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## Article

# Women entrepreneurial orientation: A systematic literature review

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# Women entrepreneurial orientation: A systematic literature review

Leul Girma Haylemariam, Stephen Oduro, Giada Mainolfi, Alessandro De Nisco

## ABSTRACT

**Objective:** The objective of the article is to investigate the status and evolution of women's entrepreneurial orientation (WEO) research from 1990 to 2021 through a systematic literature review.

**Research Design & Methods:** We examined 204 peer-reviewed scholarly articles to identify and analyse study themes, publication trends, journal outlets, research methods, country, and regional distributions, and the theoretical landscape of WEO research through a mixed methodology of descriptive and content analyses.

**Findings:** Our analysis showed the following key findings: (1) publication trends show a constant growth of interest in WEO research, particularly in the last decade (2011-2021), with most of the articles published in high-ranked journals outlets; (2) quantitative research dominates the field above qualitative studies and conceptual models; (3) study themes are multidimensional, embodying a wide range of topics (4) research is generally US-centric regarding the individual countries, and in terms of the regional distribution, studies are Australasia and Europe centric; and, finally (5) studies mainly employ the theory of entrepreneurship and theory of planned behaviour in the theory-driven studies.

**Implications & Recommendations:** The results imply that WEO research is growing in interest in both theory and practice, thereby demanding the attention of women entrepreneurship researchers.

**Contribution & Value Added:** This study contributes to the literature by reviewing and discussing the body of WEO literature. It provides a comprehensive understanding of the phenomenon. The findings of this study can benefit researchers in understanding the status and evolution of WEO. It can also assist policymakers and governments in developing suitable policies and initiatives.

**Article type:** systematic literature review

**Keywords:** entrepreneurial orientation; women entrepreneurs; systematic review; innovativeness; risk-taking; proactiveness

**JEL codes:** L26, J24, G41

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## INTRODUCTION

Women are among the most rapidly growing groups of entrepreneurs globally, contributing considerably to economic growth, employment, innovation, and the well-being of societies (Kelley *et al.*, 2017). Women's entrepreneurship is a separate subject of study within entrepreneurship research (Popescu, 2012). Women are taking centre stage in a growing field of entrepreneurial orientation (EO) research (Goktan & Gupta, 2015; Dawson & Henley, 2012; Ndubisi & Agarwal, 2014; Kundu & Rani, 2004). Many studies have undertaken customized research, the findings of which have highlighted the significance of researching women's entrepreneurial orientation (WEO) (Jennings & Brush, 2013; Welter *et al.*, 2014; Gartner *et al.*, 2010; Henry *et al.*, 2015; Holmquist & Carter, 2009).

Entrepreneurial orientation is a crucial concept in entrepreneurship (Jiang *et al.*, 2018). Entrepreneurial orientation is a strategic stance that specifies processes and activities that provide a framework

for tactical decisions and behaviours in enterprises (Mehrabi *et al.*, 2019; Jiang *et al.*, 2018). Scholars often define EO as a multidimensional framework implemented at the company or entrepreneur level that demonstrates the entrepreneurial abilities of the entrepreneur or firm along five dimensions: innovativeness, proactivity, risk-taking, autonomy, and competitive aggressiveness (Wiklund & Shepherd, 2003; Taylor, 2013; Mohutsiwa, 2012; Mwaura *et al.*, 2015; Basile, 2012 ).

How EO applies to women entrepreneurs has been researched over the years. However, nothing specifically focused on women's entrepreneurial orientation (WEO) literature has yet not been done. Even the previous SLRs focusing on EO (*e.g.* White *et al.*, 2021; Solikahan & Mohammad, 2018; Montiel-Campos, 2018; Wales, 2016; Cortes *et al.*, 2021) are subject-specific and mixed, without distinction between men and women entrepreneurs. For instance, White, Chaudhary, and Gupta (2021) concentrated on the issues related to EO measurement. At the same time, Solikahan and Mohammad (2018) explained the development of EO and its measurement. Montiel-Campos (2018) focused on the relationship between EO and market orientation, and Wales (2016) analysed and synthesized critical research on EO.

These studies have contributed tremendously to highlighting different aspects of EO. However, none of them systematically investigated WEO. Moreover, research on WEO is fragmented across journals, disciplines, cultures, and contexts, making it difficult to view the WEO research landscape comprehensively. Relatedly, we lack an organizing, synthesizing framework that maps and calibrates the status and evolution of WEO research over the years to highlight what we know, what we do not know, and what we should know about the phenomenon.

To fill this gap, the present research focuses on WEO by seeking to answer the following research questions:

- RQ1:** What is the status and evolution of WEO research in the entrepreneurship management research streams regarding journal outlets, themes, theories, study methods, and geographical and cultural distribution?
- RQ2:** How does the academic literature examine WEO throughout the years and the significant tendencies of WEO research?
- RQ3:** How might the prevailing literature's judgments help craft a conceptual model of WEO study and propose research directions for further study?

Undertaking an integrated and comprehensive evaluation of how EO is linked with women's entrepreneurship over the years, the study contributes the following inputs to women's entrepreneurship research and practice:

Firstly, this research provides original insight into the current conversation of WEO by undertaking a comprehensive SLR of 204 peer-reviewed publications in business and management journals from 1990 to 2021. Secondly, our assessment is the first to implement a detailed and complete approach in this research stream by categorizing and classifying the scattered and fragmented articles published in the most relevant academic business and management databases (Emerald Insight, ProQuest, ScienceDirect, Business Source, Complete Web of Science, EBSCO, and JSTOR) to offer a synopsis of the field for theory and pragmatic developments. Thirdly, our research brings valuable insights to support researchers and practitioners in understanding the principal issues studied in WEO and indicating the evolving results for further EO research. Therefore, this investigation would help disclose significant knowledge gaps concerning the themes, national and regional background focus, conceptual orientation, and methodological illustrations of the phenomenon.

The rest of the study is organized as follows. The next section will delineate the literature review. We will follow it by the material and methods section, in which we will present the SLR process and then the results section will follow with the study's findings. Next, we will present the discussion and conclusion section, followed by the implications of the study, both theoretical and practical. The last section will discuss the research limitations of the study and future research suggestions.

## MATERIAL AND METHODS

### Approach and Nature

A systematic literature review (SLR) is crucial as it aims to comprehensively locate, evaluate, and synthesize all relevant research on a particular subject to thoroughly understand the findings and their implications. Furthermore, the SLR mitigates the potential to minimize the risk of bias caused by human error (Vuori & Väisänen, 2009; Cook *et al.*, 1997; Petticrew & Roberts, 2008). Moreover, Tranfield *et al.* (2003) highlighted that a comprehensive SLR is a crucial research goal for academic and practitioner communities across several disciplines. This endeavour gathers the most reliable and relevant information to guide policy-making and practical applications. The SLR methodology has seen advancements over the last two decades and has become an integral component of evidence-based research (Deng & Smyth, 2013; Crossan & Apaydin, 2010). The proposed framework provides a systematic and observable method for researchers to evaluate and identify different methods of investigation suitable for a particular subject matter. A systematic research review is an efficient approach for identifying, evaluating, and synthesizing pertinent research about a specific topic to understand the studies and their respective outcomes.

