Perú, Lima, Peru

A B S T R A C T

This study uses a phenomenological approach to explore the experiences of 30 women leaders in Peruvian social entrepreneurship. Through in-depth interviews analyzed using Moustakas's (1994) methodology, the research proposes a framework for understanding the initiation and development of women-led social enterprises, considering individual, social, cultural, and institutional factors. It also examines the impact of these ventures on the leaders and society, as well as the resources utilized. The findings offer insights for policymakers aiming to support entrepreneurial ecosystems. This study is unique in its focus on Peru, a country with the highest women labor force participation in Latin America and strong entrepreneurial activity.

KEYWORDS: *social entrepreneurship, gender, entrepreneurship*

[1] Corresponding author, e-mail: jpalmert@pucp.edu.pe
[2] E-mail: bavolio@pucp.pe

Introduction

Social entrepreneurship refers to ventures that use market mechanisms to address activities focused on achieving social change (Ibáñez, 2022; Choi & Majumdar, 2014). By incorporating business objectives to support social goals, these entrepreneurships are classified as hybrid organizations (Angulo-Ruiz & Muralidharan, 2023). Social entrepreneurship provides an alternative path to development when governments and businesses fail to address social and environmental issues (Maniam et al., 2018). It contributes to poverty reduction and social well-being by fostering ventures in sectors like social assistance, education, and health (Warnecke & Balzac-Arroyo, 2022).

Academic interest in social entrepreneurship has grown significantly in recent decades (Daskalopoulou et al., 2023). Despite the lack of consensus on its definition, scholars have approached social entrepreneurship in various ways: as the application of management skills to address social issues (Banks, 1972); as a process that creatively leverages resources to drive social change (Mair & Marti, 2006); and as a concept encompassing social value creation, social entrepreneurs, social entrepreneurship organizations, market orientation, and social innovation (Choi & Majumdar, 2014). Previous studies suggest that social entrepreneurship leaders should exhibit traits like empathy, altruism, and compassion, often associated with women (Usman et al., 2022). Women are notably more inclined to start socially oriented entrepreneurship (Yamini et al., 2022) and attract researchers' attention for their leadership roles in social entrepreneurship (Rosca et al., 2020; Borquist & de Bruin, 2019). In this regard, researchers have focused on understanding the role that women play in non-profit organizations (e.g., Themudo, 2009), as well as their profile, motivations, and intentions (e.g., Humbert & Roomi, 2018), and agree on the significance of studying personal factors (e.g., aptitudes for social entrepreneurship and problem-solving abilities) and contextual factors (e.g., social and cultural elements) as determinants of women social entrepreneurship (Hechavarría & Brieger, 2022).

The study of social entrepreneurship in emerging economies remains limited (de Sousa-Filho et al., 2020) and, in Latin America, often fails to fully capture its scope and richness (Ibáñez, 2022). This phenomenological study explores the firsthand experiences of women leaders in Peruvian social enterprises, focusing on their roles in starting and developing these

ventures. Understanding their experiences helps identify factors influencing their engagement in social entrepreneurship, suggesting strategies to boost their participation. This study is guided by the following research question: From the women's perspectives, what are their experiences in the initiation and development of social enterprises in an emerging economy? The study focused on three specific aspects: (i) the initiation and development of social enterprises; (ii) the impact of social entrepreneurship on the women themselves; and (iii) the resources utilized in in this type of entrepreneurship. The originality of this work stems from studying this phenomenon in Peru, a country that ranks among the top six globally for the highest increase in women's labor force participation between 2000 and 2022 (World Bank, 2023). It also ranks fourth in the region and eighth globally for entrepreneurial intentions (Global Entrepreneurship Monitor Peru, 2018–2019). Despite these statistics, women in Peru often enter the workforce through self-employment or small businesses, which are typically informal and marked by gender pay gaps (INEI, 2023). Moreover, the patriarchal culture hinders their entrepreneurial efforts, affecting their social development (United Nations Development Programme in Peru, 2023–2026; Del Carpio & Avolio, 2023).

Literature Review and Theoretical Background

This research is based on agency theory (Sen, 1985), which posits that individuals' autonomy—their ability to make decisions about their actions—is linked not only to personal well-being but also to moral responsibility toward others. These two aspects do not necessarily conflict, as individuals can achieve personal well-being by acting responsibly within the framework of their agency and commitments to others. Therefore, decisions made by social entrepreneurs, which appear driven solely by their sense of responsibility, can also enhance their personal well-being when both autonomy and responsibility are involved. This conceptual framework has been applied in various studies (Kimmitt & Muñoz, 2018; Warnecke & Balzac-Arroyo, 2022) to argue that social entrepreneurship not only creates economic opportunities but also expands individuals' freedoms and choices, empowering them as agents of change in their communities and contributing to societal well-being.

In studies focusing on women in social entrepreneurship, agency theory highlights that development is not solely measured by access to resources

but by the ability to transform those resources into meaningful outcomes. Haugh and Talwar (2016) applied agency theory to illustrate how social entrepreneurship can enhance women's agency in India, particularly in contexts where they face significant restrictions. By increasing their control over their lives, women are empowered to make decisions and drive social change. The study acknowledges that income generation alone does not automatically increase women's agency; they must also influence their surrounding environments. For instance, women were able to shift family attitudes toward female labor and their daughters' education. Despite its relevance, agency theory has yet to be applied to the experiences of women involved in the initiation and development of social enterprises in Peru.

The Initiation and Development of Social Enterprises

The literature addresses various factors influencing the initiation and development of social enterprises, though often in a fragmented manner and from diverse perspectives. Based on a comprehensive literature review, this study categorizes these factors into individual, social, institutional, and cultural aspects.

Entrepreneurs' intentions are significant individual factors that are linked to the needs they perceive in their environment and their sense of responsibility to address them. In the Philippines, Thailand, and Vietnam, a study found that women started social enterprises because of their desire to ensure sustainable livelihoods (Borquist & de Bruin, 2019). In this context, Rosca et al. (2020) found that women social entrepreneurs prioritize others' well-being over economic factors. Nevertheless, research by Ciruela-Lorenzo et al. (2020) indicates that women's decisions to start social enterprises are also influenced by the pursuit of economic independence.

Regarding social factors, a study across eight Latin American countries emphasizes the importance of cooperative networks within universities for enhancing women's social entrepreneurship ecosystems (Macías-Prada et al., 2023). The absence of cooperation networks poses a major barrier to entrepreneurship (Alnassai, 2023). Personal networks and family influence, such as having entrepreneurial or socially active parents, can inspire women to start their own social enterprises (Jadmiko et al., 2024) and are vital for organizational and social success (Rosca et al., 2020). While training, mentoring, and grants are crucial for fostering women's entrepreneurship, it is also important for institutions—whether public or private—to effectively

disseminate the contributions women make to their social and economic environments (Al-Qahtani et al., 2022).

Finally, in regard to cultural factors, over 40 countries with lower tolerance for inequality exhibit higher levels of social entrepreneurship activity (Kedmenec & Strašek, 2017). However, the conflict between entrepreneurial work and domestic responsibilities, which places a significant burden of unpaid labor on women, remains a significant cultural barrier (Haugh & Talwar, 2016). In Bangladesh and Burma, women face patriarchal pressure for additional income and childcare responsibilities, which limit their access to paid employment (Karim et al., 2023; Perekrestova, 2022). Social entrepreneurship can mitigate these issues and improve women's economic status and participation (Ciruela-Lorenzo et al., 2020).

The Role of Social Entrepreneurship

The literature has primarily examined the external impact of women-led social entrepreneurship on societal dynamics. This external role fosters trust among beneficiaries and other stakeholders, often grounded in honesty and integrity, which are frequently exemplified by women leaders in social entrepreneurship (Borquist & de Bruin, 2019). However, there is limited research on the internal role that social entrepreneurship plays in the lives of the women who lead these ventures. They are often noted for higher emotional expression and a greater emphasis on building social networks, which enhances cooperation (Pareja-Cano et al., 2020). Regarding the internal role, the literature indicates that women social entrepreneurs gain empowerment through securing funding and managing the finances of their ventures (Shang, 2024). As a result, the success of social entrepreneurship contributes to improving their personal and professional situations (Sharma et al., 2023), as well as increasing their self-confidence (Dixit et al., 2022). Women social entrepreneurs' values, such as empathy and social justice, are reinforced through their work. They experience self-actualization by positively impacting their own welfare and those of their families and communities. Economic and emotional factors in women's social enterprises are thus interlinked (Ciruela-Lorenzo et al., 2020).

Resources Utilized in Social Entrepreneurship

A study in India and Colombia revealed that women social entrepreneurs effectively use limited resources, forming strategic alliances and partnerships to promote local ecosystem development (Rosca et al., 2020). Women social entrepreneurs face gender biases, but they balance professional responsibilities with personal obligations, especially if they have parental duties (Agarwal et al., 2020). Family support motivates them (Rosca et al., 2020), but economic sustainability is crucial. Social capital, a network of contacts, also helps achieve long-term sustainability by obtaining resources at lower costs (Mohiuddin et al., 2023).

Financing social enterprises is a critical factor for their sustainability. Environmental obstacles, such as limited access to funding, can act as disincentives (Ognjenović, 2023). In China, most social entrepreneurs are young and hold higher education degrees, leading to a higher reliance on personal resources for funding their ventures (Jia, 2020). In contrast, in developing countries, obtaining external financing, such as government or NGO loans, is crucial (Atiase & Dzansi, 2019). Additionally, in Burma (Perekrestova, 2022), Nigeria, South Africa (Kouam & Asongu, 2022), Mexico, and Peru (Vázquez et al., 2018) there is often a lack of policies to support social enterprises. As a result, women entrepreneurs must rely on their resourcefulness, which may lead them to perceive that their ventures' success depends on their ability to innovate (Perekrestova, 2022).

Methodology

This study employs phenomenology as both a theoretical and methodological framework (Moustakas, 1994) to explore the narratives of women leaders of social enterprises in an emerging economy, and to understand the factors that motivate them. Phenomenology, rooted in social constructivism, posits that knowledge is created through the interaction between individuals' experiences and their interpretations (Creswell, 2013). The phenomenological approach was chosen because it allows a deep understanding and interpretation of women's involvement in starting and developing their social enterprises, based on the significance derived from their personal experiences (Creswell, 2013). Second, it enables direct engagement with the insights of women-led social entrepreneurship (Swail & Marlow, 2018). Third, it supports the reconstruction of women's

experiences regarding the factors that motivated them to initiate and grow their social enterprises (Frota & Dutra, 2021).

The sample comprised 30 Peruvian women founders, owners, and leaders of social enterprises, selected using snowball sampling due to a lack of existing databases (Patton, 2002). Table 1 provides demographic details of the participants. All enterprises had a mission and have been operational for at least three years, addressing issues in education, employment, vulnerable populations, health, and the environment. Peru provides a significant context for studying women leaders in social entrepreneurship due to several factors. Peru leads Latin America in female labor participation, with a rise from 53.62% in 2000 to 66.1% in 2022 (World Bank, 2023). Peruvian women mainly enter the labor market through self-employment or small family-owned businesses, often offering lower wages (Miró & Ñopo, 2021). Peru is also a global leader in entrepreneurial activity, ranking eighth globally and fourth in Latin America (Global Entrepreneurship Monitor Report, 2018-2019). However, it ranks 115th in the gender pay gap, highlighting the barriers to gender equality posed by patriarchal culture and gender stereotypes (World Economic Forum, 2023).

From July to November 2023, the participants were interviewed using in-depth, semi-structured methods, with each session lasting between 60 and 90 minutes. Data collection continued until saturation. An interview guide, based on literature and validated by experts, covered three areas: entrepreneur profiles, social venture characteristics, and startup experiences. Sample questions included: "What led you to start your social enterprise?" and "Why did you become a social entrepreneur?" These open-ended questions aimed to facilitate introspection. Participants provided consent, ensured anonymity, and could withdraw from the interview at any time. All interviews were recorded and transcribed for analysis.

Data analysis followed Moustakas's (1994) procedures. Researchers first practiced "epoché," setting aside personal preconceptions to focus on the research topic (Moustakas, 1994). The analysis involved compiling and categorizing data, reviewing interview transcriptions, identifying key statements (horizontalization), and eliminating non-relevant ones to isolate significant themes and meanings. Individual textural descriptions were developed for each participant, capturing their experiences in starting and developing their social ventures. These were then combined into composite textural descriptions to provide a comprehensive view of the participants'

experiences. Finally, the essence of the experience was formed by integrating these descriptions.

Table 1: Demographic profile of the sample

Social Entrepreneur	Civil status	Type of University	Highest level of education attained	Type of activity	Years in social entrepreneurship
Pana[3]	Single	Private	Graduate	Pet homes	8
Prisve	Single	Public	Undergraduate	Fishing trade	7
Faco	Single	Public	Graduate	Conservation	15
Nohu	Single	Private	Bachelor	Education	3
Argo	Single	Private	Bachelor	Eldercare	3
Palma	Single	Private	Graduate	Waste control	20
Glamur	Single	Private	Bachelor	Women support	5
Jema	Single	Public	Graduate	Personal care	5
Neimi	Single	Public	Undergraduate	Craft	10
Tami	Single	Private	Undergraduate	Women's soccer	9
Fito	Single	Private	Bachelor	Women´s funding	6
Mate	Single	Public	Bachelor	Wellness	6
Jema	Single	Private	Undergraduate	Apparel fabric	15
Saju	Single	Private	Graduate	Recycling	4
Beth	Married	Private	Undergraduate	Eco-footwear	7
Mavi	Married	Private	Bachelor	Education	18
Nabi	Single	Private	Graduate	Volunteering	6
Gala	Single	Private	Bachelor	Sexuality education	4
Dila	Single	Private	Graduate	Humanitarian aid	10
Desa	Single	Private	Graduate	Sanitation	11
Zena	Divorced	Private	Bachelor	Humanitarian aid	10
Tilo	Single	Private	Bachelor	Personal care	6

3 All names are pseudonyms.

Social Entrepreneur	Civil status	Type of University	Highest level of education attained	Type of activity	Years in social entrepreneurship
Lulu	Married	Private	Graduate	Mental health	7
Coli	Single	Private	Graduate	Eco-education	3
Gana	Married	Private	Graduate	Sex education	3
Reto	Married	Private	Graduate	Coffee trade	4
Cisa	Married	Private	Bachelor	Social development	45
Cata	Single	Private	Undergraduate	Plastic alternatives	6
Fica	Married	Private	Bachelor	Education	19
Dana	Married	Private	Bachelor	Housekeeping	9

Source: Authors

The study's trustworthiness was ensured through four criteria: credibility, transferability, dependability, and confirmability (Lincoln et al., 2011). Credibility was achieved by obtaining informed consent from participants, ensuring they could withdraw at any time, and guaranteeing their data would be used for academic purposes. The authors maintained credibility through engagement and review of transcripts, with one coauthor verifying the content and participating in debriefing discussions. The study also benefited from the authors' disciplinary diversity and cross-referenced findings with existing literature. Transferability was ensured by providing a detailed description of the research methods and context and by using purposeful sampling to select representative participants. Dependability was supported by detailed documentation of research methods and using Atlas.ti to establish an evidence chain. Confirmability was achieved by adhering to data collection protocols, maintaining separate databases for each participant, and acknowledging the researchers' biases and assumptions.

Results

The following sections present the study results, organized according to the research objectives: (i) factors influencing the initiation and development of women-led social entrepreneurship; (ii) the roles that social entrepreneurship plays in the lives of these women leaders; and (iii) the resources utilized to advance these ventures.

Factors Affecting Women-Led Social Entrepreneurship

Individual factors. Individual factors are related to the specific attributes (aptitudes, abilities, values, and experiences) of women. The study found that women started their social entrepreneurship driven by the identification with environmental needs, such as vulnerable youth, women in abusive situations, and endangered species. This identification is fostered through (i) their proximity to the problems of others during their childhood or youth, or through (ii) their own personal experiences, instilling empathy and dedication to alternative solutions. For instance, Glamur and Coli have both expressed their desire to assist others by dedicating their efforts to addressing environmental concerns since their early years. Similarly, Mate and Mavi, although not having experienced economic hardship, have experienced a sense of dissatisfaction regarding the plight of impoverished communities.

> *Since I was a child, I have been concerned about environmental pollution (Glamur). I have always been interested in environmental impacts (Coli). I became a social entrepreneur to fulfill a life purpose and to contribute to the country (Mate). There have always been painful things in this country, and I had to find a way to ease that pain (Mavi).*

Seven participants identified with the reality of their environment as a result of their personal experiences of need. They eventually met people who provided opportunities for development and, on occasion, emotional support. The participants' life experiences heightened their awareness, subsequently impacting their choice to start a social enterprise.

> *I have such a strong connection to social issues because I grew up in a very impoverished environment. All of this made me consider how I can contribute to a value chain that genuinely helps those in need (Tilo). I became ill and I had a doctor and a volunteer by my side the entire time, trying to provide emotional and physical support. I believe that being able to return to life prompted me to start my social enterprise (Zena).*

Social factors. These factors include external influences—family, friends, community, etc. The study reveals that women's decision to start a social enterprise is influenced by external factors like family and personal

networks, with 23 participants forming these networks in schools, universities and workplaces. For instance, Beth's personal network sparked her curiosity in the social field and motivated her to seek solutions to assist other women. With respect to the family factor, 26 participants reported that they received encouragement and support from their families to start their social enterprises. They credited their parents with instilling an early awareness of others' needs by exposing them closely from a young age. For instance, Cisa's parents, who are social entrepreneurs, encouraged her to participate in their social initiatives, raising her awareness of underprivileged populations. Furthermore, six participants indicated that they did not come from families of social entrepreneurs, yet they acknowledged the crucial support they received from their families.

> *My family is incredible; they are extremely demanding, but they are always present. They have experience in corporate management (Mavi). My older uncles have experience in the corporate world, so they help me with that while I focus on the social side (Beth). My grandfather fell in love with the project and decided to help me (Coli).*

Institutional factors. Institutional factors, including universities, public institutions, entrepreneurship, and non-profit organizations, can either support or limit women's opportunities, with mentors and funding being the most identified. Regarding mentoring, five participants encountered these mentors through incubation programs. Participants acknowledged their admiration for their mentors' social work, which inspired them to emulate their actions. The mentors offered guidance, helping participants feel confident in starting their social enterprises. They emphasized that if the goal was to create a positive impact and help others, the enterprises must be financially sustainable, rather than relying only on philanthropy.