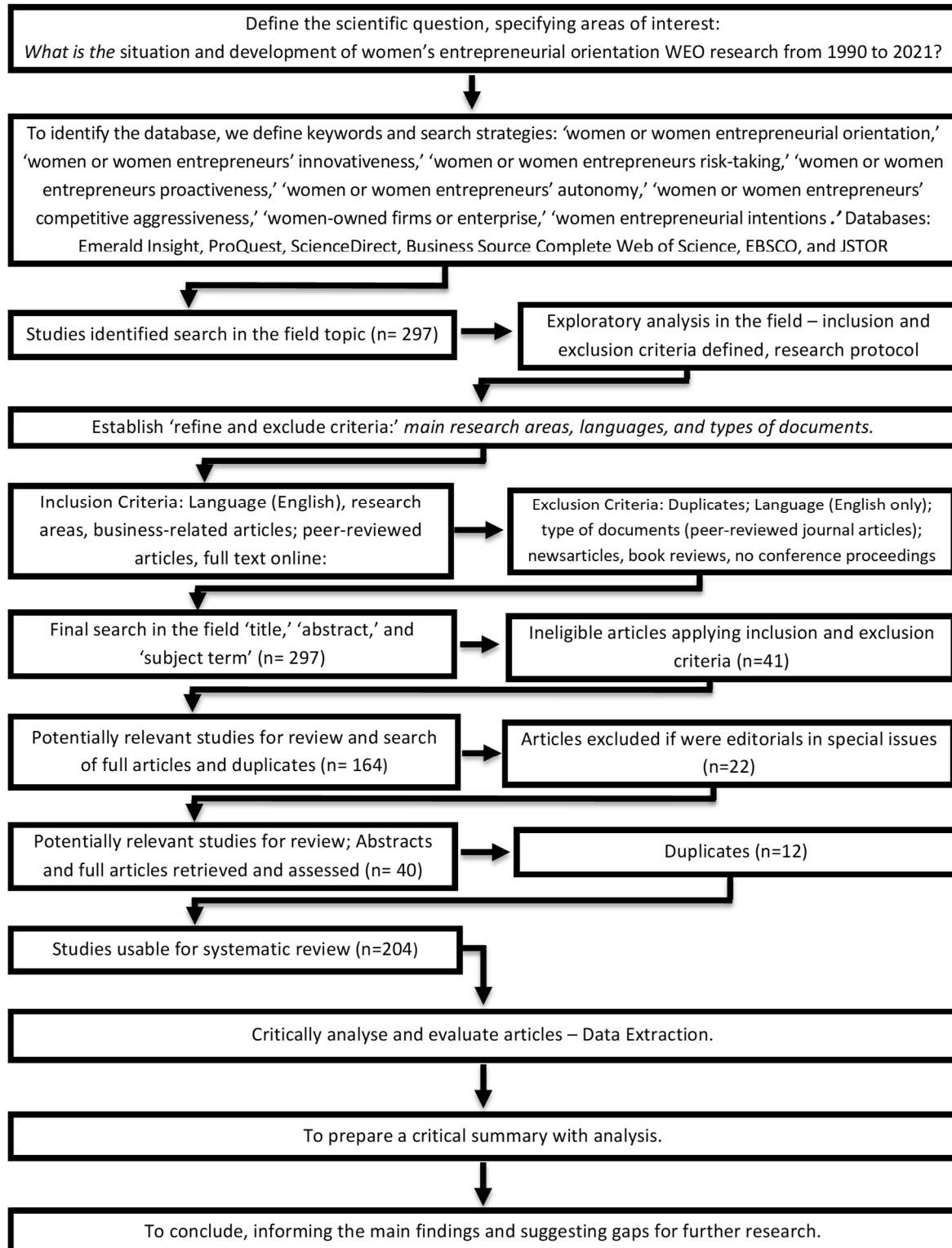
The current research used the SLR approach by following the systematic review protocols recommended by Tranfield *et al.* (2003), Sampaio and Mancini (2007), and Petticrew and Roberts (2008). However, we made some alterations and adjustments to adapt to it social science research. Figure 1 shows the research protocol adopted and adapted. The right side of the structure shows the exclusion criteria and articles that did not match the study target of the evaluation. In contrast, the left side of the structure exhibits the inclusion criteria and articles included in the systematic review.

Based on a standard systematic review protocol, the first step of the analysis encompassed choosing search terms. The multidimensional nature of the WEO concept has caused scholars to use different terminologies to explain the same subject, like 'women entrepreneurial orientation' and 'women entrepreneurial orientation' (Kundu & Rani, 2016; Mahmood & Hanafi, 2013). This way, we searched for articles published in the following international databases: Emerald Insight, ProQuest, ScienceDirect, Business Source, Complete Web of Science (WoS), EBSCO, and JSTOR. The choice of the database in which we collected the data was guided by the decision to maximize coverage, to be inclusive, and to see to it that the review included a comprehensive, relevant collection of articles. We selected these databases, because they are an extensive database of scholarly articles, are widely recognized, and are frequently used for quantitative and qualitative analyses (Donthu *et al.*, 2020). They also contain much citation information and are widely accessed databases for business management and entrepreneurship studies. Thus, we used the following keywords in the subject terms, abstract, and title: 'women or women entrepreneurial orientation;' 'women or women entrepreneurs' innovativeness;' 'women or women entrepreneurs risk-taking;' 'women or women entrepreneurs proactiveness;' 'women or women entrepreneurs' autonomy;' 'women or women entrepreneurs' competitive aggressiveness;' 'women-owned firms or enterprise;' 'women entrepreneurial intentions.'

### Study Selection, Inclusion, and Exclusion Criterion

The search period was from January 1, 1990, to December 30, 2021, which was within the specified period of the project. Moreover, the timeframe was chosen, because it is when WEO research has witnessed rapid expansion in the mainstream literature. Therefore, this time frame was considered appropriately aligned with our research objective of investigating the development of WEO research from its initial phase to the current period. The search inquiry comprised only English language, full-text, online articles in business-management-related areas, and peer-reviewed articles. Our search process started on December 27, 2021, and 2683 articles were discovered in the early search in the topic field. This study advanced the search field by investigating the subject term, domains for the timeframe selected, title, and abstract. This modification produced a total of 297 articles. The co-authors autonomously arranged and examined the articles based on the abstracts to maintain con-

sistency. Abstracts were evaluated for significance and included only those that met the inclusion criteria (*i.e.* peer-reviewed articles focusing on women's entrepreneurial orientation, empirically, and theoretically). We examined the full texts when the abstract did not depict the article's content. After the primary screening, 53 articles were excluded since their focus or themes (*e.g.* social capital, women, women empowerment, etc.) were unrelated to the WEO theme.



**Figure 1. Systematic review: Design of the research protocol**

Source: own elaboration of Petticrew and Roberts (2006), Tranfield et al. (2003), and Sampaio & Mancini (2007).

Furthermore, we omitted 22 articles as they were not peer-reviewed articles. Finally, we deleted duplicates from the database. After the final screening, a final list of 204 full articles aligned with the objective of the study, thus forming the basis of the analysis. Our grouping scheme was based on three critical strands: regional focus, methodology, and study theme. Firstly, the categorization of the region was based on a modified version of Guthrie and Murthy's (2009) original categorization of geographical areas of research: Australasia (Australia, New Zealand, parts of Asia, Malaysia, Thailand, Taiwan, India, Japan China, Singapore), Europe (Italy, Sweden, Germany, France, South America, Denmark,) North America (USA, Canada, and Mexico), UK (Wales, Ireland England, Scotland) Africa and others (UAE). Thus, this study sorted the articles into seven (7) main regional blocs: Australasia, Europe, North America, the UK, Africa, South America, and others. The study has labelled the articles as global, not limited to one geographical region.

Secondly, the study sorted the articles based on the methodological outline of the articles established in the study conducted by Caldas *et al.* (2002), who categorized research methods as (1) theoretical/conceptual, (2) empirical, or (3) theoretical and empirical. If an article is classified as (1) theoretical/conceptual – that is, articles concentrating on concepts or theories without displaying data, we grouped the articles based on discussions from Weick (1995) and Whetten (1989): (a) theoretical essay that builds or proposes a theory, (b) theoretical essay of current theory systemization, (c) theoretical essay on existing theory and (d) theoretical essay that builds or proposes a concept or construct. For (2) empirical studies and (3) theoretical and empirical articles – which present data analysis or conceptual and data analysis (Lewis, 2015) – a method was used to evaluate the study method and classify it as either (a) quantitative, qualitative, or quality-quantitative studies. Furthermore, this study organized the research design in the articles into a single case study or multiple case studies, semi-interviews, and surveys/questionnaires.

Lastly, the study categorized themes examined in the articles using the co-occurrence or frequency of keywords/themes in the title of articles based on simple cluster analysis, a method like previous reviews (*e.g.* Oduro *et al.*, 2021; Furrer *et al.*, 2008; Lu *et al.*, 2016). This way, we classified articles as themes/independent variables, outcomes, and drivers/determinants. Regarding the themes or independent variables, we used the EO model to group the articles into innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness. Regarding the outcomes, we grouped articles into eight (8) main blocks: access to venture, attitude/behaviour, business creation/new products or market development, business/venture success, entrepreneurial intentions, family development, performance (financial or non-financial), and others. Finally, concerning the drivers/determinants, we grouped articles into seven (7) critical strands: cultural orientations, family orientations, funding support, leadership orientations, personal factors/orientations, religious orientations, and wealth creation.

This study employed content and descriptive analyses to analyse the collected data research. Content analysis has been used in management studies for the objective, systematic, and quantifiable examination of textual information (Neuendorf *et al.*, 2010; Williams & Plouffe, 2007). Concerning the data instrument of analysis, we used Excel Spreadsheet for all data coding, organization, and analysis. The following sections will show main findings of the content and descriptive analyses.

## LITERATURE REVIEW

### Entrepreneurial Orientation

Miller (1983) developed the concept of entrepreneurial orientation (EO) with three dimensions: innovativeness, proactiveness, and risk-taking. Later, Lumpkin and Dess (1996) incorporated two additional dimensions: competitive aggressiveness and autonomy. Entrepreneurial orientation is a multidimensional construct representing an entrepreneur's or firm's performance (Mohutsiwa, 2012; Carter *et al.*, 2015; Wiklund & Shepherd, 2003; Taylor, 2013). According to Lumpkin and Dess (1996), innovation facilitates the development of fresh and original ideas, innovative approaches, and experimental methods by departing from previous technological advancements. Innovativeness is defined as the capacity to adopt a forward-thinking stance and acknowledge the future desires and requirements of the mar-

ket, hence attaining a competitive advantage. Like the first-mover advantage, proactiveness was proposed as a beneficial strategic approach (Lieberman & Montgomery, 1988). Companies with a proactive orientation often have a future-oriented mindset, enabling them to predict and prepare for future developments (Dada & Fogg, 2014; Sciascia *et al.*, 2006). These firms are strongly inclined to be pioneers (Wiklund & Shepherd, 2005). According to Riviezzo and Napolitano (2014), risk-taking can be defined as the perpetual pursuit of novel prospects and the readiness to allocate financial resources toward endeavours with uncertain outcomes. The concept of autonomy generally pertains to strategic autonomy, encompassing the upper degrees or strategic aspects. This kind of autonomy empowers a team or person to address and resolve issues and establish problem definitions effectively. Promoting increased degrees of autonomy has been shown to enhance the processes of knowledge generation, dissemination, and utilization (Janz & Prasarnphanich, 2005; Smith, 2001). Competitive aggressiveness refers to the 'intensity and confrontation that new market participants typically use to compete against established competitors effectively' (Lumpkin & Dess, 1996, pp. 139).

### **Women's Entrepreneurial Orientation (WEO)**

The existing body of research indicates that women-owned enterprises demonstrate sufficient levels of innovation to remain competitive in the market (Jyoti *et al.*, 2011; Ayub *et al.*, 2013). Ahl (2006) claims that socioeconomic circumstances influence the proactive behaviour of women. However, other research contradicts this assertion (Darmanto & Bukirom, 2021). Risk-taking is a strategic behaviour shown by firms when they consciously allocate resources to pursue initiatives that have the potential for significant rewards but also carry a considerable risk of failure (Miller & Friesen, 1982; Lumpkin & Dess, 1996). According to Deakins and Freel (2009), the effectiveness of an entrepreneur in assessing and evaluating risk is crucial for achieving success. Several studies have examined the risk-taking tendencies of women entrepreneurs. Fatoki (2014) has shown that women entrepreneurs exhibit risk-taking behaviour. However, Jan and Anwar (2022) presented contrasting findings. They argue that women entrepreneurs tend to be risk-averse. According to Lumpkin and Dess (1996), autonomy is characterized by the capacity and inclination to pursue various options independently. According to the study by Ürü *et al.* (2011), women entrepreneurs tend to use more structured and centralized approaches to manage their company operations. Competitive aggressiveness may be characterized as the inclination of a corporation to engage in aggressive strategies and surpass its rivals, as described by Lumpkin and Dess (1996). According to the study by Msoka (2013), women entrepreneurs are dedicated to engaging in assertive competitive strategies. These strategies include many actions, such as informing potential buyers about new items, showcasing their products, using persuasive communication techniques to attract clients to their businesses, and highlighting the excellent qualities of their offerings. Agrawal *et al.* (2022) also argue that women-owned enterprises provide an intriguing subject for examining the link between EO and performance due to their distinctive array of traits (Fuentes-Fuentes *et al.*, 2015). The impact of EO on the business success of women entrepreneurs working in various contexts is not well understood, despite EO being widely recognized as a crucial personal quality that contributes to company performance (Rauch *et al.*, 2009; Wales, 2016; Wales *et al.*, 2013). Accordingly, scholars are encouraged to investigate WEO (Mandongwe & Jaravaza, 2020). Hence, adopting a systematic research review (SLR) that focuses specifically on women entrepreneurs concerning their EO can deepen our comprehension of women's entrepreneurial orientation and spirit within the existing body of research (Wales, 2016).