> *I participated in a pre-incubation program and was surprised to learn that famous social ventures exist… and I thought this is what I wanted to do (Argo). Mentoring gave me a different perspective on the economic sustainability that is required for entrepreneurship to be replicable. My mentor encouraged me, especially when I wanted to give up (Jema).*

The participants expressed that they are unable to obtain financing from banking institutions due to the lack of loans available to social entrepreneurs.

> *There is no preferential rate available to social entrepreneurs. So, the rates are extremely high, and it makes little sense to go to the banks. (Saju). We are considered a risky company because, of course, we rely on donations. Banks will not lend to us (Zena).*

Cultural factors. Cultural factors, including values, beliefs, traditions, and customs, significantly influence women's social entrepreneurs. Fourteen noted that stereotypes and machismo heavily influenced their social enterprises, with their contributions often being ignored in male-dominated settings. Despite these challenges, women stay motivated to advance, ensuring their voices are heard and their work is valued.

> *I face all of the challenges that come with being a woman in Peru. I am the only woman in 90% of the meetings I attend. Jokes and harassment are recurrent themes in my life and still are (Faco). I had to get my degree so they could hear me or say something brilliant in a meeting, so I could have a voice (Mavi). I have had many meetings where I realized they were not paying attention to me and were more focused on my male colleague (Desa).*

The Role of Social Entrepreneurship

The study reveals that social entrepreneurship plays both an external and internal role for women. Externally, social entrepreneurship promotes economic and social development among vulnerable groups, while internally, it boosts women's self-esteem and overall well-being. Regarding the external role of social entrepreneurship, the participants emphasized that it enabled the creation of meaningful employment opportunities. Their top priority was ensuring safety, inclusivity, and respect for all. They achieved (i) workforce reintegration, (ii) access to formal employment, (iii) development of problem-solving skills, (iv) emotional management guidance, (v) volunteering for knowledge sharing, and (vi) freedom to pursue activities without gender constraints.

> *The most important thing is that they feel safe and emotionally stable (Beth). We want those looking for a job to benefit from formal work, and we also want our clients, who are mothers and want to continue their professional lives, to have the peace of mind that comes with knowing who their children will be left with (Dana). We want women who were previously unable to play soccer due to various sociocultural issues to now have a safe space to do so (Tami).*

Regarding the internal role of social entrepreneurship, the participants demonstrated the ability to identify and utilize opportunities for personal and professional development, such as training and mentorship, and valued these aspects above financial gain. Participants started with social entrepreneurship at a young age, lacking experience and confidence. As they gained scholarships and participated in competitions, they experienced self-transformations as they gained access to funding and confidence in their abilities. For instance, Fito and Nabi concurred that their experience as leaders of social enterprises resulted in an enhanced sense of self-assurance. The participants' self-realization and empowerment were influenced by the skills they developed and improved, such as leadership and public speaking abilities, the expansion of their personal networks, the establishment of a new social entrepreneurship community, effective resource management, and most importantly, their unwavering determination to achieve their goals.

> *My social entrepreneurship gave me additional benefits, including the opportunity to evolve personally and develop as a person. I used to have panic attacks, and I have always been very introverted. I am no longer embarrassed about anything (Tami). It gave me more confidence because I said, "Here is my thing. I can work here" (Prisve). I learned not only to make decisions but also to never give up on who and what I wanted to be (Mate).*

Resources Utilized in Social Entrepreneurship

The factors affecting the initiation and expansion of women-led social enterprises, along with the dual role these ventures play in their founders' lives, are intricately linked to securing essential resources for their operation and advancement.

Social Resources. The participants have established diverse networks across their professional, familial, and personal environments, as well as within their social entrepreneurship sectors. These networks are crucial for developing social enterprises as they provide access to financing, clients, training opportunities, skill development, and emotional support. Specifically, twenty-two participants were connected through academic networks, twenty-four were involved in international networks, nineteen collaborated with NGOs, seventeen partnered with commercial organizations, thirteen worked with public institutions, nine cooperated with other social enterprises, and six were engaged in women empowerment networks.

> *We accomplished everything thanks to the contacts we made through our family and friends (Tami). As part of the network, I had access to a mentoring program that helped me make new connections (Beth). I believe it is valuable for those of us who move through this ecosystem. All the networks that we build enable us not only to transcend purpose, but also to be visible (Dila).*

The participants highlighted the crucial role of their families in the development of their social enterprises because they provide both emotional and financial support. Eleven participants noted that their families had offered financial assistance, while twenty-four received emotional support. Additionally, ten participants started their ventures with the involvement of their parents and siblings.

> *My family has always been supportive, particularly my brother, who is the co-founder (Fito). My husband has always helped me in a variety of ways, including being my driver, technical support, and a strong moral supporter (Fica). I am at an advantage because I have family members who own businesses and can lend me money (Mavi).*

Economic resources. Participants utilized personal networks for internal financing, including personal savings, interest-free family loans, and seed capital. They also secured external funding from public and private investors, international sources, donations, and strategic partnerships. Initially, all participants relied on personal resources to establish their social enterprises, as they were not yet profitable. Later, diverse funding sources were necessary: two accessed public funds, eleven obtained private funds,

five secured both, fifteen received donations, seven engaged investors, and twenty-five formed strategic partnerships.

> *Fortunately, the two founders had other sources of income, and we, of course, were the project's capital; along the way, we asked relatives for loans, and later we had the honor of winning a non-refundable fund (Cata). Consultancies account for the majority of our budget, followed by competitive funds (Palma).*

Discussion

The study identified several factors influencing the initiation and development of women-led social enterprises, categorized as individual, social, institutional, and cultural. Regarding individual factors, the study emphasized how women's identification with societal needs is shaped by their direct exposure to these issues and their personal experiences. This identification with social problems arises not only from their proximity to these issues but also from personal experiences that foster empathy and guide their actions. This contrasts with the Israeli context, where religious values shape social entrepreneurship (Borquist & de Bruin, 2019). In the USA, UK, and China, self-fulfillment and personal satisfaction were key individual factors (Yamini et al., 2022), while in Spain, Fernández-Guadaño and Martín-López (2023) found that women started their social entrepreneurship influenced by their managerial occupational status and previous work experience.

Regarding social factors, the findings underscored the importance of personal and family networks. Consistent with Rosca et al. (2020), women received support from networks established through their academic, professional, and personal environments. Also, family influence, especially from parents, played a significant role. This was in line with the findings reported by Jadmiko et al. (2024), who concluded that family support went beyond financial assistance, including sharing knowledge and experience. However, the results differ from those of Haugh and Talwar (2016), who found that in developing countries, women sometimes had to deceive their husbands and families to start social enterprises due to traditional gender expectations. Additionally, unlike the studies by Macías-Prada et al. (2023), peer interactions—which promote collaboration and women leadership, and contribute to women's integration in social entrepreneurship ecosystems—

were not deemed a significant factor in the initiation of social enterprises by these women.

The study found that institutional factors, such as the availability of mentors and the lack of bank financing specifically designed for social enterprises, significantly impacted social entrepreneurship. Mentors encountered during pre-incubation programs not only motivated the women to start their enterprises but also provided crucial support during challenging periods. These findings differ from those of Ognjenović (2023), who observed that women involved in government-sponsored entrepreneurship programs in Serbia established connections with other entrepreneurs, exchanged experiences, and received guidance to start and grow their social entrepreneurship. However, participants did not report any influence from social entrepreneurship-related policies. These findings align with those of Al-Qahtani (2022) in Qatar, where financial and support institutions tend to invest more in ventures led by men than in those led by women.

The results also highlighted cultural factors such as machismo, harassment, and stereotypes, though only stereotypes were extensively covered in the literature (Shang, 2024; Rosca et al., 2020). The participants reported that the prevailing patriarchal culture in Peru did not deter their motivation to start social enterprises. Their focus was on developing their ventures without challenging the existing social norms, which contrasts with the findings of Karim et al. (2023) and Haugh and Talwar (2016), where societal expectations and patriarchal relationships constrained women's entrepreneurial ambitions. Additionally, the drive for economic autonomy did not influence their decision to start their social enterprises. In the early stages, they relied on personal resources for their ventures, which differs from the context explored by Yadav et al. (2023) in India, where economic motivations are the primary drivers for women leading their own social enterprises, and Ciruela-Lorenzo et al. (2020) in Latin America, where social entrepreneurship serves as a means to enhance women's economic independence.

Concerning the external role fulfilled by women-led social entrepreneurs, the primary aspect is associated with the creation of economic activities and employment, which aligns with the findings of Hechavarría et al. (2019). Women-led social entrepreneurship creates formal jobs, offering more than just income by enhancing societal value and supporting self-assessment. This is particularly significant in Latin America, where the informal sector dominates and most enterprises are small and self-

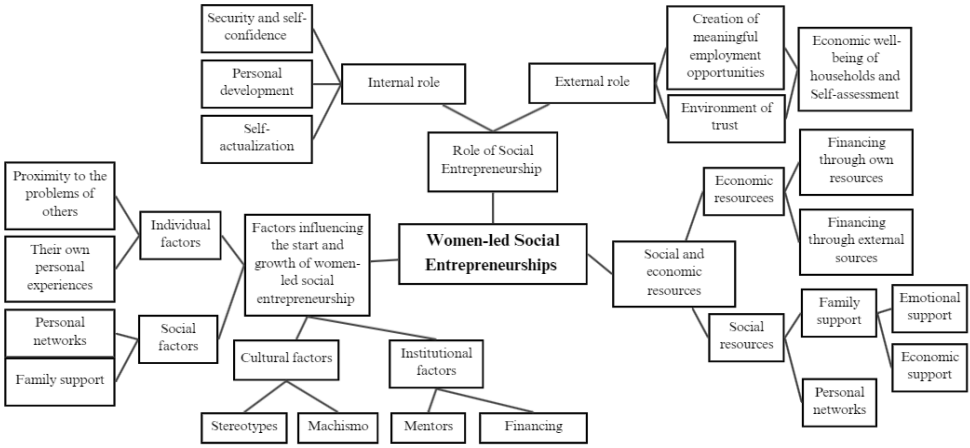
funded (Ruiz-Martínez et al., 2021). Women consistently demonstrated a commitment to building environments of trust and non-discrimination for individuals in vulnerable situations, regardless of gender. These findings are consistent with the research conducted by Clark & Ozkazanc-Pan (2016), which suggests that the focus should not only be on assisting women in starting social entrepreneurship, but also on enabling their equal participation in social entrepreneurship alongside men.

Regarding the internal role of social entrepreneurship, the participants benefited from national and international training and mentoring, enhancing their personal development despite no immediate economic return. While the link between training and personal growth is underexplored in the literature, studies by Dixit et al. (2022) and Jadmiko et al. (2024) provides evidence that the recognition of their work resulted in an increase in their self-confidence. Acquiring skills in project management, leadership, and knowledge improved their quality of life, contributing to a sense of self-actualization and pride in supporting others. Additionally, Ciruela-Lorenzo et al. (2020) found that women who engage in social entrepreneurship gain emotional benefits, such as increased respect and self-esteem.

Concerning the resources utilized in social entrepreneurship, this research highlights the role of personal networks and family support in the development of women-led social entrepreneurship. In line with the results showed by Borquist and de Bruin (2019), participants highlighted the crucial role of their families in providing them with emotional support to persevere in pursuing their dreams, even in challenging circumstances. This contrasts with Agarwal et al. (2020). This is a significant finding, as it contrasts with Agarwal et al. (2020) study on gender biases within families as deterrents to women's social entrepreneurship. Regarding economic resources, this study found that women financed their social enterprises using their own resources, a pattern similar to that observed in China (Jia, 2020). Disregarding gender, women experience a lack of policies that promote social entrepreneurship, aligning with findings from prior research conducted in developing nations (Kouam & Asongu, 2022; Vázquez et al., 2018).

Based on the study's findings, an analytical framework (Figure 1) is proposed to illustrate the initiation and development of women-led social enterprises, highlighting the influence of individual, social, cultural, and institutional factors, as well as the roles and resources involved. This framework aims to guide the future advancement of social enterprises.

Figure 1: Framework for women-led social entrepreneurship



Source: Authors´ compilation

Conclusions, Recommendations, and Limitations

This study employed a phenomenological approach to explore the experiences of women leaders in initiating and developing social enterprises in Peru. It investigated the factors influencing the creation and growth of these enterprises, the roles they play, and the social and economic resources utilized. Sen's (1985) Agency Theory emphasizes the active role of individuals as agents in their own development, highlighting the importance of having both the freedom and the necessary capabilities to pursue their goals and contribute to social well-being. Many of the women in this study chose social entrepreneurship due to their personal experiences and proximity to social issues, which instilled in them a sense of responsibility. This correlation supports Sen's (1985) assertion that individuals, in addition to passively receiving aid, can actively shape social transformation. Furthermore, the study reveals that the initiation and development of women-led social entrepreneurship are influenced by individual, social, institutional, and cultural factors. Key individual factors include entrepreneurs' identification with and understanding of their context, driven by personal experiences that foster empathy and awareness of environmental needs. Socially, family—especially parents—played a significant role by facilitating connections with vulnerable populations. Institutional factors included the importance of mentors and the challenge of inadequate bank financing. Culturally, stereotypes and sexist attitudes led to

harassment during the development of social enterprises. Some of these factors, which are denoted as social, economic, and cultural barriers, were also identified by Sen (1985) as significant constraints on an individual's ability to exercise their agency. The study confirmed the internal and external roles of women-led social entrepreneurship, which creates meaningful employment opportunities for both men and women, thereby enhancing economic well-being and personal self-worth. Finally, social resources, notably personal networks and family support, were crucial, with the family providing essential emotional and financial assistance.

This study offers several recommendations for stakeholders in both the private and public sectors to advance women's social entrepreneurship in Peru and the region. First, implementing targeted training programs that promote social entrepreneurial activities is recommended. These programs aim to assist women leading these forms of entrepreneurship in acquiring financial management skills, improving business outcomes, and expanding into new markets. Entrepreneurs, researchers, policymakers, and civil society collectively shape the environment and can contribute to reducing gender and cultural disparities in social entrepreneurship. Second, creating a supportive environment that encourages women to consider social entrepreneurship as a viable career path is crucial. Universities should provide comprehensive training programs to equip women with the necessary skills and resources to start and grow social enterprises. Universities, in collaboration with nonprofit organizations, could develop mentorship programs that provide women with access to networks of investors, donors, and customers. In Peru, a country with significant entrepreneurial potential and gender gaps, there is a pressing need for social entrepreneurs who seek sustainable solutions to social issues. Third, women often face limited access to formal financing options, such as bank loans. Many women have developed their social enterprises through familial, social, and relational support, while others struggle to access sufficient resources. Public and private entities should work to provide viable and secure financing alternatives, such as dedicated support funds for social ventures led by women, with preferential interest rates, flexible repayment terms, and streamlined processes. Finally, further empirical research on women's social entrepreneurship within the Peruvian context is recommended. Future research could delve deeper into the experiences of women leading social entrepreneurship within the social entrepreneurship ecosystem, taking into account factors such as education, resource accessibility, innovation, and cultural influences. Longitudinal studies may

offer valuable insights into the evolution of social entrepreneurship and the women who lead them.

The study has several limitations that future research could address. While it provides insights from the perspective of social entrepreneurs, it does not include the viewpoints of other stakeholders, such as the communities affected by the social objectives of these ventures. Additionally, there is a possibility that participants may have omitted information, either intentionally or unintentionally.

References

[1] **Agarwal, S., Lenka, U., Singh, K., Agrawal, V., & Agrawal, A. M.** (2020). A qualitative approach towards crucial factors for sustainable development of women SE: Indian cases. *Journal of Cleaner Production*, 274. https://doi.org/10.1016/j.jclepro.2020.123135

[2] **Alnassai, J.** (2023). A Study on the Barriers to Entrepreneurship in the UAE. *Journal of Risk and Financial Management, 16*(3), 146. https://doi.org/10.3390/jrfm16030146

[3] **Al-Qahtani, M., Zguir, M., Ari, I., & Koç, M.** (2022). Female Entrepreneurship for Sustainable Economy and Development-Challenges, Drivers, and Suggested Policies for Resource-Rich Countries. *Sustainability, 14*(20). https://doi.org/10.3390/su142013412

[4] **Angulo-Ruiz, F., & Muralidharan, E.** (2023). The Influence of Entrepreneurs' Culture and Ethnicity on Firms' Degree of Hybridity. *Global Business Review, 1*–26. https://doi.org/10.1177/09721509231195169

[5] **Atiase, V., & Dzansi, D.** (2019). Microfinance and Necessity Entrepreneurship: The Ghanaian Experience. *Societal Entrepreneurship and Competitiveness, 155*–170. https://doi.org/10.1108/978-1-83867-471-720191011

[6] **Banks, J.** (1972). *The Sociology of Social Movements*. London, MacMillan.

[7] **Borquist, B. R., & de Bruin, A.** (2019). Values and women-led SE. *International Journal of Gender and Entrepreneurship, 11*(2), 146–165. https://doi.org/10.1108/IJGE-08-2018-0093

[8] **Choi, N., & Majumdar, S.** (2014). SE as an essentially contested concept: Opening a new avenue for systematic future research. *Journal of Business Venturing, 29*(3), 363-376. http://dx.doi.org/10.1016/j.jbusvent.2013.05.001

[9] **Ciruela-Lorenzo, A. M., González-Sánchez, A., & Plaza-Angulo, J. J.** (2020). An exploratory study on SE, empowerment and peace process. The case of colombian women victims of the armed conflict. *Sustainability, 12*(24), 1–26. https://doi.org/10.3390/su122410425

[10] **Clark, S., & Ozkazanc-Pan, B.** (2016). Feminist perspectives on SE: critique and new directions. *International Journal of Gender and Entrepreneurship, 8*(3), 221–241. https://doi.org/10.1108/IJGE-10-2014-0034

[11] **Creswell, J. W.** (2013). *Quantitative Inquiry and Research Design*. Sage.