## **RESULTS**

### **Time Sequence and Journal Outlets**

We first attempted to understand the time trends and journal outlets of WEO research. As shown in Table 1, we found WEO articles in 152 business and management journals. According to our analysis, the five most prolific journal outlets include *the International Journal of Entrepreneurial Behaviour and Research* with eight articles (3.92%); *the Journal of Business Venturing* with eight articles (3.92%); *International Journal of Gender and Entrepreneurship* with seven articles (3.43%), *Entrepreneurship The-*

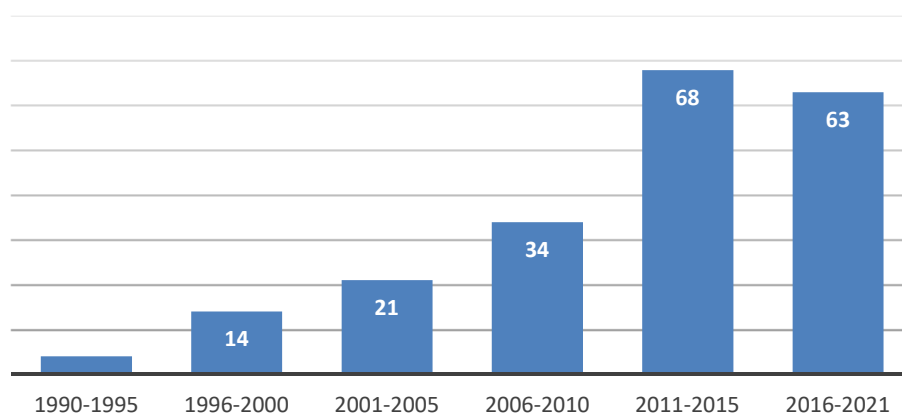
ory and Practice with five articles (2.45%), and *International Journal of Business and Social Science* with four articles (1.96%). The journals mentioned above accounted for 15.68% of the reviewed research articles. The fragmented nature of the field is shown in the analysis of the publication ranges in Table 1. As seen, 127 journals published only one article on WEO in the first range, representing the most significant share of the total journal outlets (83.56%). The second range comprises journals that published two articles and 14 outlets (9.21%). The third range, which consists of journals that published three research articles, comprises six, representing the smallest share (3.95%). Finally, we found only five journals (4.03%) in the maximum capacity, which published more than four articles.

**Table 1. Top 5 journals on WEO and publications ranges**

Journal name	Database	Number of publications	Share of total	N* of outlets per publications range		Share of total
International Journal of Entrepreneurial Behaviour and Research	WoS	8	3.92%	1 Publication	127	83.56%
Journal of Business Venturing	WoS	8	3.92%	2 Publications	14	9.21%
International Journal of Gender and Entrepreneurship	WoS	7	3.43%	3 Publications	6	3.95%
Entrepreneurship Theory and Practice	WoS	5	2.45%	—	—	—
International Journal of Business and Social Science	EBSCO	4	1.96%	—	—	—
<b>Total</b>		32	15.68%	<b>Total</b>	152	100%

Source: own study.

The distribution of publications from 1990 to 2021 is shown in Figure 2. Results of the analysis exhibit that from 1990 to 1995, research on WEO was also almost nonexistent, with only four articles appearing in the mainstream literature (e.g. Sexton & Bowman, 1990; Johnson & Powell 1994). Most articles (i.e. 68) were published between 2011-2015 (e.g. Osman *et al.*, 2011; Ayub *et al.*, 2013; Carter *et al.*, 2015), followed by those published from 2016 to 2021, comprising 63 articles (e.g. Hasan & Almubarak, 2016; White *et al.*, 2021). The publication frequency indicates that WEO has remained a hot debate among researchers, even though the literature remains scattered.



**Figure 2. Distribution of publications over the period 1990-2021**

Source: own elaboration.

Previous research reveals that women academics publish at a lower rate than men academics. It holds in almost every academic discipline and region despite narrowing disparities. Women are likewise under-represented in the position of first-author byline (Joanis & Patil, 2022). However, our result shown in Table 2 indicates that WEO research is primarily first authored by women. The USA tops the list with 35 article (17.15%), followed by Malaysia with nine (4.41%), UK with 8 (3.98%), Spain with six (2.94%), Canada with five (2.45%), and Turkey and India each of them with four articles (1.69%). The multiple countries with less than four articles total 50 articles, accounting for coverage of 24 % of the articles.



At the regional level, authors from North America have the highest number of first-women authored WEO articles, with 40 articles (19.60 %), followed by Australasia, with 31 articles (15.19% ), Europe with 24 (11.76%), Africa with 14 (6.86%), UK with eight (3.92%), UEA with three (1.47%), and surprisingly only one article (0.49%) from South America (*e.g.* Nassif *et al.*, 2012). Thus, based on the result, we can say that there is a high number of first-women-authored WEO articles in North America, Australasia, and Europe but a deficiency in Africa, South America, and the UAE.

**Table 2. First author's gender, country, and regional distribution (top 7, by country)**

Country	Number of first women authors	Share of Total	Region	Number of first women authors	Share of Total
USA	35	17.15%	Africa	14	6.86%
Malaysia	9	4.41%	Australasia	31	15.19%
UK	8	3.92%	Europe	24	11.76%
Spain	6	2.94%	South America	1	0.49%
Canda	5	2.45%	North America	40	19.60%
Turkey	4	1.96%	UAE	3	1.47%
India	4	1.96%	UK	8	3.92%
Other countries < 4	50	24.50%			
<b>Total</b>	<b>121</b>	<b>59.31%</b>		<b>121</b>	<b>59.31%</b>

Source: own study.

### Themes, Outcomes, and Drivers/Determinants

As stated earlier, the five main dimensions of EO were used to ascertain the reviewed articles' main themes or independent variables. Table 3 shows the frequency of each theme over the periods. As results show, research on *innovativeness* represents the most dominant sphere, with 60 articles (29.41%) (*e.g.* Mueller & Thomas, 2001; Park *et al.*, 2007; Kee & Rahman, 2018). The second theme with the most attention is risk-taking (*e.g.* Sexton & Bowman, 1990; Schneider, 2017; Jain & Ali, 2012), accounting for 49 articles (24.01%). It is followed by proactiveness (*e.g.* Chakraborty *et al.*, 2018; Greenglass *et al.*, 1999; Hussain & Malik, 2018) with 30 articles (14.70%), autonomy (*e.g.* Colakoglu, 2011) with 14 articles (6.86%), and competitive aggressiveness (*e.g.* Kozubíková *et al.*, 2017) with 13 articles (6.37%). Finally, the minor area of investigation is the composite WEO, in which authors examined the EO as one construct (*e.g.* Erogul & Quagraine, 2018; Abdullahi *et al.*, 2015; Lee & Peterson, 2000), representing 38 articles (18.62%).