[12] **Daskalopoulou, I., Karakitsiou, A., & Thomakis, Z.** (2023). SE and Social Capital: A Review of Impact Research. *Sustainability, 15*(6), 4787. https://doi.org/10.3390/su15064787

[13] **de Sousa-Filho, J., Matos, S., da Silva Trajano, S. & de Sousa Lessa, B.** (2020). Determinants of social entrepreneurial intentions in a developing country context. *Journal of Business Venturing Insights*, 14, e00207. https://doi:10.1016/j.jbvi.2020.e00207.

[14] **Del Carpio, L., & Avolio, B.** (2023). *Índice del Desarrollo Social de la Mujer y el Hombre en los Países de América Latina 2023*. Centrum PUCP - Centro de Negocios de la Pontificia Universidad Católica del Perú. https://centrumthink.pucp.edu.pe/

[15] **Dixit, A. R., Malik, N., Seth, M., & Sethi, D.** (2022). The role of social entrepreneurial leadership and benchmarking in women empowerment. Benchmarking: *An International Journal, 30*(1), 180-195. https://doi.org/10.1108/BIJ-08-2021-0493

[16] **Fernández-Guadaño, J., & Martín-López, S.** (2023). Gender differences in SE: Evidence from Spain. *Women's Studies International Forum*, 96, 102663. https://doi.org/10.1016/j.wsif.2022.102663

[17] **Frota, A. M. M. C., & Dutra, E. M. S.** (2021). Proposiciones para un Método Fenomenológico Hermenéutico para la Investigación de Campo. *Revista Subjetividades, 21*, 1-12. https://doi.org/10.5020/23590777.rs.v21iesp1.e11305.

[18] **Global Entrepreneurship Monitor.** (2019). *Global Entrepreneurship monitor 2018/2019 Global Report*. http://www.gemconsortium.org/

[19] **Haugh, H., & Talwar, A.** (2016). Linking SE and Social Change: The Mediating Role of Empowerment. *Journal of Business Ethics, 133*(4), 643–658. https://doi.org/10.1007/s10551-014-2449-4

[20] **Hechavarría, D., Bullough, A., Brush, C., & Edelman, L.** (2019). High-Growth Women's Entrepreneurship: Fueling Social and Economic Development. *Journal of Small Business Management, 57*(1), 5–13. https://doi.org/10.1111/jsbm.12503

[21] **Hechavarría, D., & Brieger, S.** (2022). Practice Rather than Preach: Cultural Practices and Female SE. *Small Business Economics, 58*(2), 1131–1151. https://doi.org/10.1007/s11187-020-00437-6

[22] **Humbert, A. & Roomi, M.** (2018). Prone to 'care'? Relating motivations to economic and social performance among women social entrepreneurs in

Europe. *Social Enterprise Journal, 14*(3), 312-327. https://doi: 10.1108/SEJ-11-2017-0058.

[23] **Ibáñez, M. (2022).** "SE Review: A Gap in the Latin American Context". *Management Research: Journal of the Iberoamerican Academy of Management, 20*(1), 6-24. https://doi.org/10.1108/MRJIAM-09-2021-1232

[24] **Instituto Nacional de Estadística e Informática.** (2023). *Perú: Brechas de Género, 2023: Avances hacia la igualdad de mujeres y hombres.* Lima: Instituto Nacional de Estadística e Informática.

[25] **Jadmiko, P., Azliyanti, E., Wati, L., & Zakiy, M.** (2024). Catalysts for Change: Examining Prosocial Motivation's Role in Fostering Social Entrepreneurial Intentions Among Women in Matrilineal Cultures. *Journal Of Women's Entrepreneurship And Education, (1*/2), 93–114. https://doi.org/10.28934/jwee24.12.pp93-114

[26] **Jia, X.** (2020). Priming the pump of impact entrepreneurship and social finance in China. *Agriculture and Human Values, 37*(4), 1293–1311. https://doi.org/10.1007/s10460-020-10130-9

[27] **Karim, S., Kwong, C., Shrivastava, M., & Tamvada, J.** (2023). My mother-in-law does not like it: resources, social norms, and entrepreneurial intentions of women in an emerging economy. *Small Business Economics, 60*(2), 409–431. https://doi.org/10.1007/s11187-021-00594-2

[28] **Kedmenec, I., & Strašek, S.** (2017). Are some cultures more favourable for SE than others? *Economic Research-Ekonomska Istrazivanja, 30*(1), 1461–1476. https://doi.org/10.1080/1331677X.2017.1355251

[29] **Kimmitt, J., & Muñoz, P.** (2018). Sensemaking the 'social' in SE. *Annals of Tourism Research, 36(8)*, 859–886. https://doi.org/10.1177/0266242618789230

[30] **Kouam, J. C., & Asongu, S. A.** (2022). Effects of taxation on social innovation and implications for achieving sustainable development goals in developing countries: A literature review. *International Journal of Innovation Studies, 6*(4), 259–275. https://doi.org/10.1016/j.ijis.2022.08.002

[31] **Lincoln, Y., Lynham, S., & Guba, E.** (2011). *Paradigmatic controversies, contradictions, and emerging confluences*, Revisited en N. K. Denzin & Y. S. Lincoln (Eds.), The Sage handbook of qualitative research (4.ª ed., pp. 97–128).

[32] **Macías-Prada, J., Silva, Y., & Zapata, Á.** (2023). The role of universities in Latin American SE ecosystems: a gender perspective. International Journal of Gender and Entrepreneurship, 16(1), 47-68. https://doi.org/10.1108/IJGE-03-2023-0081

[33] **Mair, J., & Martí, I.** (2006). SE research: A source of explanation, prediction, and delight. *Journal of World Business, 41*(1), 36–44. https://doi.org/10.1016/j.jwb.2005.09.002

[34] **Maniam, B., Engel, J., & Subramaniam, G.** (2018). Examining the significance and impact of SE. *International Journal of Engineering & Technology, 7*(4.38), 818–824. https://doi.org/10.14419/ijet.v7i4.38.27552

[35] **Miró, J., &. Ñopo, H.** (2021). *Ser mujer en el Perú. Donde estamos y a dónde vamos*. Editorial Planeta Perú S.A.

[36] **Mohiuddin, M., Yasin, I., Abdul Latiff, A., & Mannan, M.** (2023). Exploring the Impact of Bonding, Bridging and Linking Social Capital on Scaling Social Impact: An Emerging Economy Perspective. *Journal of SE,* 1–25. https://doi.org/10.1080/19420676.2023.2263762

[37] **Moustakas, C.** (1994). *Phenomenological research methods*. Sage.

[38] **Ognjenović, K.** (2023). Participation of Women in Institutionally Sponsored Entrepreneurship Programs in Serbia: Some Statistical Facts. *Journal Of Women's Entrepreneurship And Education,* (3/4), 28-47. https://doi: 10.28934/jwee23.34. pp 28-47

[39] **Pareja-Cano, B., Valor, C., & Benito, A.** (2020). How Social Enterprises Nurture Empowerment: A Grounded Theoretical Model of Social Change. *Journal of SE, 14*(1), 29–49. https://doi.org/10.1080/19420676.2020.1821753

[40] **Patton, M.** (2002). *Qualitative research and evaluation methods* (3rd Ed.). Sage.

[41] **Perekrestova, V.** (2022). Normative coherence through SE: Fostering women's empowerment in Myanmar. *Development Policy Review, 40*(S1). https://doi.org/10.1111/dpr.12627

[42] **Programa de las Naciones Unidas para el Desarrollo en el Perú.** (2023). *Estrategia de Igualdad de Género PNUD Perú 2023-2026. PNUD Perú.* Recuperado de https://www.undp.org/es/peru/publications/estrategia-de-igualdad-de-genero-2023-2026.

[43] **Rosca, E., Agarwal, N., & Brem, A.** (2020). Women entrepreneurs as agents of change: A comparative analysis of SE processes in emerging markets. *Technological Forecasting and Social Change*, 157, 120067. https://doi.org/10.1016/j.techfore.2020.120067

[44] **Ruiz-Martínez, R., Kuschel, K., & Pastor, I.** (2021). A contextual approach to women's entrepreneurship in Latin America: impacting research and public policy. *International Journal of Globalisation and Small Business, 12*(1), 83-103. https://doi.org/10.1504/IJGSB.2021.10036469

[45] **Sen, A.** (1985). Well-Being, Agency and Freedom: The Dewey Lectures 1984. *The Journal of Philosophy, 82*(4), 169–221. http://www.jstor.org/stable/2026184

[46] **Shang, L.** (2024). From the emancipated to the emancipator: an integrative perspective on women social entrepreneurs' emancipation experiences. *Gender in Management: An International Journal.* https://doi.org/10.1108/GM-03-2023-0065

[47] **Sharma, V., Maheshkar, Ch., Poulose, J., Kapse, M., & Mahajan, Y.** (2023). Women Entrepreneurs: A Study of Psychological Well-being and Empowerment in Indian Social Context. *Journal Of Women's Entrepreneurship And Education, (3*/4), 95-121. https://doi.org/10.28934/jwee23.34.pp95-121

[48] **Swail, J. & Marlow, S.** (2018). Embrace the masculine; attenuate the feminine' – gender, identity work and entrepreneurial legitimation in the nascent context. *Entrepreneurship and Regional Development, 30*(1-2), 256-282. https://doi: 10.1080/08985626.2017.1406539

[49] **Themudo, N.** (2009). Gender and the Nonprofit Sector. *Nonprofit and Voluntary Sector Quarterly, 38*(4), 663–683. https://doi.org/10.1177/0899764009333957

[50] **Usman, S., Masood, F., Khan, M., & Khan, N.** (2022). Impact of empathy, perceived social impact, social worth and social network on the social entrepreneurial intention in socio-economic projects. *Journal of Entrepreneurship in Emerging Economies, 14*(1), 65–92. https://doi.org/10.1108/JEEE-10-2020-0355

[51] **Vázquez, M., Portales, L., & Velásquez, I.** (2018). Indigenous Social Enterprises as Drivers of Sustainable Development: Insights From Mexico and Peru. *Critical Sociology, 44*(2), 323–340. https://doi.org/10.1177/0896920516688757

[52] **Warnecke, T., & Balzac-Arroyo, J.** (2022). Community, capabilities, and the SE ecosystem. *Community Development, 54*(3), 359–381. https://doi.org/10.1080/15575330.2022.2155675

[53] **World Bank.** (2023). *Labor force participation rate, female.* https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS

[54] **Yadav, R., Kumari, K., & Saini, Ch.** (2023). Covid-19 and Indian Women Entrepreneurship: Factor Analysis Approach. *Journal Of Women's Entrepreneurship And Education, 1-2*, 72–88. https://doi: 10.28934/jwee23.12.pp72-88

[55] **Yamini, R., Soloveva, D., & Xiaobao, P.** (2022). "What Inspires SE? The Role of Prosocial Motivation, Intrinsic Motivation, and Gender in Forming Social Entrepreneurial Intention." *Entrepreneurship Research Journal, 12*(2), 71–105. https://doi.org/10.1515/erj-2019-0129

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ORIGINAL SCIENTIFIC PAPER

The Influence of Women's Leadership on Organizational Alignment with Sustainable Development Goals: A Discriminant Analysis Approach

Manohar Kapse[1]
Jaipuria Institute of Management Indore, Indore, India
Mirjana Radović-Marković[2]
Faculty of Economics and Engineering Management, University Business Academy, Novi Sad, Serbia
Vinod Sharma[3]
Yogesh Mahajan[4]
Symbiosis Centre for Management and Human Resource Development (SCMHRD), Symbiosis International (Deemed University), Pune, India
Rahul B. Hiremath[5]
Indian Institute of Management Raipur, India

A B S T R A C T

Although it seems that the roles of leaders in sustainable development are extremely important, it is not entirely clear whether the obstacles for women leaders in this context have really changed and to what extent there is still gender discrimination in this domain. In line with this, the study investigates the relationship between the gender of the leaders and the alignment of organizations

[1] Corresponding author, e-mail: mk10oct@gmail.com
[2] E-mail: mirjana.radovic.markovic@bba.edu.rs
[3] E-mail: sharmavins@gmail.com
[4] E-mail: yogesh_mahajan@scmhrd.edu
[5] E-mail: rhiremath@iimraipur.in

with the 17 Sustainable Development Goals (SDGs) set by the United Nations. With the growing emphasis on sustainability in business practices, understanding how leadership, particularly CEO gender, influences corporate sustainability initiatives is crucial. The research adopts a quantitative approach to analyze data from organizations led by both male and female CEOs across various industries. By considering the 17 SDGs as independent variables, the study aims to discern whether organizations led by female CEOs exhibit a stronger commitment to specific sustainability goals compared to those led by male CEOs. The analysis seeks to uncover patterns in goal prioritization and explore whether gendered leadership affects sustainability outcomes. The findings are expected to provide insights into how leadership characteristics impact an organization's sustainability strategies and could suggest future policies and practices aimed at enhancing gender diversity in leadership roles.

KEYWORDS: *female leaders, organization, gender equality, sustainable development goals, alignment, strategy*

Introduction

Examining gender's influence on sustainability is crucial for both theoretical and practical reasons, yet it often remains underexplored. Namely, gender considerations are often overlooked due to a lack of awareness, insufficient data, and traditional biases in research and policy-making (Widegren & Sand, 2021). For these reasons, women continue to be dissatisfied with the stigma and many restrictions they face (Radović Marković, 2007), although they gradually improved their rights over time. Namely, according to the UN Economic and Social Council (2017), as many as 49 countries lack laws that protect women from all forms of discrimination. This affects gender equality and further limits women's rights in their inclusion in society and achieving the United Nation's Sustainable Development Goals (SDGs). Integrating gender perspectives is essential for achieving these global goals. Therefore, their greater inclusion in society and the achievement of the Sustainable Development Goals (SDGs) represent one of the biggest challenges facing the modern world. Especially, violence against women and girls, and low participation of women in decision-making or leadership positions are the main challenges. This violence can take many forms, including physical, sexual, and psychological abuse, and it has far-reaching impacts on the health and well-being of women and girls. In the economic sense, it most often refers to limiting access to financial resources, education or employment

opportunities. Increasing women's participation in leadership roles is not only a matter of equity but also leads to better organizational performance and innovation. Namely, they bring different viewpoints and approaches to problem-solving, which can lead to more innovative solutions (Novotney, 2023). In addition, according to Novotney (2023), numerous studies show that women leaders help increase productivity, support collaboration, inspire organizational dedication, and improve fairness. In addition, organizations led by women may implement more comprehensive policies and practices that support the SDGs. Furthermore, female leaders are more likely to prioritize ethical standards and stakeholder engagement, which are crucial for sustainable business practices (Ricci et al., 2023).

Despite this fact, organizations do not sufficiently address policies and practices that take into account the mismatch between how women are viewed and the qualities and experiences required for leadership positions (Ibarra et al., 2013). For example, leadership qualities are often associated with masculine traits, which can disadvantage women (AAUW, 2016). Research by Zheng, Kark, and Meister (2018) highlights the paradoxes women leaders face, such as the need to be competent, which are often seen as opposing qualities. In this context, leadership qualities such as assertiveness, decisiveness, and confidence are often stereotypically viewed as masculine traits. When women exhibit these qualities, they can face negative biases and perceptions. This phenomenon is known as the "double bind" where women are often judged harshly for displaying traditionally masculine traits, yet they may also be seen as less competent. On one hand, if they follow a masculine leadership style, their male subordinates will dislike them. On the other hand, if they adopt a feminine style, they will be more liked, but not respected (Radović-Marković et al., 2021). At the same time, the women leaders' "unique" leadership style also has its dangers, as it could strengthen gender stereotypes (Rosner, 2011). Therefore, female inequality in the workforce continues to be a concern worldwide and the interest in finding a solution to this problem has never stopped. In this context, it is necessary in current organizations to support the motivation of women to set themselves up as leaders, but also to increase the likelihood that others will recognize their efforts and qualities (Ibarra et al., 2013). Addressing these gaps requires concerted efforts to integrate gender analysis into sustainability research and practice. This can lead to more inclusive and resilient organizations and societies.

Drawing on existing literature on gender and leadership, as well as sustainability in business, this study adopts a quantitative approach to examine data from diverse industries. Based on suggestions that female executives are more likely than their male counterparts to engage in sustainable business practices (e.g., Manner, 2010), we investigate the impact of gender diversity in leadership by exploring how it may influence corporate sustainability strategies, offering valuable insights for both scholars and practitioners.

Literature Review

The relationship between leadership and organizational outcomes has been extensively studied, with a growing focus on how different leadership attributes, including gender, affect various aspects of corporate strategy and performance. Several studies deal with the limitations that women face when advancing to leadership positions. Key issues include difficulties in adapting to the organizational culture of men, as well as stereotypes related to career and family problems and responsibilities (Agasalim, 2021).

The need to promote women to leadership positions in organizations is determined by numerous reasons (Mokhov, 2021). In line with this, some research indicates that gender diversity in leadership can lead to more innovative and inclusive decision-making processes (Catalyst, 2020). In addition, women in leadership roles have been associated with greater emphasis on social responsibility and ethical practices (Eagly & Carli, 2003). For instance, studies show that female leaders often prioritize social and environmental issues, which can influence organizational policies and practices (Adams & Ferreira, 2009). Also, female leaders must be effective communicators, as they are responsible for ensuring that everyone in the organization understands the company's culture and works together to achieve its goals (Radović Marković, 2023).

According to Kamath (2022), a few studies argue for the empowerment of women in order to achieve gender equality not only at the top management and leadership levels, but also for gender inclusiveness at the middle and general levels in certain firms. Namely, the empowerment of women is fundamental for the achievement of equality and corporate sustainability (Kumar Basantia & Rameshwari Devi, 2022). In line with this, the impact of CEO gender on corporate sustainability is an emerging area of research. Female CEOs have been found to have different

sustainability priorities compared to their male counterparts. According to Post and Byron (2015), female executives are more likely to integrate sustainability into their corporate strategies. This may be attributed to gendered perspectives on risk and responsibility, where women are generally perceived to have a stronger orientation towards social and environmental concerns (Kirkpatrick & Locke, 1991; Radović-Marković, 2018). Research by Bear, Rahman, and Post (2010) supports this view, indicating that companies with female board members or executives are more likely to adopt sustainable practices. The rationale behind this trend includes women's greater sensitivity to stakeholder concerns and a more collaborative leadership style (Nielsen & Huse, 2010). This sensitivity can translate into stronger commitments to the Sustainable Development Goals (SDGs), which address global challenges such as inequality, climate change, and sustainable development. Such commitment includes the intensity, direction and persistence displayed in achieving those goals. In addition, motivation is the process that accounts for an effort made to attain a given Sustainable Development Goals (SDGs) (Radovic-Marković et al., 2021).

The SDGs, established by the United Nations in 2015, represent a universal agenda for addressing key global challenges. Organizations across various sectors are increasingly aligning their strategies with these goals (UN, 2015). Studies suggest that corporate engagement with SDGs varies significantly based on leadership characteristics (Grosser & Moon, 2019). Female leaders, due to their inherent tendencies towards collaborative and ethical practices, may exhibit greater alignment with specific SDGs, particularly those related to gender equality (Goal 5), climate action (Goal 13), and reduced inequalities (Goal 10) (Seierstad, 2016).

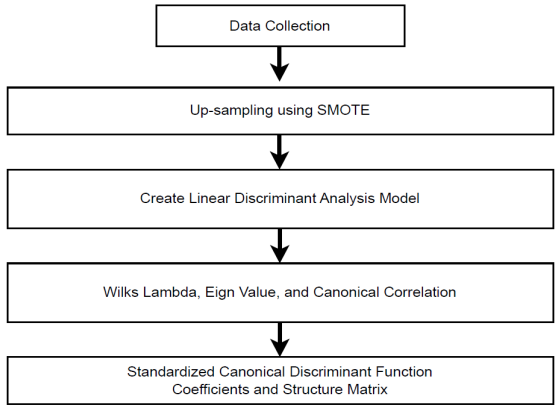
Most of the empirical studies focusing on the alignment of corporate practices with SDGs in relation to CEO gender are limited but growing. For example, a study by Terjesen, Sealy, and Singh (2009) highlights that gender diversity in senior management correlates with higher corporate social responsibility (CSR) scores, which often encompass elements of the SDGs. This correlation suggests that female CEOs might be more proactive in integrating SDG-related practices into their organizational strategies. Further, research by Madsen and Bell (2014) indicates that female-led firms are more likely to engage in practices that support sustainable development, though the specific impact on each SDG needs more detailed exploration. The diversity in sustainability goals prioritization observed in female-led

firms could provide a nuanced understanding of how CEO gender influences organizational alignment with the SDGs.

Methodology

Machine learning aims to find a relationship between independent and dependent variables. In this study, the objective is to examine the impact of a leader`s gender on achieving Sustainable Development Goals. Since gender is a demographical variable, it is not advised to use it as a dependent variable for classification. In this study Linear Discriminant Analysis (LDA) (Blei et al., 2003) a supervised learning technique that searches for variables which best discriminate among classes is applied (Martinez & Kak, 2001). In the present study, LDA was used as supervised modeling for gender classification (Female or Male). There are many other studies where LDA is used for demographic variables (Hu et al., 2007; Schler et al., 2006). Figure 1 illustrates the methodology adopted for the research.

Figure 1: A proposed methodology



Source: Authors

Source of Data

The data for the research work is taken from the open-source platform Kaggle.com (Kaggle: Your Home for Data Science, 2024), as well as from sustainability reports and ESG scores from ResponsibilityReports.com (Sustainalytics, 2024). The cleaned textual data of ESG reports of Standard

& Poor's 500 large companies listed on stock exchanges in the United States (Chopra, 2024) was used to identify the keywords related to the SDG goals. The sustainability reports were converted to text, and the SDGs were identified from the keywords in the text. The sustainability development goals were calculated from the text using the text2sdg package (Meier et al., 2021) in R Programming. The methods used for identifying the SDG goals from the ESG reports include the Aukland approach (Wang et al., 2023), SIRIS (Duran-Silva et al., 2019), Aurora Universities Network (Vanderfeesten et al., 2011), and Elsevier (Hellwig et al., 2019), all of which rely on Lucene-style Boolean queries. Additionally, the SDGO (Bautista-Puig & Mauleón E, 2019) and SDSN (Sachs et al., 2024) databases were also utilized for this purpose. Analysis of the data was done using the text2sdg (Wulff et al., 2021) package in R Programming (version 4.0.1) (Bunn et al., 2017). To create a balanced dataset, the SMOTE technique was applied using Python (Van Rossum, 2009) software and the PyCaret (Ali, 2020) package. This balanced data was then analyzed using IBM SPSS. For LDA, IBM SPSS version 28.0 (IBM.Corp & Released 2021, 2023) package was used.

Variable of the Study

The dependent variable for the present study is the gender of the CEO of the organization, while the independent variables are the seventeen Sustainable Development Goals (SDG- 1 to SDG- 17), listed as follows: SDG-1 Eliminate Poverty, SDG-2 Erase Hunger, SDG-3 Establish Good Health and Well-Being, SDG-4 Provide Quality Education, SDG-5 Enforce Gender Equality, SDG-6 Improve Clean Water and Sanitation, SDG-7 Grow Affordable and Clean Energy, SDG-8 Create Decent Work and Economic Growth, SDG-9 Increase Industry, Innovation, and Infrastructure, SDG-10 Reduce Inequality, SDG-11 Mobilize Sustainable Cities and Communities, SDG-12 Influence Responsible Consumption and Production, SDG-13 Organize Climate Action, SDG-14 Develop Life Below Water, SDG-15 Advance Life On Land, SDG-16 Guarantee Peace, Justice, and Strong Institutions, SDG-17 Build Partnerships for the Goals.

Data Analysis

Since the gender data, considered the dependent variable, is imbalanced due to the very low ratio of female CEOs, it poses challenges for analysis.

Using SMOTE (Fernandez et al., 2018) techniques the data was upscaled and then used for further analysis. With the advancements in machine learning, there are many algorithms available for classification. The most appropriate one for this study is LDA (Linear Discriminant Analysis). A total of 808 observations were collected for the CEOs of S and P 500 companies and their ESG reports from 2014 to 2023. Due to data cleaning, only 808 observations were used for analysis. Due to class imbalance, SMOTE is used to balance the data. There are many techniques which are used to solve the class imbalance problem, such as the **Synthetic Minority Oversampling Technique (**SMOTE) (Fernandez et al., 2018), Adaptive Synthetic Sampling (ADASYN) (He et al., 2008), SMOTE-ENN (Noorhalim et al., 2019), SMOTETomek (Batista et al., 2004; Wang et al., 2023) and so on. In this study, we used SMOTE Tomek for balancing the data. In SMOTE new data points are created for the minority class. The SMOTE technique was used, and the data was transformed to 1115 observations. This data was used for applying Linear Discriminant Analysis.

Linear Discriminant Analysis

Linear Discriminant Analysis (Brown & Tinsley, 1983) is a method that helps researchers explore and explain the differences between two or more distinct groups by looking at several continuous variables at the same time. Although gender is a demographical variable, it is not advised to use it as a dependent variable for classification. In this study, Linear Discriminant Analysis (LDA) (Blei et al., 2003) a supervised learning technique that searches for variables which best discriminate among classes (Martinez & Kak, 2001) is being used. There are many other studies where LDA is used for demographic variables as dependent variables (Hu et al., 2007; Schler et al., 2006). With respect to the objective of the study, which is to find which SDGs discriminated the male and female leaders, LDA seems to be the most appropriate technique. Since our objective is to identify the independent variables rather than classify them, Linear Discriminant Analysis (LDA) is considered to be a better method for dimension reduction and feature selection. It is widely used by researchers across various domains (Habachi & Benbachir, 2019). In this research, LDA is used to identify features that discriminate gender based on the Sustainable Development Goals (SDGs).

Wilks Lambda

The key statistic used to determine whether there is a relationship between the independent and dependent variables is the significance test for Wilks' lambda. Wilks' lambda is the proportion of the total variance in the discriminant scores that is not explained by differences among the groups.

Table 1: Wilks' lambda Test

SDG	Gender	Mean	Standard Deviation	Wilks' Lambda	F	df1	df2	Significance
SDG_01	Female	10.9638	6.34619	0.946	64.093	1	1113	0
	Male	8.2457	4.98169					
SDG_02	Female	6.8104	5.44884	0.975	29.02	1	1113	0
	Male	9.0278	7.60331					
SDG_03	Female	19.1075	9.83347	0.977	26.131	1	1113	0
	Male	22.6043	12.20812					
SDG_04	Female	13.2534	6.30059	0.994	7.134	1	1113	0.008
	Male	12.3369	5.13661					
SDG_05	Female	10.9341	6.58054	0.993	7.911	1	1113	0.005
	Male	9.8717	5.95369					
SDG_06	Female	14.9652	8.92826	0.995	5.684	1	1113	0.017
	Male	13.6028	9.75544					
SDG_07	Female	30.377	16.94971	0.991	10.264	1	1113	0.001
	Male	27.4637	13.38701					
SDG_08	Female	29.4591	7.81625	0.997	3.122	1	1113	0.078
	Male	28.6368	7.56107					
SDG_09	Female	21.1087	4.76621	0.984	18.196	1	1113	0
	Male	19.8006	5.25117					
SDG_10	Female	23.9608	7.06264	1	0.05	1	1113	0.824
	Male	23.8655	7.05038					
SDG_11	Female	29.6534	4.96574	0.997	2.923	1	1113	0.088
	Male	30.4034	8.49765					
SDG_12	Female	22.9488	7.70253	0.974	30.122	1	1113	0
	Male	25.7867	9.06671					

SDG	Gender	Mean	Standard Deviation	Wilks' Lambda	F	df1	df2	Significance
SDG_13	Female	29.3872	8.52987	1	0.199	1	1113	0.655
	Male	29.6754	11.93635					
SDG_14	Female	6.3729	4.08477	0.992	8.821	1	1113	0.003
	Male	5.5085	5.25064					
SDG_15	Female	9.4146	5.60406	0.997	3.483	1	1113	0.062
	Male	10.1901	7.62163					
SDG_16	Female	28.9953	8.89625	0.996	4.478	1	1113	0.035
	Male	27.8671	8.70612					
SDG_17	Female	6.854	3.13618	0.997	3.908	1	1113	0.048
	Male	6.4482	3.55061					

Source: Authors' calculation

Based on the results of Wilks' Lambda, it's evident that the null hypothesis is rejected for SDG_01, SDG_02, SDG_03, SDG_09, SDG_12, SDG_07, SDG_14, SDG_05, SDG_04, SDG_06, SDG_16, and SDG_17. This means there is a significant difference in these SDGs between genders at the 5% significance level. Specifically, SDGs 1,4,5,6,7,12,14, and 16 favor female CEOs, while SDGs 2 and 3 are more favorable to male CEOs. The canonical correlation coefficient is 0.515 and the square of the canonical correlation is 0.265. This value measures the association between the discriminant score and the set of independent variables. The eigenvalue is 0.362, indicating that the discriminant function explains approximately 36.2% of the variance, which is quite low. Similarly, Wilks` lambda is 0.734, meaning 26.6% (1 - 0.734) of the variance is explained by the SDGs according to the discriminant function at a 5% significance level.

Standardized Canonical Discriminant Function Coefficients

The standardized canonical discriminant function coefficients indicate the relationship of the variable with the discriminant function. Higher values suggest that the variable contributes more strongly to differentiating by gender. The SDG, ranked by the magnitude of their coefficients indicating discriminatory power are as follows: SDG_01, SDG_10, SDG_03, SDG_02, SDG_07, SDG_12, SDG_06, SDG_05, SDG_04, SDG_14, SDG_11, SDG_13, SDG_09, SDG_16, SDG_15, SDG_17 and SDG_08. The

importance of each variable is indicated by the relative size of the absolute value of its coefficient, with more important variables having larger coefficients. The direction is indicated by the sign of the coefficients. Similarly, the structure matrix indicates each variable's correlation with the discriminant function, with higher values representing stronger correlations. Many authors consider the structure matrix a better measure than the standardized canonical discriminant function coefficient.

Table 2: Standardized Canonical Discriminant Function Coefficients

DG	Standardized Canonical Discriminant Function Coefficients	Structure Matrix
SDG_01	.797	0.399
SDG_02	-.435	-0.269
SDG_03	-.457	-0.255
SDG_04	.322	0.133
SDG_05	.331	0.14
SDG_06	.355	0.119
SDG_07	.424	0.16
SDG_08	.019	0.088
SDG_09	.175	0.213
SDG_10	-.477	0.011
SDG_11	-.300	-0.085
SDG_12	-.372	-0.274
SDG_13	-.228	-0.022
SDG_14	.304	0.148
SDG_15	-.155	-0.093
SDG_16	.173	0.105
SDG_17	.061	0.099

Source: Authors' calculation

The group centroid value is 0.706 for female CEOs and 0.511 for male CEOs. Based on the coefficients and their signs in the structure matrix, it seems that SDG's SDG_01, SDG_09, SDG_07, SDG_14, SDG_05, SDG_04, SDG_06, SDG_16, SDG_17, SDG_15, SDG_08, and SDG_10 favored by female CEOs and SDG_12, SDG_02, SDG_03, SDG_11 and SDG_13 are favored by male CEOs.

Discussion

The discriminant analysis results reveal significant differences in the prioritization of Sustainable Development Goals (SDGs) based on the gender of the CEO, which aligns with existing literature on gendered leadership preferences in corporate strategy. Specifically, Wilks' Lambda results indicate that for SDGs 1 (No Poverty), 4 (Quality Education), 5 (Gender Equality), 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 12 (Responsible Consumption and Production), 14 (Life Below Water), and 16 (Peace, Justice, and Strong Institutions), female CEOs demonstrate stronger alignment compared to their male counterparts. These findings are consistent with prior research that suggests female leaders tend to emphasize social and environmental issues more prominently (Post & Byron, 2015; Adams & Ferreira, 2009).

Conversely, SDGs 2 (Zero Hunger) and 3 (Good Health and Well-being) are more strongly aligned with organizations led by male CEOs. This outcome might reflect traditional business priorities that are often emphasized in male-dominated leadership contexts, focusing more on immediate, measurable outcomes such as economic growth and productivity (Eagly & Carli, 2003). Such findings suggest that male and female CEOs may adopt differing perspectives on what constitutes sustainable business practices, potentially driven by underlying gendered differences in leadership values and decision-making styles (Bear et al., 2010).

The canonical correlation coefficient (0.515) and its squared value (0.265) indicate a moderate association between the discriminant scores and the set of SDGs. Although this relationship is significant, the relatively low eigenvalue (0.362) and Wilks' Lambda (0.734) suggest that the discriminant function explains only a limited portion of the variance (36.2%) in the data. This result highlights the complexity of sustainability priorities, which are likely influenced by multiple factors beyond CEO gender alone (Grosser & Moon, 2019).

The group centroid values for female (0.706) and male (-0.511) CEOs further illustrate the distinct differences in how these leaders approach SDG integration within their organizations. Female CEOs tend to favor SDGs related to social equity, environmental protection, and long-term sustainability goals, such as SDGs 1, 5, 6, 7, 14, and 16. These goals are inherently more aligned with the collaborative and stakeholder-inclusive leadership styles often associated with women in executive positions

(Nielsen & Huse, 2010). On the other hand, male CEOs are more aligned with goals like SDGs 2, 3, 11 (Sustainable Cities and Communities), and 13 (Climate Action), which are associated with tangible, growth-oriented outcomes. This observation aligns with research suggesting that male leaders may prioritize goals that demonstrate immediate business performance (Terjesen et al., 2009).

These findings contribute to the broader understanding of how gender diversity in leadership can impact organizational alignment with global sustainability frameworks. By emphasizing the differing priorities of male and female CEOs, this study highlights the importance of diverse leadership in fostering a holistic approach to sustainable development. Organizations aiming to enhance their contributions to the SDGs may benefit from fostering gender diversity at the executive level to ensure a balanced integration of social, environmental, and economic objectives.

Conclusion

The importance of the study can be emphasized by the fact that there are very few studies that focus on the impact of gender diversity on the achievement of the Sustainable Development Goals (SDGs). Therefore, our study highlighted the promotion of women in leadership positions and the need to ensure gender diversity in decision-making. This would not only support the achievement of SDG 5 (gender equality), but also improve the business performance of organizations. Namely, this study highlights the important influence of the CEO's gender on the prioritization of the Sustainable Development Goals (SDGs) within organizations. It has been observed that female CEOs are more likely to prioritize goals related to gender equality (SDG 5), quality education (SDG 4) and good health and well-being (SDG 3). This is often attributed to their stronger commitment to the welfare of the community, as well as to the achievement of long-term social goals. The study, on the other hand, showed that male directors focus on goals related to economic growth and immediate business results. In short, women leaders often adopt a long-term perspective, focusing on sustainable growth rather than short-term gains. This approach is well aligned with the overarching goals of the SDGs, which relate to long-term global sustainability. These differences between women and men leaders highlight the importance of appreciating diverse leadership in achieving a balanced and comprehensive approach to sustainability.

In the end, it is stated that sustainable development policies that do not consider gender disparities and that do not have a holistic approach to the problem, will not be able to respond to the needs of all members of the community. Our recommendation is to ensure that women are represented in leadership positions across all sectors, including government, business, and civil society.

The study findings could have practical implications for businesses, policymakers, and sustainability advocates, emphasizing the importance of fostering gender-diverse leadership to promote sustainable development. In addition, the scientific sector is expected to provide important support to this action on a broader level in terms of achieving gender equality, through concerted efforts to integrate gender analysis into sustainability research and practice.