Regarding the 'drivers/determinants,' research on personal factors (*e.g.* Mitra & Basit 2021) represents the dominant realm of WEO research, with a total of 23 articles (11.27%). The second most examined driver/determinant is leadership orientations (*e.g.* Arham *et al.*, 2020), with eight articles (3.92%), followed by cultural orientations (*e.g.* Richard *et al.*, 2004), with seven articles (3.43%), family orientations (*e.g.* Arzubiaga *et al.*, 2018), with four articles (1.96%), funding support

**Table 3. Themes, outcomes, and drivers/determinants**

Themes of WEO		Outcomes (dependent variables)		Drivers/Determinants	
Innovativeness	60	Access to venture capital	5	Cultural orientations	7
Risk-taking	49	Attitude or behaviour	6	Family orientations	4
Proactiveness	30	Business creation and new products and market development	3	Funding support	3
Autonomy	14	Business/venture success	9	Leadership orientations	8
Competitive aggressiveness	13	Entrepreneurial Intentions	17	Personal factors	23
Composite WEO	38	Family development/growth	3	Religious orientations	3
		Performance (financial, non-financial, or both)	72	Wealth creation	3
		Others	89		
<b>Total</b>	<b>204</b>		<b>204</b>	<b>Total</b>	<b>51</b>

Source: own study.

(e.g. Lins & Lutz 2016), with three articles (1.47%), religious orientations (e.g. Azmi, 2017), with three articles (1.47%), wealth creation (e.g. DeMartino & Barbato (2003) with three articles (1.47%), in that order.

To put forward a more insightful synopsis of the maturity of WEO research over time, we conducted a cross-analysis of the connection between the research themes (independent variables) and time frame, disclosed in Table 4. It is clear from Table 4 that the time intervals with a high volume of WEO research are 2011-2015 and 2016-2021. Within this time range, it could be seen that, apart from 'innovativeness,' which witnessed a decline in the number of studies from 26 in 2011-2015 to 19 in 2016-2021 (e.g. Jyoti *et al.*, 2011; Ayub *et al.*, 2013), the remaining dimensions experienced massive growth. For instance, studies on 'risk-taking' increased from 16 in 2011-2015 to 24 in 2016-2021 (e.g. Schneider, 2017; Butkouskaya, *et al.*, 2020), while 'proactiveness' grew from 10 articles in 2011-2015 to 15 in 2016-2021 (e.g. Chakraborty *et al.*, 2018). Generally, this analysis reinforces our earlier proposition that WEO research has gradually gained scholars' attention in mainstream research over the last decade, particularly the 'risk-taking' and proactiveness dimensions of the EO framework.

**Table 4. Themes across time**

Themes	Publication years						Total
	1990-1995	1996-2000	2001-2005	2006-2010	2011-2015	2016-2021	
Innovativeness	1	3	4	7	26	19	60
Proactiveness	0	2	1	2	10	15	30
Risk-taking	0	0	2	7	16	24	49
Autonomy	0	2	0	1	4	7	14
Competitive – Aggressiveness	0	1	1	1	5	5	13
Composite EO	0	1	1	4	15	17	38

Source: own study.

### Methodological Profile of Studies

The study divided the articles methodologically according to the following criteria (Table 5): research type, research approach, and study design. For the research type, empirical studies (studies that present concepts and data analysis) accounted for most of the articles 181 (88.72%) (e.g. Atuahene & Ko, 2001), followed by theoretical/conceptual studies (studies that focus on concepts without any data analysis), 14 articles (6.86%) (e.g. Lee & Peterson (2000). Furthermore, we assessed the research approaches adopted by researchers in investigating the main themes or topics under study. It was observed that quantitative studies accounted for 67.64% (138) of the articles reviewed as the leading methodology, followed by qualitative research, constituting 19.60% (40 articles), qualitative reviews 6.86% (14), and quali-quantitative 5.88% (12) (e.g. Gerrard *et al.*, 2003; Nixdorff & Rosen, 2010). In addition, we found that most of the studies used a survey/questionnaire (63.72% (130), followed by semi-interviews 15.68% (32), interviews and questionnaires 11.27% (23), systematic reviews 6.86% (14), and panel data 2.45% (5).

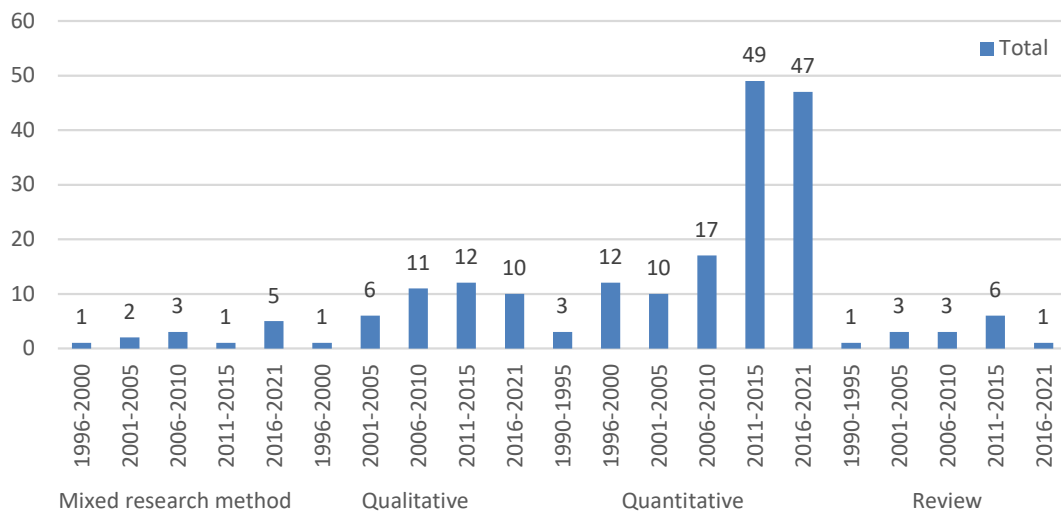
**Table 5. Methodological profile of articles**

Research Type		research approach		Study Design	
Theoretical/Conceptual	9	Qualitative	40	Semi-interviews	32
Empirical	181	Quantitative	138	Panel data	5
Review	14	Quali-Quantitative	12	Survey/questionnaire	130
		Qualitative review	14	Interviews and questionnaire	23
				Systematic reviews	14
<b>Total</b>	<b>204</b>	<b>Total</b>	<b>204</b>	<b>Total</b>	<b>204</b>

Source: own study.