Limitations and Future Scope of Research

This study has several limitations. First, it focuses solely on the gender of the CEO, without considering other potentially influential variables such as the CEO's experience, educational background, or cultural context. Additionally, the study relies on a quantitative approach, which limits the exploration of underlying motivations and decision-making processes. The sample size and diversity of industries represented in the study may also affect the generalizability of the results. Finally, the study assumes a linear relationship between CEO gender and SDG prioritization, which may overlook the complexity of leadership influences on sustainability strategies.

Future research can expand upon this study by exploring additional factors that influence organizational alignment with the SDGs beyond CEO gender. For example, examining the impact of industry type, organizational culture, and the presence of gender-diverse leadership teams could provide a more nuanced understanding of the relationship between leadership and sustainability. Longitudinal studies could also investigate how shifts in leadership impact changes in SDG prioritization over time. Additionally, qualitative research methods, such as case studies or interviews with CEOs, could yield deeper insights into the motivations and strategic choices that drive sustainability decisions. Expanding the sample to include organizations from various regions and sectors would enhance the generalizability of the findings.

References

[1] **AAUW.** (2016). Barriers & Bias: The Status of Women in Leadership. Available at: Barriers & Bias: The Status of Women in Leadership – AAUW: Empowering Women Since 1881[accessed October 17, 2024].

[2] **Adams, R. B., & Ferreira, D.** (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2), 291–309. https://doi.org/10.1016/j.jfineco.2008.10.007

[3] **Agasalim, A. A.** (2021). Importance and Role of Women within the Business Community of Azerbaijan. *Journal of Women's Entrepreneurship and Education*, (1-2), 84-108.

[4] **Ali, M.** (2020). PyCaret: An open source, low-code machine learning library in Python (PyCaret version 1.0.0). *PyCaret*. https://www.pycaret.org

[5] **Batista, G. E., Prati, R. C., & Monard, M. C.** (2004). A study of the behavior of several methods for balancing machine learning training data. *ACM SIGKDD explorations newsletter*, *6*(1), 20-29.

[6] **Bautista-Puig, N., & Mauleón, E.** (2019, July). Unveiling the path towards sustainability: Is there a research interest on sustainable goals? In *Proceedings of the 17th International Conference on Scientometrics & Informetrics*. https://doi.org/10.6084/m9.figshare.11106113.v1

[7] **Bear, S., Rahman, N., & Post, C.** (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics*, *97*(2), 207–221. https://doi.org/10.1007/s10551-010-0505-2

[8] **Blei, D. M., Ng, A. Y., & Jordan, M. I.** (2003). Latent Dirichlet allocation. *Journal of Machine Learning Research*, 3, 993–1022.

[9] **Brown, M. T., & Tinsley, H. E. A.** (1983). Discriminant analysis. *Journal of Leisure Research*, *15*(4), 290–310. https://doi.org/10.1080/00222216.1983.11969564

[10] **Bunn, A. G., Helfield, J. M., Gerdts, J. R., Gleaves, D. A., Drake, D. C., & Sheppard, P. R.** (2017). A solvent-based extraction fails to remove mobile nitrogen from western redcedar (Thuja plicata). *Dendrochronologia*, *44*, 19-21.

[11] **Catalyst.** (2020). Women in leadership. *Catalyst*. https://www.catalyst.org/research/women-in-leadership/

[12] **Chopra, J.** (2024, June). ESG sustainability reports of S&P 500 companies. *Kaggle*. https://www.kaggle.com/datasets/jaidityachopra/esg-sustainability-reports-of-s-and-p-500-companies

[13] **Duran-Silva, N., Fuster, E., Massucci, F. A., & Quinquillà, A.** (2019). A controlled vocabulary defining the semantic perimeter of Sustainable Development Goals. *Zenodo*. https://doi.org/10.5281/zenodo.3567769

[14] **Eagly, A. H., & Carli, L. L.** (2003). The female leadership advantage: An evaluation of the evidence. *The Leadership Quarterly*, *14*(6), 807–834. https://doi.org/10.1016/j.leaqua.2003.09.004

[15] **Fernandez, A., Garcia, S., Herrera, F., & Chawla, N. V.** (2018). SMOTE for learning from imbalanced data: Progress and challenges, marking the 15-year anniversary. *Journal of Artificial Intelligence Research*, *61*, 863–905. https://doi.org/10.1613/jair.1.11192

[16] **Grosser, K., & Moon, J.** (2019). Sustainable Development Goals and the future of business. Routledge.

[17] **Habachi, M., & Benbachir, S.** (2019). Combination of linear discriminant analysis and expert opinion for the construction of credit rating models: The case of SMEs. *Cogent Business & Management*, *6*(1), 1685926.

[18] **Hellwig, J., Huggett, S., Siebert, M., & Jayabalasingham, B.** (2019). *Artificial Intelligence: How knowledge is created, transferred, and used*. https://doi.org/10.17632/7ydfs62gd6.2

[19] **Hu, J., Zeng, H.-J., Li, H., Niu, C., & Chen, Z.** (2007). Demographic prediction based on user's browsing behavior. In *Proceedings of the 16th International World Wide Web Conference (WWW2007)*. https://doi.org/10.1145/1242572.1242594

[20] **Ibarra, H., Ely, R., & Kolb, D.** (2013).Women Rising: The Unseen Barriers, Harvard Business Review. Available at: Women Rising: The Unseen Barriers (hbr.org) [accessed October 16, 2024].

[21] **IBM Corp. Released** (2021). IBM SPSS Statistics for Windows, Version 28.0. Armonk, NY: IBM Corp.

[22] **IBM Corp. Released** (2023). IBM SPSS Statistics for Windows, Version 29.0.2.0 Armonk, NY: IBM Corp

[23] **Kamath, B.** (2022). Board gender diversity and intellectual capital performance of firms in India. *Journal of Women's Entrepreneurship and Education*, (1-2), 97–116.

[24] **Kirkpatrick, S. A., & Locke, E. A.** (1991). Leadership: Do traits matter? *The Executive*, *5*(2), 48–60. https://doi.org/10.5465/ame.1991.4274679

[25] **Kumar Basantia, T., & Rameshwari Devi, Y.** (2022). Gender discrimination in higher education institutions of Northeast India. *Journal of Women's Entrepreneurship and Education*, (3-4), 68–102.

[26] **Madsen, S. R., & Bell, M. P.** (2014). Women and leadership: A contextual perspective. Routledge.

[27] **Manner, M.H.** (2010). The impact of CEO characteristics on corporate social performance. *Journal of Business Ethics*, *93*, 53-72

[28] **Martinez, A. M., & Kak, A. C.** (2001). PCA versus LDA. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *23*(2), 228–233. https://doi.org/10.1109/34.908974

[29] **Meier, D. S., Mata, R., & Wulff, D. U**. (2021). text2sdg: An open-source solution to monitoring sustainable development goals from text. arXiv. https://arxiv.org/abs/2110.05856

[30] **Mokhov, V.** (2021). "Glass Ceilings" in the System of Public Administration in the Russian Federation. *Journal of Women's Entrepreneurship and Education*, (1-2), 109-121.

[31] **Nielsen, S., & Huse, M.** (2010). The contribution of women on boards of directors: Going beyond the surface. *Corporate Governance. International Review*, *18*(2), 136–148. https://doi.org/10.1111/j.1467-8683.2010.00784.x

[32] **Noorhalim, N., Ali, A., Shamsuddin, S.M.** (2019). Handling Imbalanced Ratio for Class Imbalance Problem Using SMOTE. In: Kor, LK., Ahmad, AR., Idrus, Z., Mansor, K. (eds.) Proceedings of the Third International Conference on Computing, Mathematics and Statistics (iCMS2017). Springer, Singapore. https://doi.org/10.1007/978-981-13-7279-7_3

[33] **Novotney, A.** (2023). Women leaders make work better, APA. Available at: Women leaders make work better. Here's the science behind how to promote them (apa.org)

[34] **Post, C., & Byron, K.** (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, *58*(5), 1546–1571. https://doi.org/10.5465/amj.2013.0319

[35] **Radović Marković, M.** (2007). Women Leaders: Case Study of Serbia. In Radović Marković, M. (ed.), The Perspective of Women's Entrepreneurship in the Age of Globalization, IAP, Charlotte, SAD, pp. 87-95. Available from: https://www.researchgate.net/publication/357974706_WOMEN_IN_BUSINESS_AND_LEADERSHIP_CRITIQUES_AND_DISCUSSIONS [accessed October 17, 2024].

[36] **Radović Marković, M.** (2023). Principles of management and leadership in a global world. Silver and Smith.

[37] **Radović Marković, M., & Radulović, D., Đukanović, B., Kyaruzi Silver, I.** (2021). Flexibility and Adaptation – The New Post-Covid Era, Silver & Smith, United Kingdom, ISBN 978-1-80068-337-2.

[38] **Radović Marković, M., Salamzadeh, A., & Kawamorita-Kesim, H.** (2016). Barriers to the advancement of women into leadership positions: A cross-national study. *Proceedings of the International Scientific Conference on Leadership and Organization Development*, 287–294.

[39] **Radović-Marković, M**. (2018). Organisational resilience and business continuity: theoretical and conceptual framework. *Journal of Entrepreneurship and Business Resilience*, *1*(1), 5-11.

[40] **Ricci, F., Scafarto, V., & della Corte, G**. (2023). Board Gender Diversity, Female Leaders and Corporate Environmental Responsibility: A Structured Literature Review. In: Paoloni, P.,Lombardi, R. (eds.) When the Crisis

Becomes an Opportunity. SIDREA Series in Accounting and Business Administration. Springer, Cham. https://doi.org/10.1007/978-3-031-21932-0_28 [accessed October 17, 2024].

[41] **Rosener, J. B.** (2011). Ways women lead. In *Leadership, gender, and organization* (pp. 19-29). Dordrecht: Springer Netherlands.

[42] **Sachs, J. D., Lafortune, G., & Fuller, G.** (2024). The SDGs and the UN Summit of the Future. *Sustainable Development Report 2024*. SDSN. https://doi.org/10.25546/108572

[43] **Schler, J., Koppel, M., Argamon, S., & Pennebaker, J.** (2006). Effects of age and gender on blogging. *Journal of Computational Science Education*, 199–205.

[44] **Seierstad, C.** (2016). The contribution of women on boards to corporate social responsibility: Evidence from the European Union. *Journal of Business Ethics*, *139*(1), 57–71. https://doi.org/10.1007/s10551-015-2620-9

[45] **Terjesen, S., Sealy, R., & Singh, V.** (2009). Women directors on corporate boards: A review and research agenda. *Corporate Governance: International Review*, 17(3), 320–337. https://doi.org/10.1111/j.1467-8683.2009.00742.x

[46] **UN Economic and Social Council.** (2017). Progress towards the Sustainable Development Goals: Report of the Secretary-General (E/2017/66). [accessed October 17, 2024].

[47] **United Nations.** (2015). *Transforming our world: The 2030 agenda for sustainable development*. United Nations. https://sdgs.un.org/2030agenda

[48] **Van Rossum, G., & Drake, F. L.** (2009). Python 3 reference manual. CreateSpace.

[49] **Vanderfeesten, I., Reijers, H. A., & Van der Aalst, W. M.** (2011). Product-based workflow support. *Information Systems*, *36*(2), 517-535.

[50] **Wang, W., Kang, W., & Mu, J.** (2023). Mapping research to the Sustainable Development Goals (SDGs). https://doi.org/10.21203/rs.3.rs-2544385/v2

[51] **Widegren, K., & Sand, J.** (2021). Gender and Sustainability: An International Research Review. The Swedish Secretariat for Gender Research, University of Gothenburg. Available at: GENDERACTION_Gender-and-Sustainability_An-International-Research-Review.pdf

[52] **Wulff, D. U., Mata, R., & Meier, D. S.** (2021). text2sdg: An open-source solution to monitoring sustainable development goals from text. *CoRR*, abs/2110.05856. https://arxiv.org/abs/2110.05856

[53] **Zheng, W., Kark, R., & Meister, A.** (2018). How women manage the gendered norms of leadership. *Harvard Business Review*, *28*. Available at: https://hbr.org/2018/11/how-women-manage-the-gendered-norms-of-leadership

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ORIGINAL SCIENTIFIC PAPER

Empowering Entrepreneurial Success Through the Development of Interpersonal Skills and Business Plans in Women Entrepreneurs

Yuri Reina Marín [1]
Einstein Sánchez Bardales [2]
Angelica María Carrasco Rituay [3]
Omer Cruz Caro [4]
River Chávez Santos [5]
Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Oficina de Gestión de la Calidad, Chachapoyas, Amazonas, Perú

A B S T R A C T

Women's entrepreneurial success can be achieved through the development of soft skills and the development of business plans to enhance business management skills. The study evaluated the impact of an entrepreneurial program focused on soft skills and business plan development through a pre-experimental methodology; a pre-and post-test was conducted on 28 women participants of the "Emprende Mujer" group over eight sessions. The main findings revealed a significant improvement in the soft skills of the women, as well as overcoming the lack of knowledge about the structure of a business plan, with a value of ($p \leq 0.05$). In conclusion, the business program proved to be effective for women

[1] E-mail: yuri.reina@untrm.edu.pe
[2] E-mail: einstein.sanchez@untrm.edu.pe
[3] E-mail: angelica.carrasco@untrm.edu.pe
[4] Corresponding author, e-mail: omer.cruz@untrm.edu.pe
[5] E-mail: river.chavez@untrm.edu.pe

entrepreneurs in search of business sustainability. This study highlights the importance of acquiring soft skills through experience. At the same time, the creation and development of business plans require educational intervention by specialists, as a lack of knowledge in key areas such as marketing and operations can hinder the growth of ventures.

KEYWORDS: *women, educational intervention, business plan, soft skills*

Introduction

In recent years, entrepreneurship has become a key driver for the promotion of economic growth in different countries (Batz Liñeiro et al., 2024; Pécot et al., 2024), acting as a dynamic agent that creates and transforms opportunities by generating employment and contributing to economic progress (Ávila, 2021). Also, entrepreneurship has proven to be a force capable of offering innovative solutions to challenging social problems (Apostu & Gigauri, 2023; Morante et al., 2024). It is not limited by age, gender, origin, or level of education. What truly matters for those who have an entrepreneurial initiative is their ability to identify opportunities, take risks, and make strategic decisions to carry them out (Clark et al., 2023).

Women entrepreneurs face a variety of challenges in their business ventures; these challenges include limited access to financial resources, lack of entrepreneurial skills, social stereotypes, gender-based discrimination, geographic isolation from support networks, and specific obstacles related to family responsibilities and property rights (Abd & Hashim, 2023; Gashi et al., 2022; Hayati & Arini, 2023; Beulah, 2023). These challenges hinder women's ability to start and expand their businesses, limiting their economic well-being and contribution to society (Singh & Britto, 2022). However, women entrepreneurs also demonstrate resilience and find ways to overcome these challenges (Shiralashetti & Poojari, 2022).

The success of women-led ventures is significantly influenced by interpersonal skills and effective business planning (Umar et al., 2023). Studies indicate that improving interpersonal capabilities fosters collaboration, which is crucial for women's business performance (Tatasari, 2023), while interpersonal communication competence is vital for building effective business networks (Ajieh, 2023). Strategic planning provides greater performance benefits for women entrepreneurs, helping them overcome initial disadvantages (Prakash et al., 2023). Furthermore, women

who adopt connective leadership styles and focus on organizational design are more likely to succeed (Astuti et al., 2024), it is important to recognize that systemic barriers hinder women entrepreneurs, which may require external support and resources to overcome and achieve success.

Women entrepreneurs in Latin America face several challenges. These challenges include social and gender inequalities in the online environment, lack of digital skills, limited access to digital devices and infrastructure, dependence on support staff and family members, and concerns around security, safety, and work-life balance (Khoo et al., 2023). In addition, women in Latin America face exclusion from male spheres, job discrimination, lack of support, and family responsibilities, which limit their ability to start and grow businesses (Bátiz-Lazo & González-Correa, 2022; Flores-Novelo et al., 2021). In some countries, women may experience barriers related to family responsibilities, property ownership, and contracting (Anandhi, 2022). The social structure, influenced by the patriarchal and macho culture, shapes and determines gender relations in entrepreneurial activities carried out by women in Latin America (Rezaei & França, 2021). Uneven progress has been observed in different countries in terms of factors such as access to credit and financial services, institutional, legal, and regulatory frameworks, and the promotion of entrepreneurship (Alecchi, 2020; Roper et al., 2020).

According to Ipsos Global Adviso (2022), Peru stands out globally as the fourth country with the highest number of entrepreneurs. However, the challenges are evident, since according to the report of the Global Entrepreneurship Monitor (2023) 25% of enterprises fail in the first year and 50% do not exceed four years in the market. This situation is mainly attributed to the lack of entrepreneurial training focused on skill-building and motivation (Rutti et al., 2021). Despite these challenges, there is a remarkable growth in women's participation in the entrepreneurial field, with approximately 8 out of 10 women participating in comprehensive training programs (Cámara de Comercio de Lima, 2020). However, it is concerning that only 14.4% of them receive adequate training in business management.

These data reflect an increasingly empowered society, with women capable of creating businesses, as pointed out by the Cámara de Comercio de Lima (2023). Despite this progress, the lack of training in business issues remains a barrier to launching and sustaining ventures over time. Therefore,

it is important to promote the creation of business programs that apply practical methodologies (Cirilo & Merino, 2019).

Given this situation, entrepreneurship education presents itself as a viable solution, because it is a comprehensive process that provides people with the skills, knowledge, and perspectives necessary to understand and meet the challenges of the business environment (Robbins & Mary, 2017). In addition, it fosters a continuous learning mentality, preparing individuals to face and learn from challenges (Senge, 2006). On the other hand, its practical application is very advantageous in the long term, as it allows companies to evolve, innovate, and adapt to the market (Bezgin et al., 2022). Therefore, for correct business training, it is essential to deal with related topics such as marketing, strategic management, decision-making, and leadership (García et al., 2023).