Likewise, a cross-analysis was conducted to understand the evolution of the research methods over the years. As shown in Figure 3, the trend of the research approach suggests a decline in the

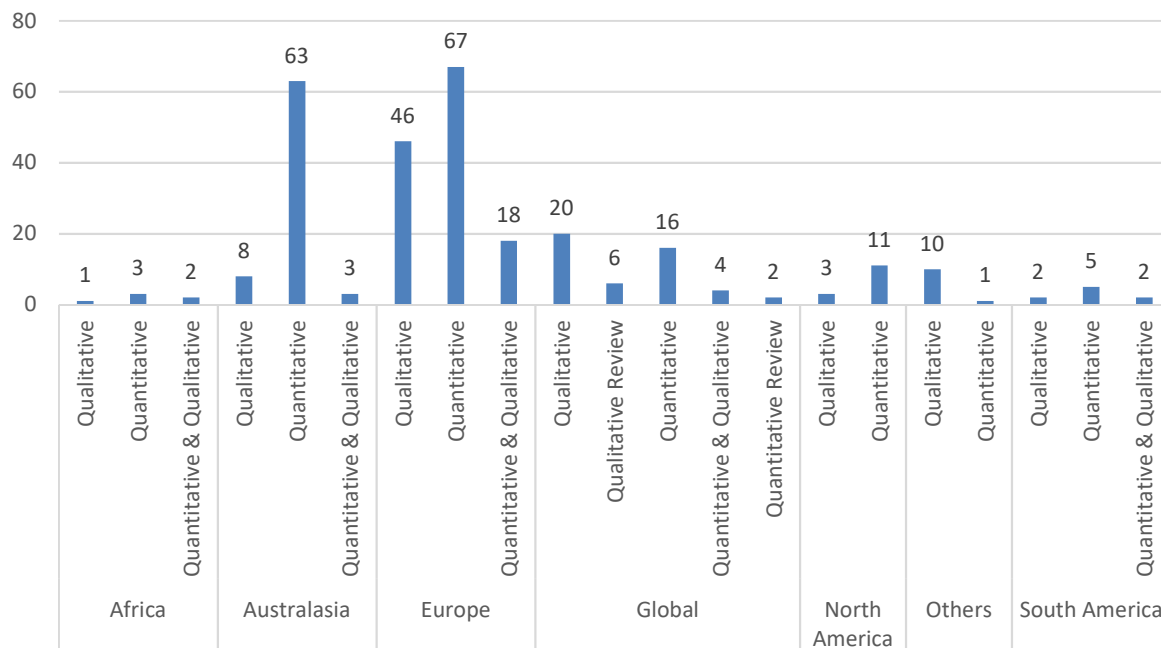
number of studies employing qualitative and quali-quantitative studies in 2017 and 2018 (15 to nine) and (six to four), respectively (*e.g.* Montiel, 2018). Conversely, there is a significant growth in the number of studies using only the quantitative approach (32-37 between 2017 and 2018), partly due to the studies' 'performance' measurement focus (*e.g.* Azmi, 2017).



**Figure 3. Research approach over the years**

Source: own elaboration.

Furthermore, we performed a cross-sectional analysis to understand the interplay between the research approach and the regional focuses of the studies. This segmented analysis ascertained the research approach being used across the regional or geographical blocs. As depicted in Figure 4, a vast majority of the quantitative studies were conducted in Europe (67) and Australasia (63) (*e.g.* Byrne *et al.*, 2019) while most of the global studies (studies involving two or more countries from different continents) were largely qualitative (20).



**Figure 4. Research approach versus regional focus**

Source: own elaboration.

### Theories Employed in the Articles

Regarding the theoretical landscape of the studies, we categorized the articles into the following four groups: atheoretical, theoretical, theory-referential, and theory-relational. As our finding shows, the *atheoretical studies* recorded the highest frequency, with 92 articles (45.08%) (e.g. Mahmood & Hanafi, 2013; Arzubaga *et al.*, 2018), followed by *atheoretical studies* (e.g. Koloba, 2017), with 58 articles (28.43%), *theory-relational* (e.g. Schneider 2017) with 21 articles, and *theory-referential* (e.g. Sarri & Trihopoulou, 2005) with 18 articles, (8.82%). In terms of the specific theories employed in the studies, the seven most popular theories emerged: The theory of entrepreneurship, representing 16 articles (e.g. Širec & Močnik, 2012; Hasan & Almubarak, 2016; Lituchy & Reavley, 2004), is the most used. This was followed by the theory of planned behaviour (e.g. Yordanova & Tarrazon, 2010) with eight articles. The resource-based view of the firm (RBV) (e.g. Pratono & Mahmood, 2015; Mahmood & Hanafi, 2013) emerged as the third most employed theory in WEO research with six articles, with institutional theory (e.g. Aidis *et al.*, 2007; Yunis *et al.*, 2018), feminist theory (e.g. Ahl & Marlow, 2012), grounded theory (e.g. Bucktowar, 2015), and gender role of theory (e.g. Balachandra, 2019) constituting 5, 4, 4, and 3 articles, respectively.

Moreover, Table 6 displays the sectoral focus of the studies. Our assessment shows that the most studied industry is manufacturing and service (e.g. Arham *et al.*, 2020) with 140 articles (68.62), followed by service (e.g. Loscocco *et al.*, 1991) with 38 articles (18.62%), and manufacturing (e.g. Akhtar, 2015) with 10 articles (4.90%). More in detail, studies in the manufacturing sector focus primarily on automotive, semiconductor, electronics, and electrical companies. It is surprising to note that agriculture research is not present within the broader scope of the WEO research.

**Table 6. Theoretical landscape, specific theories, and industry focus of articles**

Theoretical landscape		Specific theories (Top 7)		Industry	
Atheoretical	58	Theory of Entrepreneurship	16	Agriculture	0
Theoretical	92	Resource-Based View	6	Manufacturing	10
Theory referential	18	Institutional theory	5	Service	38
Theory relational	21	Theory of Planned Behaviour	8	Manufacturing and Service	140
		Feminist theory	4	NA	14
		Grounded theory	4		
		Gender role of theory	3		
<b>Total (no. of times)</b>	<b>204</b>		<b>46</b>	<b>Total</b>	<b>204</b>

Source: own study.

To offer further insight into the evolution of WEO theories across the period, we conducted a segmented analysis of the nexus between the research theories and time. As shown in Table 7, it is evident that there was a sharp decline in the adoption of the RBV of the firm, with a decrease from 5 in 2011-2015 to 1 in 2016-2021 (e.g. Hanafi, 2012; Rashid *et al.*, 2018). Similarly, even the most employed theory, the theory of entrepreneurship, has witnessed a steady decline in adoption across the periods. However, the theory of planned behaviour (TPB) is gaining significant growth, generating interest from two in 2011-2015 to four in 2016-2021 (Zhang *et al.*, 2014; Al-Mamary *et al.*, 2020). The fewer numbers presented here reveal the fragmented nature of theory usage in WEO research.

### Countries and Regional Focus of Studies

Through the analysis of the national and regional focus of the studies, the study discovered that most of the studies are based in the USA (27 articles (13.23%)), followed by Malaysia with 13 (6.37%) (e.g. Watson & Robinson, 2003; Sirivanh *et al.*, 2014), multi-country with 13 (6.5%), Pakistan with 12 (5.88%), India with 10 (4.90%), Turkey with eight (3.92%), Nigeria with seven (3.5%), Kenya with seven (3.5%), and Spain with five (2.5%). Interestingly, countries with less than five articles total 98, accounting for a coverage of 49% of the articles. At the regional level, the most researched region was Australasia with 84 articles (42%), followed by Europe with 41 (20.5%), North America with 27 (13.5%), and global studies with 19 (9.5%). Finally, South America emerged as the most under-investigated region, with only two articles (1%).