It is important to note that, despite the relevance of female entrepreneurship, there is an important gap in studies on entrepreneurship education. Many studies focus on entrepreneurial intention, limiting factors, and proposals to improve government policies. For this reason, this study aims to evaluate the impact of an entrepreneurship program focused on soft skills and business plans. In this way, it is expected to contribute to existing knowledge and develop effective strategies to promote female entrepreneurship and its sustainability, addressing a significant gap in research on entrepreneurship education. The study aims to provide crucial tools for women to overcome systemic barriers such as limited access to financial resources and gender discrimination. Evaluating the effectiveness of these programs can inform the design of more effective policies to support women's entrepreneurship, thereby contributing to a more inclusive and equitable entrepreneurial ecosystem, and promoting the long-term sustainability and success of women-led businesses.

Basic Concepts and Related Literature

Women's entrepreneurial success can be achieved through the development of soft skills and business plans as alternatives to the obstacles mentioned above (Efendi et al., 2024). Soft skills, such as communication, leadership, critical thinking, and problem-solving, are crucial to improving entrepreneurship and enhancing competitiveness and productivity (Bhandari et al., 2024; Feranita et al., 2024). In addition, training and education play a vital role in the development of women entrepreneurs by increasing their

competence, efficiency, creativity, innovation, morale, confidence, skills, and knowledge (Efendi et al., 2024). It also highlights the importance of soft skills in female entrepreneurship programs, as they strengthen agency, self-esteem, self-confidence, and self-efficacy, leading to economic empowerment (Ognjenović, 2023). However, it is important to note that limited entrepreneurship training programs focused solely on technical skills may have limited success in improving the performance of women-led businesses (Sharma et al., 2023; Taskin et al., 2023).

Boosting the business success of women entrepreneurs can be achieved through the development of soft skills and business plans. Soft skills, such as self-esteem, self-confidence, and self-efficacy, play a crucial role in enhancing the agency and economic empowerment of women entrepreneurs (Sayeed, 2023; Sawale & Karpe, 2019). Training and education are important in the development of women entrepreneurs, as they help increase competence, efficiency, creativity, innovation, and confidence (Ault et al., 2022; Bekbolat et al., 2022). In addition, business plans are essential for ideation development, baseline analysis, and business formalization, among other stages of business establishment and growth (Fetahu & Lekli, 2023). Subsequently, the development of soft skills and business plans can lead to better business results, including the adoption of effective business practices (Nade, 2022; Setiadi et al., 2021). However, it is important to keep in mind that the impact of training and education does not always align with expected performance levels, and the effects of soft skills training may vary between different groups, such as male and female entrepreneurs (Tem et al., 2020; Ubfal et al., 2020).

Women entrepreneurs can benefit from leveraging their social capital, acquiring new skills, building networks, and seeking support from policies and programs designed to address their specific needs (Anandhi, 2022; Venotha & Mariadoss, 2022). Policymakers and governments can play a crucial role in supporting these efforts by implementing targeted policy interventions, improving infrastructure, and creating investment opportunities in rural areas (Pantaleón et al., 2023, 2024; Theunissen, 2022). Company-wide involvement and a strong commitment from top management are necessary to achieve gender equality in organizations and leverage the talent of women entrepreneurs as a competitive advantage (Ntibane, 2022).

Research on educational interventions has explored areas such as emotional well-being, entrepreneurial traits, and attributes that influence

entrepreneurship. For example, a study by Chatterjee et al., (2022), evaluated the well-being of marginalized women participating in an entrepreneurial training program. The study highlighted that, while entrepreneurial programs are valuable, they are not guaranteed to succeed unless they focus on participants` well-being. Castro and Zermeño (2023) analyzed the entrepreneurial experiences of two women entrepreneurs, showing that business training programs should be oriented to publicize methodologies to scale a business and tools that facilitate the management of income, expenses, and profits. Similarly, Bhatti et al., (2021), in their study on the role of entrepreneurial education and training programs for university students, managed to identify psychological attributes such as self-confidence, tolerance, innovation, and motivation, which are essential for successful entrepreneurship.

Avnimelech and Rechter (2023) and Dams et al. (2022) conducted a study on business accelerators for female entrepreneurship, showing that low levels of entrepreneurial human capital, limited networks, low levels of entrepreneurial self-efficacy, low legitimacy in the entrepreneurial ecosystem, and limited access to capital are the main barriers faced by women entrepreneurs. Similarly, Mashapure et al. (2023) and Biney (2023) conducted a study showing that inadequate support of government plans, lack of business management knowledge, and role conflicts due to family pressures hinder the sustainability of female entrepreneurship.

Soft Skills Development

The development of soft skills is an important aspect of higher education institutions and is being recognized by organizations and experts around the world (Rahate & Azmi, 2023). Institutions such as universities play a role in the development of soft skills through various initiatives such as clubs, associations, leadership roles, self-development books, videos, and training. (Mwita et al., 2023; Otache et al., 2024). Soft skills are considered essential for the professional development and socialization of people in socio-economic professions (Glazunova et al., 2022; Varhata et al., 2023). This training is crucial to meet the requirements of the labor market and the changing dynamics of the educational system (Nyiazova et al., 2023; Shvedova et al., 2022). In addition, soft skills, which include emotional intelligence, communication skills, critical thinking skills, and leadership, are important for students, workers, and managerial positions (Korniienko & Barchi, 2023). Soft skills also serve as a basis for developing higher-order

skills or meta-skills, which are necessary for lifelong learning and personal and professional growth (Rovenska et al., 2023; Zubenko & Ishchuk, 2022). In general, the development of soft skills is considered a key factor in improving entrepreneurial capabilities.

Soft skills are important for women's success in business (Tem et al., 2020) and studies have confirmed that career success is determined by soft skills (Allen, 2022; Bekbolat et al., 2022; Fetahu & Lekli, 2023; Suan-Chin, 2021). The development of soft skills, such as communication and management skills, is equally necessary for everyday life and work (Tripathy, 2021; Shvedova et al., 2022). Furthermore, in the context of female entrepreneurship, the development of interpersonal skills has been found to strengthen the capacity for action and have an impact on the economic empowerment of women entrepreneurs in low- and middle-income countries (Ault et al., 2022; Zubenko & Ishchuk, 2022). Literature and lessons learned from the Mozambique-based social incubator MUVA have highlighted the importance of soft skills in female entrepreneurship programs to improve self-esteem, self-confidence, and self-efficacy, which in turn strengthens agency (Rahim, 2023). Therefore, it can be concluded that soft skills development plays a crucial role in helping women succeed in business.

Business Management Through Business Plans

Business plans are an integral part of women's business management strategy, where proper planning and well-grounded business plans reduce the risk of failure and vulnerability in business organizations (Gashi, 2015; Parvin, 2018). Women's economic power and purchasing power make them an important market segment for businesses to focus on (Bett & Gakobo, 2018). Successful women-owned small businesses in various industries, such as construction, rely on business planning strategies for sustainability and growth (Almira Syfa, 2023; Botezat, 2010). In addition, developing a successful business model for women's health also requires strategies, marketing approaches, and financial tools, which can be described in a business plan (Fay-Spina, 2017; Peake et al., 2018). Overall, business plans play a crucial role in guiding women entrepreneurs and organizations toward long-term success and achievement of their goals (Jones et al., 2002).

Business planning strategies are effective for women's entrepreneurial management (Ahmad et al., 2022; Mutabazi, 2023; Oyervides et al., 2021).

These strategies help women entrepreneurs in various ways, such as improving performance in small and medium enterprises (Yuniarto et al., 2022), prioritizing actions and decision-making (Biar & Akok, 2022), achieving sustainable development, and ensuring the longevity and growth of enterprises (Gashi, 2015). The use of business planning strategies involves elements such as setting clear goals and objectives, effective communication and teamwork, reliance on expertise, networking, and continuing education (Peake et al., 2018). By implementing these strategies, women-owned businesses can improve their performance, contribute to the local economy, promote job development, and foster positive community relations (Mitchelmore & Rowley, 2013).

Materials and Methods

The research was applied, with a pre-experimental design and a mixed approach, allowing for a deeper exploration of the topic.

The study population consisted of 40 women belonging to the *"Emprende mujer"* group in the province of Chachapoyas; however, only 28 of them decided to participate in the business education program. This group is made up of women who are involved in gastronomy, beauty, imports, and other businesses.

A pre-test and post-test were applied with a single group; a survey was applied before and after the program to the participant population. In addition, each of the participants was accompanied during the execution of the program, to ensure compliance with all programmed activities, which were carried out personally. This design presents a weakness in terms of internal validity because it does not have a control group to make comparisons of presence and absence measurements (Campbell & Stanley, 1996). In addition, external variables cannot be controlled, which limits the generalization of the results to the accessible population and the target population (Ñaupas et al., 2018). Therefore, to minimize the risks of internal validity, the proposal of Campbell and Stanley (1996) was considered, as presented in Table 1.

Table 1: Risk mitigation measures from a single-group pre-experimental study

Risk	Explanation	Mitigation
Story	The most relevant events occur between the initial test and the final test.	• The duration of the program was 4 months, the sections were given every 15 days. • It is unlikely that the content of this program will be included in other educational activities because the group of women entrepreneurs was not part of another program or business incubator.
Maturation	Participants over time experience the aging process and acquire knowledge and skills quite apart from the educational intervention.	• It is unlikely that other entrepreneurial education events targeting the "Emprende Mujer" group will occur that could affect the results of this study.
Instrumentation	There is a change in the instrument used in the study.	• There was no change.
Tests	The results are affected by the execution of the test.	• Informed consent from the women entrepreneurs in this study.
Regression	The scores obtained by the participants may vary significantly from what was expected.	• All participants who wished to collaborate in the study were evaluated and no selection was made.

Source: Authors' elaboration

A questionnaire consisting of 30 items was used to collect information, distributed in two thematic areas: soft skills, corresponding to 9 items, and business plan, corresponding to 21 items. In addition, the most relevant sociodemographic data of the participants were collected, such as number of children, educational level, marital status, and others, to better understand and analyze the characteristics of the target population. The questionnaire was validated by experts in the field.

Application Procedure

Initially, a questionnaire was applied to evaluate the soft skills and knowledge about business plans of the women entrepreneurs. Subsequently, an entrepreneurial education program was implemented for 4 months. At the end of the educational intervention, a second application of the initial questionnaire was carried out to evaluate the impact of the program on the participants.

Educational Intervention

The business education program consisted of 8 sessions, as detailed in Table 2; each session lasted approximately 2 to 3 hours and was taught by a specialist in management and business plan formulation. The sessions were conducted practically through the exemplification of cases to achieve a better understanding and keep the target audience entertained. In addition, they were aligned with the participants' businesses, including a round of questions every hour to clear their doubts.

Table 2: Sessions of the educational intervention

N° session	Business education session	Subtopics/Activities
1	Introduction, empower yourself as a woman through band skills.	• Openness and welcome. • Empowerment and soft skills through dynamic games.
2	Business Plan	• Canvas model.
3	Business ideas and cases of successful ventures.	• Teamwork.
4	Strategic Plan	• Internal and external strategic analysis.
5	Market analysis	• Supply analysis and market research.
6	Marketing Plan	• Strategic marketing, marketing strategies, and marketing mix.
7	Organizational and human talent plan	• Company formalization, business registration, and organization structure.
8	Plan of operations	• Service design, quality management, process strategy, location, infrastructure, opening

N° session	Business education session	Subtopics/Activities
		hours, and equipment. • Survey application - ex-post evaluation. • Closing

Source: The structure of the sessions was based on the book Practical Guide for the Elaboration of a Business Plan by Bóveda et al. (2015) .

Data Analysis

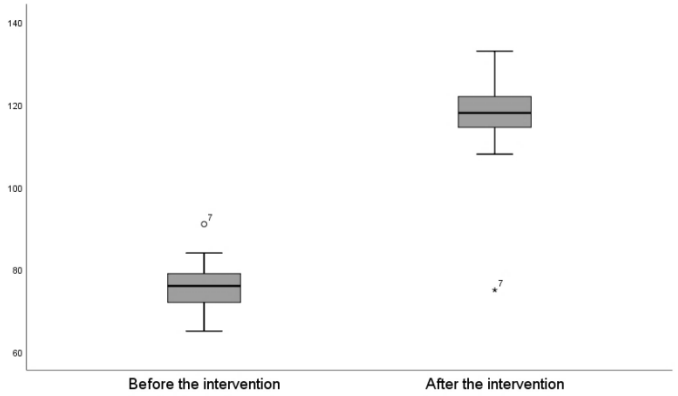
For data analysis, descriptive statistics were used, including the calculation of measures of central tendency and dispersion. Inferential statistics were also used to test the hypothesis and evaluate the significance of the results obtained (Gutiérrez & de la Vara, 2008). This analysis was carried out in the Statistical Package for the Social Sciences-SPSS 26 software, applying the Shapiro-Wilk test for normality and the Levene test for homogeneity of variances. Based on these results, a parametric analysis using the Student's t-test was used to evaluate the impact of the business program on women entrepreneurs by comparing means.

Results

The results obtained after the educational intervention with women entrepreneurs are presented, evaluating the effectiveness of the business program.

After performing an analysis using the Student's t-test, it was determined that the entrepreneurship education program has had a highly significant impact on the development of entrepreneurial skills in women entrepreneurs ($p = 0.02$). This finding is supported by the change observed in the measurements before and after the educational intervention. Before the program implementation, the median of entrepreneurial skills was 75.89 with a standard deviation of 28. Subsequently, after the intervention, this median increased significantly to 117, suggesting a substantial improvement in the participants' entrepreneurial skills. This considerable increase in post-intervention measures underscores the effectiveness of the entrepreneurship education program in strengthening the specific entrepreneurial competencies assessed in this study, thus highlighting its relevance in the development and empowerment of women entrepreneurs.

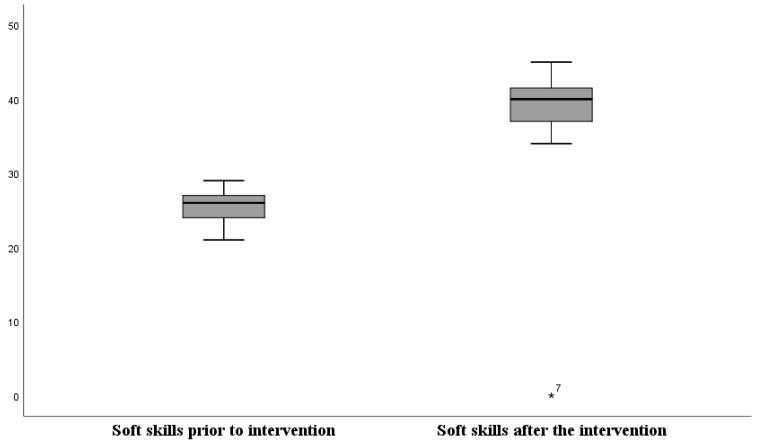
Figure 1: Impact of the business education program on women entrepreneurs



Source: Authors' elaboration

Increases in the average value of entrepreneurial competencies may reflect a higher level of confidence and capability among participants, which, in turn, could translate into real business success. For example, improved skills in areas such as time management, effective communication, and resilience can facilitate more informed decision-making and the ability to cope with challenges, which could result in increased sustainability and growth of their businesses.

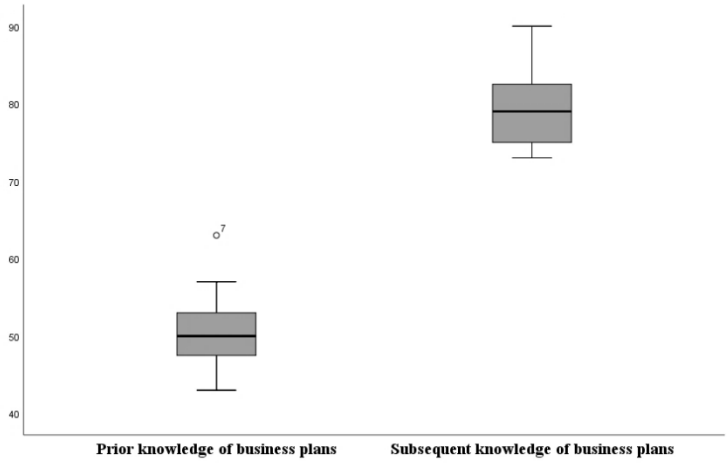
Figure 2: Impact of the entrepreneurship education program on soft skills



Source: Authors' elaboration

After performing an analysis using the Student's t-test, it is evident that the business education program has had a significant impact on the strengthening of soft skills in women entrepreneurs (p = 0.05). This finding is supported by the change observed in the measurements before and after the educational intervention. Before the implementation of the program, the median of soft skills was 25.43; subsequently, after the intervention, this median increased to 38.07. Although the difference was not considerable, significant improvements were perceived. This suggests that, although the women entrepreneurs already possessed certain soft skills to face the challenges and obstacles presented, the program contributed to enhancing and improving these competencies. It is important to highlight that, despite the prior existence of soft skills, the educational intervention was able to generate additional improvements, which underscores the relevance and positive impact of the business education program on the integral development of women entrepreneurs.

Figure 3: Impact of the entrepreneurship education program on business plan learning



Source: Authors' elaboration.

After applying the Student's t-test, it was confirmed that the entrepreneurship education program had a highly significant impact on the learning of business plans in women entrepreneurs (p = 0.04). This result is based on the change observed in the measurements before and after the educational intervention. Before the implementation of the program, the

median of business plan learning stood at 50.46; however, after the intervention, this median experienced a notable increase, reaching 79.11.

This demonstrates that educational interventions, especially those that employ examples and case studies, can spark interest and motivation for learning in women entrepreneurs committed to the development and success of their businesses. The practical approach of the program enabled participants to acquire solid knowledge directly applicable to their businesses. These results underscore the importance of collaboration between academia and the business sector to design effective educational programs that address the specific needs of women entrepreneurs, thus contributing to their training and empowerment in the business environment. Future research could benefit from larger sample sizes, diverse industry representation, and consideration of diverse socioeconomic contexts to provide more robust and broadly applicable conclusions. In addition, longitudinal studies could provide insights into the long-term impact of these educational interventions on women's entrepreneurial success and firm sustainability.

Discussion

This study evaluated the impact of an educational intervention in entrepreneurship education designed to improve the entrepreneurial skills of a group of women entrepreneurs, resulting in a significant positive effect. This aligns with the study by Galvão et al. (2020), which supports the positive influence of entrepreneurship education and training programs on the development of entrepreneurial competencies and project creation in entrepreneurs of both genders in Portugal. Likewise, it is in agreement with Núñez-Canal et al. (2023), which also found a significant impact ($p < 0.05$) of the entrepreneurship education program on high school students in Spain, showing improvements in their entrepreneurial potential. On the other hand, differences were found in the work of Vankov and Vankov (2023) who implemented a business education program for young Bulgarians, where a greater significant impact was observed in men compared to women. However, in our study, women showed the motivation needed to overcome challenges by learning business skills.

It also relates to Reyes-Aceves et al. (2023), research that demonstrated a positive impact of entrepreneurial programs on students, improving their entrepreneurial competencies. Also, Olutuase et al. (2023) ensure that the

content of entrepreneurship education in the African context influences entrepreneurial skills ($p < 0.001$) beyond the institutional setting. Those results reinforce the idea that the content of each entrepreneurial program should be tailored to the context and specific needs of each target group. In this case, our study was custom-designed to address the particular needs of the group of women entrepreneurs, which may explain the good results obtained, highlighting the relevance of generating entrepreneurial programs that fit the reality and unique characteristics of entrepreneurs.

There are also similarities with Xu et al. (2023), who state that business education has a significant influence on entrepreneurial intention ($p < 0.001$). However, in our study, we did not observe an improvement in entrepreneurial intention, since the women participants already had an established venture, so our focus was on improving their skills to grow their existing businesses. Finally, we agree with Ouragini and Lakhal (2023), who affirm that an entrepreneurial education program aimed at master's students contributes to entrepreneurial intention, but they have the disadvantage of not having entrepreneurial experience. However, our study focused on women who, while they may not have had the necessary education, did have experience. Therefore, we aimed to address their knowledge gaps in the entrepreneurial field.

Regarding the impact on the soft skills of the women entrepreneurs, a minimal increase was observed as they already had a certain level of strengthening in these skills. It is important to note that soft skills are learned through experience and do not necessarily require the intervention of a specialist. In addition, the participants during the pandemic faced obstacles that allowed them to strengthen their soft skills. These results are similar to those found by Reyes-Aceves et al. (2023), who stated that an entrepreneurship education program aimed at students in Mexico helped strengthen the entrepreneurial mindset, focusing on soft skills such as self-confidence, persuasion, communication, conflict management, and goal setting. We also agree with Estrellado et al. (2023), who found that a business intervention through games had a positive impact on the social skills of workers in Ethiopia.

Regarding the learning of business plan development, a significant impact was found since, unlike soft skills, the knowledge of business plan development requires the teaching of a specialist. In addition, it is important to note that there is a paucity of studies on educational interventions that have focused on teaching business plans. However, there are studies of

analysis and literature reviews in this regard. One of them is the work of Dal et al. (2023), where they claim that business plans are a tool for the creation of start-ups, based on an analysis of 40 cases that contribute to the understanding of innovation management and entrepreneurship education as a source of knowledge. Some studies emphasize planning as part of the business plan, as is the case of Pyliavets et al. (2023), who identified that effective business planning has a significant impact on the development of a business in Ukraine, and also allows the development of strategic plans to evaluate the necessary resources, such as financial, human, and material resources.

Abidin (2021), analyzed the *PELAKU UMKM DI KECAMATAN* business plan in Indonesia, stating that detailed planning is necessary when starting a business, as it facilitates the assessment of business shortcomings. Another study by Rizal (2021) indicates that entrepreneurship among university students in the UK is influenced by competition in business planning. Finally, Kirik et al. (2022), in their literature see deficiencies in the planning processes and the quality of business plans in Ukraine, emphasizing that high-quality business plans are crucial for effective business operations and attracting investors.

Conclusion

There are several studies focused on business competencies and entrepreneurial intention, directed at students of both genders and very few at entrepreneurs. Therefore, our findings fill a gap in the existing literature focused on women in entrepreneurship.

The entrepreneurship education program has proven to be effective in strengthening soft skills and knowledge in business plan development in a group of women entrepreneurs seeking business sustainability. This demonstrates the effectiveness of educational interventions focused on the needs of the study group.

Soft skills are acquired mainly through experience and facing challenges. However, training focused on crisis management, adaptation to adverse situations, effective communication, time management, and resilience are determining factors that allow the creation of spaces for interaction and learning, thus fostering the exchange of experiences among entrepreneurs.

Effective educational programs for women entrepreneurs should incorporate case studies, interactive sessions, and experienced facilitators, along with applied workshops that allow learning to be adapted to a variety of contexts. This hands-on approach has proven to increase interest and motivation, enabling participants to acquire knowledge directly applicable to their businesses. Collaboration between academia and the business sector is crucial to designing programs that address the specific needs of women entrepreneurs, contributing to their empowerment. Future research should consider larger, more diverse samples and incorporate longitudinal studies to assess the long-term impact of these interventions on the success and sustainability of women's entrepreneurship.

One obstacle for women entrepreneurs is a lack of basic knowledge about the structure of a business plan; they often confuse sales with marketing and are unfamiliar with the ways to position or improve the permanence of their business. Therefore, educational interventions focused on business plan development are essential to support business growth and sustainability.

This study faced several limitations. First, full participation of the "Emprende Mujer" group was not achieved as some participants did not provide consent. Additionally, coordinating session dates represented another challenge, since on several occasions it was necessary to adjust them to ensure the attendance of the 28 women who consented. For this purpose, a vote was conducted in the WhatsApp group to determine the most convenient date for the majority of participants.

The absence of a control group in this study limits the ability to fully evaluate the impact of the educational intervention. If a control group had been included, the results could have shown significant differences, allowing for a clearer comparison between those who received the training and those who did not. For future research, it would be advisable to establish a control group and ensure informed consent from all participants. Additionally, exploring alternative methods to encourage participation could provide a more complete and robust picture of the effectiveness of interventions. These methodological improvements would allow for a more robust analysis and deeper understanding of the specific effects of the program on the skills and knowledge of women entrepreneurs.

It is important to note that the relatively small sample of this study limits the generalizability of these results to a broader population of female entrepreneurs. Therefore, new studies with larger and more diverse samples

are recommended to validate the effectiveness of these interventions in a broader context. Specifically, the implementation of longitudinal studies would be valuable to measure the long-term impact of such programs on the practical application of the knowledge acquired and the real growth of the ventures. These studies could examine indicators such as sales growth, business expansion, job creation, and financial sustainability over time, thus providing a more complete and meaningful assessment of the program's effectiveness on companies' business success and entrepreneurial women.

References

[1] **Abd, K. N. A., & Hashim, H.** (2023). Identifying Challenges Faced by Women Entrepreneurs in The Rural Areas in Malaysia Using a Nominal Group Technique. *Asian Journal of Entrepreneurship*. https://doi.org/10.55057/aje.2022.3.4.1

[2] **Abidin, M. Z.** (2021). Analisis business plan pelaku umkm di Kecamatan Mlarak. *Niqosiya: Journal of Economics and Business Research*, *1*(2), 166–172. https://doi.org/10.21154/niqosiya.v1i2.96

[3] **Ahmad, S. H., Mohd Kamal, N. I., Idris, A., & Widayati, A.** (2022). Strategies among Women Entrepreneurs to Cope and Sustain Businesses: A systematic literature review. *Environment-Behaviour Proceedings Journal*, *7*(20), 57–64. https://doi.org/10.21834/ebpj.v7i20.3325

[4] **Ajieh, N. H.** (2023). Leadership Strategies of Successful Women-Owned Businesses in Cameroon. *Asian Journal of Basic Science & Research*, *05*(02), 01–12. https://doi.org/10.38177/AJBSR.2023.5201

[5] **Alecchi, B. A.** (2020). Toward Realizing the Potential of Latin America's Women Entrepreneurs: An Analysis of Barriers and Challenges. *Latin American Research Review*, *55*(3), 496–514. https://doi.org/10.25222/larr.108

[6] **Allen, M.** (2022). Improving soft skills crucial to keep women in science. *Physics World*, *35*(9), 11i–11i. https://doi.org/10.1088/2058-7058/35/09/13

[7] **Almira Syfa, T.** (2023). *Implementasi Business Plan bagi Womenpreneur*. https://doi.org/10.31219/osf.io/te2mj

[8] **Anandhi, G.** (2022). A Study on Challenges and Problems Faced by Women Entrepreneurs. *Technoarete Journal on Accounting and Finance*, *2*(4), 31–32. https://doi.org/10.36647/TJAF/02.04.A004

[9] **Apostu, S. A., & Gigauri, I.** (2023). Sustainable development and entrepreneurship in emerging countries: Are sustainable development and entrepreneurship reciprocally reinforcing? *Journal of Entrepreneurship, Management and Innovation*, *19*(1), 41–77. https://doi.org/10.7341/20231912

[10] **Astuti, I., Jati, H., Moenardy, K. K., Marselinus, B., & Ahmad, M.** (2024). Enhancing business planning skills for women entrepreneurs in Kolhua Bazaar, Kupang City. *Community Empowerment*, *9*(1), 122–134. https://doi.org/10.31603/ce.10500

[11] **Ault, A., Quak, E., & Guimarães, L.** (2022). *The Importance of Soft Skills for Strengthening Agency in Female Entrepreneurship Programmes*. https://doi.org/10.19088/MUVA.2022.004

[12] **Ávila, A. E.** (2021). La evolución del concepto emprendimiento y su relación con la innovación y el conocimiento. *Investigación & Negocios*, *14*(23), 32. https://doi.org/10.38147/invneg.v14i23.126

[13] **Avnimelech, G., & Rechter, E.** (2023). How and why accelerators enhance female entrepreneurship. *Research Policy*, *52*(2), 104669. https://doi.org/10.1016/j.respol.2022.104669

[14] **Bátiz-Lazo, B., & González-Correa, I.** (2022). Start-Ups, Gender Disparities, and the Fintech Revolution in Latin America. In *The Emerald Handbook of Entrepreneurship in Latin America* (pp. 221–242). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80071-955-220221014

[15] **Batz Liñeiro, A., Romero Ochoa, J. A., & Montes de la Barrera, J.** (2024). Exploring entrepreneurial intentions and motivations: a comparative analysis of opportunity-driven and necessity-driven entrepreneurs. *Journal of Innovation and Entrepreneurship*, *13*(1). https://doi.org/10.1186/s13731-024-00366-8

[16] **Bekbolat, M., Berkimbaev, K., & Nyiazova, G.** (2022). Soft Skills as a Guarantee of the Growth of Competitiveness of Future Specialists in Information and Communication Technologies. *Iasaýı Ýnıversıtetiniń Habarshysy*, *125*(3), 141–153. https://doi.org/10.47526/2022-3/2664-0686.12

[17] **Bett, J., & Gakobo, J.** (2018). Strategic Planning in Women Groups in the Realization of Vision 2030: Wareng Sub County in Eldoret Town. *International Journal of Contemporary Aspects in Strategic Management*, *2*(1), 59–74.

[18] **Bezgin, K., Zahariev, A., Shaulska, L., Doronina, O., Tsiklashvili, N., & Wasilewska, N.** (2022). Coevolution of education and business: adaptive interaction. *International Journal of Global Environmental Issues*, *21*(2/3/4), 259. https://doi.org/10.1504/IJGENVI.2022.126202

[19] **Bhandari, P., Sigdel, B., Hye, A. K. M., Bhandari, S., & Bhattarai, A.** (2024). Fostering Women Entrepreneurs: Psychological Capital, Psychological Empowerment and Entrepreneurial Spirit. *Journal of Women's Entrepreneurship and Education - JWEE*, *1–2*, 1–18. https://doi.org/10.28934/jwee24.12.pp1-18

[20] **Bhatti, M. A., Al Doghan, M., Mat Saat, S. A., Juhari, A. S., & Alshagawi, M.** (2021). Entrepreneurial intentions among Women: does

entrepreneurial training and education matters? (Pre- and post-evaluation of psychological attributes and its effects on entrepreneurial intention). *Journal of Small Business and Enterprise Development*, *28*(2), 167–184. https://doi.org/10.1108/JSBED-09-2019-0305

[21] **Biar, A., & Akok, A.** (2022). Women role in promoting business management. *International Journal of Engineering Applied Sciences and Technology*, *7*(8), 7–23. https://doi.org/10.33564/IJEAST.2022.v07i08.002

[22] **Biney, I. K.** (2023). Adult education and entrepreneurship: getting young adults involved. *Journal of Innovation and Entrepreneurship*, *12*(1), 13. https://doi.org/10.1186/s13731-023-00277-0

[23] **Botezat, E. A.** (2010). *The Business Plan – A prerequisite of female entrepreneurial success in the western part of Romania* (U. of O. F. of E. Annals of Faculty of Economics, Ed.; 1st ed., Vol. 1).

[24] **Bóveda, J. E., Oviedo, A., & Yakusik, A. L.** (2015). *Guía Práctica para la Elaboración de un Plan de Negocio*. https://www.jica.go.jp/Resource/paraguay/espanol/office/others/c8h0vm0000ad5gke-att/info_11_03.pdf

[25] **Cámara de Comercio de Lima.** (2020). *¿Quién dice que las peruanas no somos emprendedoras?* https://amcham.org.pe/articulo/quien-dice-que-las-peruanas-no-somos-emprendedoras/

[26] **Cámara de Comercio de Lima.** (2023). *Más de 7 millones de mujeres peruanas conforman la fuerza laboral*. https://lacamara.pe/mas-de-7-millones-de-mujeres-peruanas-conforman-la-fuerza-laboral/

[27] **Campbell, D. T., & Stanley, J. G.** (1996). *Diseños experimentales y cuasiexperimentales en la investigación social* (Rand McNally & Company, Eds.). https://knowledgesociety.usal.es/sites/default/files/campbell-stanley-disec3b1os-experimentales-y-cuasiexperimentales-en-la-investigacic3b3n-social.pdf

[28] **Castro, M. P., & Zermeño, M. G. G.** (2023). Training needs for successful businesswomen: a narrative analysis of stories of women entrepreneurs. *International Journal of Entrepreneurship and Small Business*, *49*(3), 419–435. https://doi.org/10.1504/IJESB.2023.132528

[29] **Chatterjee, I., Shepherd, D. A., & Wincent, J.** (2022). Women's entrepreneurship and well-being at the base of the pyramid. *Journal of Business Venturing*, *37*(4). https://doi.org/10.1016/j.jbusvent.2022.106222

[30] **Cirilo, O., & Merino, F.** (2019). *Wellbeing of women entrepreneurs in rural Cusco, Peru: Success stories and entrepreneurial training* (The Wellbeing of Women in Entrepreneurship: A Global Perspective, Ed.).

[31] **Clark, D. R., Crawford, G. C., & Pidduck, R. J.** (2023). Exceptionality in entrepreneurship: Systematically investigating outlier outcomes. *Journal of Business Venturing Insights*, *20*, e00422. https://doi.org/10.1016/j.jbvi.2023.e00422

[32] **Dal, M. F., Massaro, M., Paoloni, P., & Kianto, A.** (2023). Translating knowledge in new entrepreneurial ventures: the role of business plan development. *VINE Journal of Information and Knowledge Management Systems*, *53*(6), 1159–1177. https://doi.org/10.1108/VJIKMS-04-2021-0060

[33] **Dams, C., Sarria Allende, V., Cornejo, M., Pasquini, R. A., & Robiolo, G.** (2022). Impact of Accelerators, as Education & Training Programs, on Female Entrepreneurs. *Entrepreneurship Research Journal*, *12*(3), 329–362. https://doi.org/10.1515/erj-2020-0306

[34] Sayeed, I. (2023). Women entrepreneurs development through training and education in India. *EPRA International Journal of Economic and Business Review*, 1–5. https://doi.org/10.36713/epra12368

[35] **Efendi, R., Mulyadi, H., Disman, D., Purnamasari, I., & Angel Tantri, P.** (2024). The Role of Gender in Fostering Interest in Entrepreneurship in Indonesia. *Journal of Women's Entrepreneurship and Education - JWEE*, *1–2*, 141–156. https://doi.org/10.28934/jwee24.12.pp141-156

[36] **Estrellado, E., Charoensilp, P., & Yamada, S.** (2023). The effects of game-based soft skills training: A quasi-experiment with Ethiopian garment workers. *International Journal of Educational Development*, *101*, 102823. https://doi.org/10.1016/j.ijedudev.2023.102823

[37] **Fay-Spina, D.** (2017). *Exploring Business Planning Strategies of Women - Owned Small Businesses in the Construction Trades* [Tesis de Doctorado]. Walden University.

[38] **Feranita, N. V., Mahendrawan, A. D., & Asmuni, A.** (2024). Determinants of Digital Technology Adoption Among Women Entrepreneurs. *Journal of Women's Entrepreneurship and Education - JWEE*, *1–2*, 66–92. https://doi.org/10.28934/jwee24.12.pp66-92

[39] **Fetahu, E., & Lekli, L.** (2023). Developing Soft Skills, the Intangible Qualities Empowering Competitiveness and Success in the Labor Market, Case Study, Elbasan, Albania. *WSEAS Transactions on Business and Economics*, *20*, 965–976. https://doi.org/10.37394/23207.2023.20.89

[40] **Flores-Novelo, A., Bojórquez, C. A., & Cuadrado, B. G.** (2021). Fuerzas impulsoras y restrictivas del emprendimiento femenino Latinoamericano. *Telos: Revista De Estudios Interdisciplinarios En Ciencias Sociales*, *23*(3), 668–691.