**Table 7. Theories across time**

Theories	Publication years						Total
	1990-1995	1996-2000	2001-2005	2006-2010	2011-2015	2016-2021	
Theory of Entrepreneurship	0	1	3	5	4	3	16
Resource-Based View	0	0	0	0	5	1	6
Institutional theory	0	0	2	3	1	1	5
Theory of Planned Behaviour	0	0	1	1	2	4	8
Feminist theory	0	0	0	0	2	2	4
Grounded theory	0	0	2	1	0	1	4
Gender role of theory	0	1	0	1	1	0	3

Source: own study.

**Table 8. Countries and regional focus of studies**

Country Focus (Top 9)		Regional Focus	
USA	27	Africa	23
Malaysia	13	Australasia	84
Pakistan	12	Europe	41
India	10	Global	19
Turkey	8	North America	27
Nigeria	7	South America	2
Kenya	7	NA (reviews)	8
Spain	5	–	–
Multi-country	13	–	–
<5	98	–	–
<b>Total</b>	<b>204</b>	–	<b>204</b>

Source: own study.

The research also assessed the geographical trends of WEO to understand the intersection between study themes and regional focus. Table 9 shows that articles on WEO conducted in Australasia focus principally on innovativeness and risk-taking, with 24 articles (11.76%) each, followed by proactiveness with 21 articles (10.29%). In Europe, the second most studied region of WEO, the frequently examined themes are innovativeness with 19 articles (9.31%) and risk-taking with 9 (4.41%), with proactiveness, autonomy, and competitive aggressiveness amassing four articles each (1.96%). Studies conducted in North America focus mainly on innovativeness – five (2.45%), risk-taking – five (2.45%), and proactiveness – three (1.47%). Furthermore, WEO research in Africa is mainly about composite EO with six articles (2.94), followed by innovativeness five (2.45%), proactiveness four (1.96%), and risk-taking four (1.96%). The global studies, that is, the studies conducted in more than one regional bloc, are significantly concentrated on innovativeness seven (3.43), risk-taking four (1.96%), and proactiveness two (0.98%). Finally, the two studies conducted in South America, the most under-researched region, examined the composite EO (aggregate dimensions). The analysis revealed that the three most examined dimensions of EO within the women entrepreneurship domain are innovativeness, proactiveness, and risk-taking.

**Table 9. Cross-analysis of study themes and the regional bloc**

Themes Focus of studies	Region of Study					
	Africa	Australasia	Europe	Global	North America	South America
Innovativeness	5	24	19	7	5	0
Proactiveness	4	21	4	2	3	0
Risk-taking	4	24	9	4	5	0
Autonomy	1	5	4	1	2	0
Competitive aggressiveness	3	5	4	2	1	0
Composite EO	6	5	1	7	11	2

Source: own study.

## DISCUSSION

The primary goal of this review was to investigate the status and evolution of WEO research from 1990 to 2021. It opens dialogue and delivers relevant insight into future study direction and theory development. Thus, valuable theoretical and practical contributions are added to the study of women's entrepreneurship, explicitly focusing on WEO through a comprehensive SLR. Our results indicate that research on WEO has grown significantly in the entrepreneurship literature in the last decade, particularly in the previous five years (2011-2015). Sexton and Bowman published the first WEO study in 1990.

Regarding EO's five main dimensions, our findings revealed that research on innovativeness represents the dominant sphere. Concerning the drivers/determinants, research on personal factors represents the dominant realm of WEO research. In the context of women's entrepreneurship research, 'personal factors' refer to individual characteristics, traits, experiences, and circumstances that influence a woman's decision to become an entrepreneur, her approach to entrepreneurship, and her overall entrepreneurial journey (Linfang *et al.*, 2021). These factors can include the level of education, specific skills, and knowledge relevant to the industry or business domain (Noor & Isa, 2020). Personal goals, ambitions, and motivations drive a woman to start and sustain a business (Pauca *et al.*, 2022). Supportive or hindering influences from family, friends, or social networks (Mitra & Basit, 2021) impact her entrepreneurial decisions and actions: willingness to take risks, ability to cope with failures, and resilience in the face of challenges (Mat *et al.*, 2020).

The theoretical studies recorded the highest frequency, with the theory of entrepreneurship appearing as the most used theory among the reviewed articles, followed by the theory of planned behaviour, and the resource-based view of the firm (RBV) emerging as the third most employed theory in WEO research. In a broad sense, entrepreneurship theory focuses on identifying opportunities and making decisions to utilize them (Acs *et al.*, 2029). The TPB describes establishing entrepreneurial intention via three antecedents: attitudes, subjective norms, and perceived behavioural control (Tornikoski & Maalaloui, 2019; Ajzen, 1991). The RBV emphasizes the firm's internal resources and competencies while developing a strategy to obtain long-term competitive advantages in the marketplace (Madhani 2010).

Regarding the methodological approach, quantitative studies dominate, followed by qualitative research. Our findings reveal the involvement of women as first authors at the country and regional level of the analysed articles. In total, women wrote 121 articles, 59.31% of the total, as first authors.

## CONCLUSIONS

### Implications for Theory

The systematic research review on WEO contributes to advancing the theoretical understanding of women's entrepreneurship. By combining the scattered results, our study consolidates and synthesizes knowledge of WEO in this research stream. Existing research indicates that a comprehensive examination of various organizational and individual levels of EO is necessary to address the need for worldwide uniformity in academic discourse on this topic. To enhance our complete knowledge, we focus more on gender distinctions (Fellnhöfer *et al.*, 2016), which is literature-based evidence crucial for their theoretical development. For instance, entrepreneurship theory enables researchers to understand the entrepreneurial progression and forecast those who would become entrepreneurs and what circumstances influence them to become entrepreneurs. However, scholars have questioned that the literature essentially presents entrepreneurship as a men activity (Nina, 1997; Brush, 1992), illustrating theories of entrepreneurship as an existence 'created by men, for men and applies to men' (Sundin & Holmquist, 1989, p. 1). Accordingly, if only dominant entrepreneurship theories are measured in developing an analytical framework to investigate WEO, some valuable understandings will be overlooked (Carter & Marlow, 2006, pp. 11-36). Moreover, not all entrepreneurship theory is designed from the feminist perspective, and no feminist theory deals with the entrepreneurship discipline (Hurley, 1999).

Our result revealed that the theory of gender roles had been employed far less frequently than other organizational theories. However, both theories better analyse the complex nature of WEO as a subject

of research inquiry. Feminist theory is employed less frequently. However, feminist theories often address gender disparities in business opportunities, resources, and societal expectations. They aim to promote equal opportunities and challenge any systemic barriers hindering women's success in entrepreneurship. Grounded theory can also be a valuable research methodology for analysing various phenomena, including women's entrepreneurship. However, few studies utilized it. The current research advances our understanding by systematically analysing and synthesizing the role of existing theories in women's entrepreneurship studies. The findings provided empirical evidence for the development of a new theory.