[41] **Galvão, A., Marques, C., & Ferreira, J. J.** (2020). The role of entrepreneurship education and training programmes in advancing entrepreneurial skills and new ventures. *European Journal of Training and Development*, *44*(6/7), 595–614. https://doi.org/10.1108/EJTD-10-2019-0174

[42] **García, G. J., Pizarro, A., Barragán, C., & Villarreal, F.** (2023). Planeación estratégica para la competitividad de pequeñas y medianas

empresas del sector construcción e inmobiliario. *Revista de Ciencias Sociales*. https://doi.org/10.31876/rcs.v29i2.39978

[43] **Gashi, R.** (2015). Strategic Management Role on Contemporary Emerging Market – The Female Economy. *Mediterranean Journal of Social Sciences*. https://doi.org/10.5901/mjss.2015.v6n3p156

[44] **Gashi, R., Ahmeti, H. G., & Baliu, E.** (2022). Challenges of women entrepreneurs in the developing economy. *Corporate Governance and Organizational Behavior Review*, *6*(2), 134–142. https://doi.org/10.22495/cgobrv6i2p13

[45] **Glazunova, O. G., Korolchuk, V. I., Voloshyna, T. V., & Vakaliuk, T. A.** (2022). Development of soft skills in computer science bachelors in the project learning process. *Information Technologies and Learning Tools*, *92*(6), 111–123. https://doi.org/10.33407/itlt.v92i6.5076

[46] **Global Entrepreneurship Monitor.** (2023). *Adaptación a una "nueva normalidad."* https://gemconsortium.org/report/20222023-global-entrepreneurship-monitor-global-report-adapting-to-a-new-normal-2

[47] **Gutiérrez, P. H., & de la Vara, S. R.** (2008). *Análisis y diseño de experimentos* (S. A. de C. V. McGRAW-HILL/INTERAMERICANA EDITORES, Ed.; 2nd ed.). https://gc.scalahed.com/recursos/files/r161r/w19537w/analisis_y_diseno_experimentos.pdf

[48] **Hayati, F. A., & Arini, R. E.** (2023). Exploring the Challenges and Opportunities Faced by Women Entrepreneurs in Sukabumi District: A Qualitative Study. *West Science Interdisciplinary Studies*, *1*(05), 77–86. https://doi.org/10.58812/wsis.v1i05.76

[49] **Ipsos Global Adviso.** (2022). *Untapped Potential: Entrepreneurialism in Inflationary Times A 28-Country Study*. https://www.ipsos.com/sites/default/files/ct/news/documents/2022-07/Global%20Entrepreneurialism%20Global%20Report%20Final%20July%202022_V2.pdf

[50] **Jones, M. Lou, Weiss, K., Stichler, J. F., Noonan, M. D., & Looker, P.** (2002). Strategy Into Action: Developing A Women's Health Marketing Plan. *AWHONN Lifelines*, *6*(1), 32–38. https://doi.org/10.1111/j.1552-6356.2002.tb00016.x

[51] **Khoo, C., Yang, E. C. L., Tan, R. Y. Y., Alonso-Vazquez, M., Ricaurte-Quijano, C., Pécot, M., & Barahona-Canales, D.** (2023). Opportunities and challenges of digital competencies for women tourism entrepreneurs in Latin America: a gendered perspective. *Journal of Sustainable Tourism*, 1–21. https://doi.org/10.1080/09669582.2023.2189622

[52] **Kirik, T. M., Khaustova, V. Ye., Reshetnyak, O. I., & Ivanova, O. A.** (2022). The Directions to Improve the Quality of Business Plans. *Business*

Inform, *7*(534), 217–228. https://doi.org/10.32983/2222-4459-2022-7-217-228

[53] Korniienko, I., & Barchi, B. (2023). The concept of the soft skills and emotional intelligence development. *Psychology Travelogs*, *1*, 16–26. https://doi.org/10.31891/PT-2023-1-2

[54] **Mashapure, R., Nyagadza, B., Chikazhe, L., Mazuruse, G., & Hove, P.** (2023). Women entrepreneurship development and sustainable rural livelihoods in Zimbabwe. *Arab Gulf Journal of Scientific Research*, *41*(4), 557–584. https://doi.org/10.1108/AGJSR-07-2022-0112

[55] Tripathy, M. (2021). Relevance of Soft Skills in Career Success. *MIER Journal of Educational Studies Trends & Practices*, 91–102. https://doi.org/10.52634/mier/2020/v10/i1/1354

[56] **Mitchelmore, S., & Rowley, J.** (2013). Growth and planning strategies within women-led SMEs. *Management Decision*, *51*(1), 83–96. https://doi.org/10.1108/00251741311291328

[57] **Morante, M. A., Sánchez, A. J., Cruz, O., Bautista, E. I., & Escobedo, P.** (2024). Entrepreneurship and entrepreneurial innovation of university students, Amazonas, Peru. *International Journal of Innovative Research and Scientific Studies*, *7*(3), 901–913. https://doi.org/10.53894/ijirss.v7i3.2975

[58] **Mutabazi, E.** (2023). Strategic Planning and Performance of Women's Small Sized Business in Rwanda: A Case of Kigali City. *Journal of Strategic Management*, *7*(3), 78–93. https://doi.org/10.53819/81018102t2152

[59] **Mwita, K., Kinunda, S., Obwolo, S., & Mwilongo, N.** (2023). Soft skills development in higher education institutions. *International Journal of Research in Business and Social Science (2147- 4478)*, *12*(3), 505–513. https://doi.org/10.20525/ijrbs.v12i3.2435

[60] **Nade, P. B.** (2022). *Fundamental Business Soft Skills*. Book Publisher International (a part of SCIENCEDOMAIN International). https://doi.org/10.9734/bpi/mono/978-93-5547-889-4

[61] **Ñaupas, P. H., Valdivia, D. M., Palacios, V. J., & Romero, D. H.** (2018). *Metodología de la investigación cuantitativa-cualitativa y redacción de la tesis* (Ediciones de la U, Ed.; 5th ed.). https://edicionesdelau.com/wp-content/uploads/2018/09/Anexos-Metodologia_%C3%91aupas_5aEd.pdf

[62] **Ntibane, N. I.** (2022). *Exploring challenges that affect female informal entrepreneurs in the central business district of Richards Bay and Empangeni* [Durban University of Technology]. https://doi.org/10.51415/10321/4299

[63] **Núñez-Canal, M., Sanz Ponce, R., Azqueta, A., & Montoro-Fernández, E.** (2023). How Effective Is Entrepreneurship Education in Schools? An Empirical Study of the New Curriculum in Spain. *Education Sciences*, *13*(7), 740. https://doi.org/10.3390/educsci13070740

[64] **Nyiazova, G., Berkimbayev, K., & Meyirbekova, G.** (2023). Components and Psychological Characteristics of Soft Skills. *Iasaýı Ýnıversıtetiniń Habarshysy*, *127*(1), 200–214. https://doi.org/10.47526/2023-1/2664-0686.17

[65] **Ognjenović, K.** (2023). Participation of Women in Institutionally Sponsored Entrepreneurship Programs in Serbia: Some Statistical Facts. *Journal of Women's Entrepreneurship and Education - JWEE*, *3–4*, 28–47. https://doi.org/10.28934/jwee23.34.pp28-47

[66] **Olutuase, S. O., Brijlal, P., & Yan, B.** (2023). Model for stimulating entrepreneurial skills through entrepreneurship education in an African context. *Journal of Small Business & Entrepreneurship*, *35*(2), 263–283. https://doi.org/10.1080/08276331.2020.1786645

[67] **Otache, I., Edopkolor, J. E., Sani, I. A., & Umar, K.** (2024). Entrepreneurship education and entrepreneurial intentions: Do entrepreneurial self-efficacy, alertness and opportunity recognition matter? *International Journal of Management Education*, *22*(1). https://doi.org/10.1016/j.ijme.2023.100917

[68] **Ouragini, I., & Lakhal, L.** (2023). The Effect of an Interdisciplinary Entrepreneurship Education Program on Students' Entrepreneurial Intention. *The International Journal of Management Education*, *21*(3), 100845. https://doi.org/10.1016/j.ijme.2023.100845

[69] **Oyervides, M., Guerrero, L., Espin-Andrade, R. A., & Sánchez, I.** (2021). *Strategies for the Development and Success of Women Entrepreneurs Through SWOT Analysis and Compensatory Fuzzy Logic* (pp. 61–77). https://doi.org/10.1007/978-3-030-73819-8_4

[70] **Pantaleón, A. J., Bueloth, M. R., Altamirano, F. R., Caro, O., & Román, C. A.** (2023). Amazonas: Gaps in tourism entrepreneurship. *Revista de Gestao Social e Ambiental*, *17*(4). https://doi.org/10.24857/rgsa.v17n4-020

[71] **Pantaleón, A. J., Caro, O., Santos, R., Marín, Y., Bardales, E.., & Rituay, A. M.** (2024). Gender Equality in Municipal Management Positions in Amazonas, Peru. *Journal of Educational and Social Research*, *14*(3), 281–292. https://doi.org/10.36941/jesr-2024-0073

[72] **Parvin, A.** (2018). Business Strategy of Women Entrepreneur in Bangladesh. *American Journal of Operations Management and Information Systems*, *3*(1), 22. https://doi.org/10.11648/j.ajomis.20180301.13

[73] **Peake, W. O., McDowell, W. C., Harris, M. L., & Davis, P. E.** (2018). *Can Women Entrepreneurs Plan to Prosper? Exploring the Role of Gender as a Moderator of the Planning-Performance Relationship* (pp. 121–133). https://doi.org/10.1007/978-3-319-62455-6_9

[74] **Pécot, M., Ricaurte-Quijano, C., Khoo, C., Vázquez, M. A., Barahona-Canales, D., Ling Yang, E. C., & Tan, R.** (2024). From empowering women to being empowered by women: A gendered social innovation

framework for tourism-led development initiatives. *Tourism Management*, *102*. https://doi.org/10.1016/j.tourman.2024.104883

[75] **Prakash, D., Bisla, M., & Arora, T.** (2023). Gendered Aspect of Entrepreneurial Orientation: The Role of Mindfulness. *Journal of Women's Entrepreneurship and Education - JWEE*, 76–91. https://doi.org/10.28934/jwee23.pp76-91

[76] **Pyliavets, V., Balaziuk, O., & Hrynyk, O.** (2023). Modern practice of using of the Business-Planing Standards in Ukraine. *Eastern Europe: Economy, Business and Management*, *1(38)*. https://doi.org/10.32782/easterneurope.38-2

[77] **Rahate, H., & Azmi, N.** (2023). High School Students' Perception and Development of Soft skills. *International Journal of Language and Literary Studies*, *5*(2), 192–208. https://doi.org/10.36892/ijlls.v5i2.1283

[78] **Rahim, S. A.** (2023). Soft Skills – The Key to Career Success. In *Management Education for Achieving Sustainable Development Goals in the Context of Bangladesh* (pp. 167–174). Department of Management, Faculty of Business Studies, University of Dhaka. https://doi.org/10.57240/DUJMBK12

[79] **Reyes-Aceves, F. Y., Ramos-Lopez, L., & Mungaray-Lagarda, A.** (2023). Entrepreneurship Education: Examining Long-Term Effects of a Practical Program Implemented in Children. *Education Sciences*, *13*(9), 894. https://doi.org/10.3390/educsci13090894

[80] **Rezaei, S., & França, D. H.** (2021). Female Entrepreneurship in Latin America and the Key Role of Informal Institutions in the Reproduction of Gender Asymmetries. In *The Emerald Handbook of Women and Entrepreneurship in Developing Economies* (pp. 73–90). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80071-326-020211005

[81] **Rizal, A. F.** (2021). The Influence of Business Plan Competition and Loan Provision on Nurturing the Spirit of Entrepreneurship Among Students. *Proceedings of the Conference on International Issues in Business and Economics Research (CIIBER 2019)*. https://doi.org/10.2991/aebmr.k.210121.028

[82] **Robbins, S. P., & Mary, A. C.** (2017). *Management, 14th Global Edition*. https://www.pearson.com/se/Nordics-Higher-Education/subject-catalogue/business-and-management/Management-Robbins-Coulter.html

[83] **Roper, D. A., Mendoza, C., & Lau, S.** (2020). The Challenge of Inspiring Women Startups in a Latin American Country. *Proceedings of the XII Latin American Women in Computing Congress 2020 (LAWCC 2020) Co-Located with XLVI Latin American Computer Conference (CLEI 2020), Loja, Ecuador, October 19, 2020*, 82–92.

[84] **Rovenska, V., Smyrnova, I., & Latysheva, O.** (2023). Development of soft skills in the context of performance management skills. *Problems of*

Systemic Approach in the Economy, *2(91)*. https://doi.org/10.32782/2520-2200/2023-2-10

[85] **Rutti, R. M., Garcia, F., & Helms, M. M.** (2021). Entrepreneurship in Peru: a SWOT analysis. *International Journal of Entrepreneurship and Small Business*, *42*(3), 369. https://doi.org/10.1504/IJESB.2021.113207

[86] **Beulah, M.** (2023). Women Artisan Facing Obstacles. *Proceeding International Conference on Science and Engineering*, *11*(1), 197–202. https://doi.org/10.52783/cienceng.v11i1.112

[87] **Sawale, S. B., & Karpe, M. D.** (2019). Skill Development and Women Entrepreneurs in India. *Shanlax International Journal of Economics*, *8*(1), 32–36. https://doi.org/10.34293/economics.v8i1.1323

[88] **Senge, P.** (2006). *The Fifth Discipline: The Art & Practice of The Learning Organization. Currency.* https://www.seeing-everything-in-a-new-way.com/uploads/2/8/5/1/28516163/peter-senge-the-fifth-discipline.pdf

[89] **Setiadi, N. J., Sasongko, A. H., Sudrajat, J., & Meiryani, M.** (2021). Soft Skill Development Strengthening Program Business Entrepreneurship. *Social Economics and Ecology International Journal (SEEIJ)*, *5*(1), 28–32. https://doi.org/10.21512/seeij.v5i1.7371

[90] **Sharma, V., Maheshkar, C., Poulose, J., Kapse, M., & Mahajan, Y.** (2023). Women Entrepreneurs. *Journal of Women's Entrepreneurship and Education - JWEE*, *3–4*, 95–121. https://doi.org/10.28934/jwee23.34.pp95-121

[91] **Shiralashetti, A. S., & Poojari, L.** (2022). Challenges and Support during Project Stage: A Case Study of Women Entrepreneurs of Udupi District. *YMER Digital*, *21*(07), 1210–1217. https://doi.org/10.37896/YMER21.07/A0

[92] **Shvedova, Y., Korotetska, E., & Kashkabash, D.** (2022). Soft skills: analysis of development in higher education acquires and ways of implementation in the educational process. *The Scientific Notes of the Pedagogical Department*, *51*, 78–94. https://doi.org/10.26565/2074-8167-2022-51-10

[93] Singh, S., & Britto, J. (2022). Challenges and opportunities faced by Women entrepreneurs with special references to Noida (UP). *International Journal of Engineering Applied Sciences and Technology*, *6*(11), 120–129. https://doi.org/10.33564/IJEAST.2022.v06i11.024

[94] **Suan-Chin, S. T.** (2021). Soft skills as part of the competitive advantage framework. *Journal of Management Information and Decision Sciences*, *24*(S1), 1–5.

[95] **Taskin, S., Javed, A., & Kohda, Y.** (2023). Promoting Entrepreneurial Mindset for Successful Entrepreneurship. *Journal of Women's Entrepreneurship and Education - JWEE*, *3–4*, 122–142. https://doi.org/10.28934/jwee23.34.pp122-142

[96] **Tatasari, T.** (2023). The effect of interpersonal capabilities and collaboration on synergy in multi-professional womenpreneur. *World Journal of Advanced Research and Reviews*, *19*(2), 944–954. https://doi.org/10.30574/wjarr.2023.19.2.1665

[97] **Tem, S., Kuroda, A., & Tang, K. N.** (2020). The Importance of Soft Skills Development to Enhance Entrepreneurial Capacity. *International Educational Research*, *3*(3), p1. https://doi.org/10.30560/ier.v3n3p1

[98] **Theunissen, P. L.** (2022). *Challenges and opportunities of women in entrepreneurship* [Maastricht University]. https://doi.org/10.26481/dis.20220405pt

[99] **Ubfal, D., Beuermann, D., Frese, M., Maffioli, A., Arráiz, I., & Verch, D.** (2020). *The Impact of Soft-Skills Training for Entrepreneurs in Jamaica*. https://doi.org/10.18235/0002450

[100] **Umar, F., Kadir, A. R., Reni, A., Thaha, R. R., & Setiawan, R.** (2023). Improving Business Performance through Entrepreneurship Orientation and Management Capacity for Women Entrepreneurs. *Journal of Women's Entrepreneurship and Education - JWEE*, 37–57. https://doi.org/10.28934/jwee23.pp37-57

[101] **Vankov, D., & Vankov, B.** (2023). Entrepreneurship education 2-in-1: Helping young Bulgarians become more entrepreneurial in a 10-month parallel-group randomized trial. *Journal of Innovation and Entrepreneurship*, *12*(1), 58. https://doi.org/10.1186/s13731-023-00331-x

[102] **Varhata, O., Komar, T., Afanasenko, V., Kuleshova, O., & Mikheieva, L.** (2023). *"Soft skills" as an important condition for self-creation of the personality of socionomic professions specialists: theory and practice*. Primedia eLaunch LLC. https://doi.org/10.36074/ssicspspstp-monograph.2023

[103] **Venotha, A. S., & Mariadoss, S.** (2022). An Investigation of the Leadership Challenges amongst Women Entrepreneurs. *International Journal for Research in Applied Science and Engineering Technology*, *10*(12), 2126–2130. https://doi.org/10.22214/ijraset.2022.48423

[104] **Xu, J., Fu, Y., & Zhang, X.** (2023). Does entrepreneurship education in China develop entrepreneurial intention? the role of self-efficacy and experience. *PLOS ONE*, *18*(7), e0286090. https://doi.org/10.1371/journal.pone.0286090

[105] **Yuniarto, A., Zulkifli, Z., & Derriawan, D.** (2022). Perencanaan strategi bisnis rumah sakit ibu & anak. *Fair Value: Jurnal Ilmiah Akuntansi Dan Keuangan*, *4*(12), 5794–5810. https://doi.org/10.32670/fairvalue.v4i12.2041

[106] **Zubenko, O., & Ishchuk, N.** (2022, December 9). The importance of the soft skills development of higher education graduate computer specialists in professional english learning. *Education and Science of Today: Intersectoral*

Issues and Development of Sciences. https://doi.org/10.36074/logos-09.12.2022.42

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