The current research also shows how gender influences entrepreneurial behaviour, decision-making processes, risk-taking propensities, and strategic orientations. This research adds to a deeper theoretical comprehension of the gender dynamics present within the context of women's entrepreneurship. It creates a comprehensive understanding of the subject, providing a theoretical foundation for future EO research. Examining EO in the context of women's entrepreneurship may provide valuable insights into the influence of social and cultural norms on their company strategies and practices. It can enhance theoretical frameworks that incorporate the impact of socio-cultural factors on EO. Our analysis and combination of literature can aid in developing conceptual frameworks that map out the factors influencing EO in women entrepreneurs. Our development of a conceptual framework advances knowledge in this regard. This framework contributes to theoretical advancements by providing a structured basis for understanding and analysing the field.

Moreover, this SLR helps identify gaps in the literature related to EO among women entrepreneurs. Recognizing these gaps can guide future research, allowing for a more targeted and informed exploration of relevant topics. For instance, the quantitative method has been a dominant approach. Most studies employed advanced statistical analysis, such as regressions, logistic models, and correlations, to emphasize the search for anticipated dissimilarities rather than anticipated similarities among women and men EO. Instead of comparing men and women entrepreneurs to enlarge our understanding of WEO, it would be more appropriate for research to focus on comparisons among samples of women. Our result supports Ahl (2006) and other scholars' recommendations for using innovative methods in gender-based research, such as content and discourse analysis, ethnographic study, and narrative approaches (Bruni *et al.*, 2004). The conceptual model evolving from our findings is shown in Figure 5.

### Practical Implications

Several studies indicate that women entrepreneurs or managers must enhance their EO to thrive in a dynamic, fast-paced, and complex business environment (Runyan *et al.*, 2006; Mohamed & Hanafi, 2013). Insights from the SLR can encourage engaging in innovative practices and establishing a regular innovation culture to produce novel ideas and solutions for current issues or opportunities in companies run and managed by women entrepreneurs. Moreover, the findings can guide women to establish an organizational culture that promotes the acceptance of calculated risks and perceives mistakes as valuable learning opportunities. This approach may enhance the propensity of women entrepreneurs to engage in risk-taking behaviours.

Understanding EO has the potential to provide valuable guidance to women entrepreneurs in all aspects of their businesses, including strategy development, management practices, and growth methods. To foster visionary leadership, it is essential for corporate leaders to effectively communicate a well-defined vision and cultivate a forward-thinking attitude among their workforces. It entails placing emphasis on innovation and fostering a sense of growth.

Providing empirical evidence informs the development of policies and support programs tailored to the specific EO of women entrepreneurs. It ensures that initiatives are practical and effective and handle the unique needs of women entrepreneurs. Summarising, existing research through SLR helps provide valuable insights to women entrepreneurs, enabling them to make informed decisions about their ventures supporting the notion that an entrepreneurial attitude is crucial to corporate success.

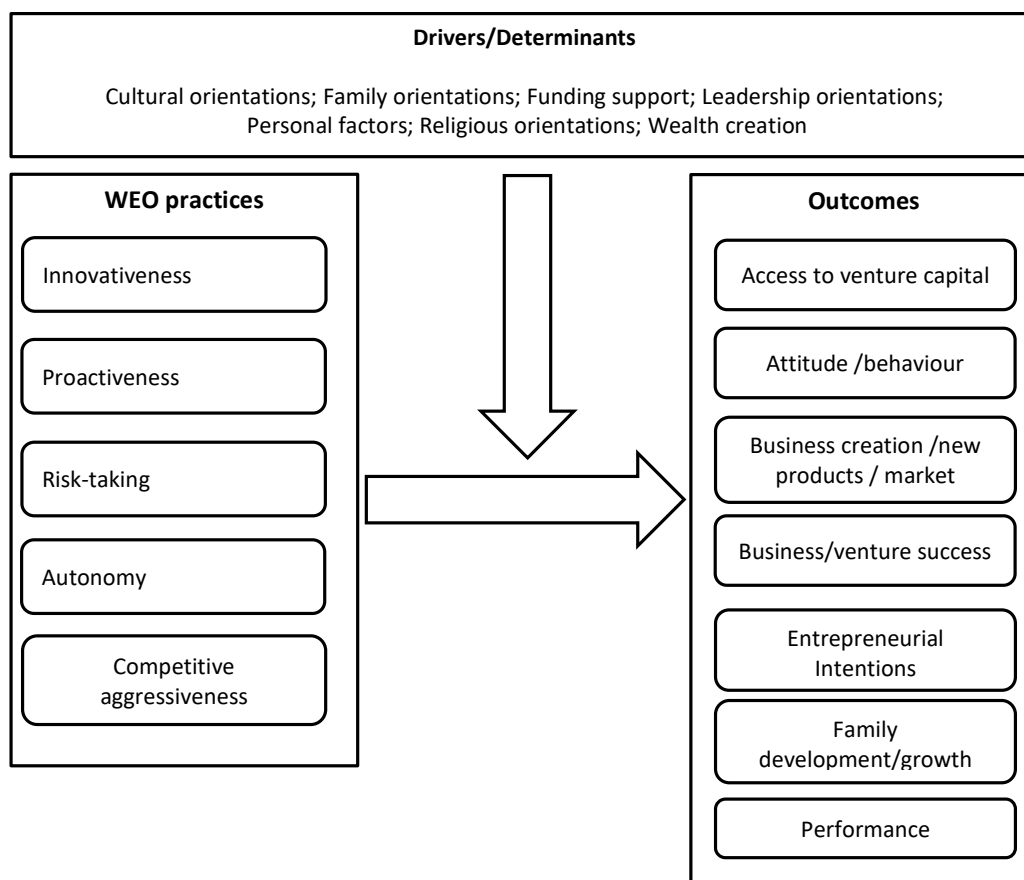
Scholars argue that management training is fundamental (Wilson *et al.*, 2007; Fayolle & Klandt, 2006; Sanchez, 2013). Training in management, particularly in entrepreneurship, encompasses more than only acquiring knowledge about company initiation. It also involves cultivating entrepreneurial abilities and attitudes (Brush, 2014; Wilson *et al.*, 2007). Therefore, universities, training programs,

and business schools can use the findings to refine their curriculum and training modules for aspiring women entrepreneurs. Moreover, the universities and corporate bodies should ensure that education aligns with the WEO. Our findings also inform stakeholders interested in promoting diversity and inclusive entrepreneurship to provide investment and funding support to women to help them implement EO in their strategic orientations and strategies. Of course, it can lead to expanded grants and resources for women-led businesses.

### Research Limitations and Recommendations

We conducted a comprehensive SLR on WEO but the study still shows some limitations. We based the procedure for categorizing the current study on prior research and our subjectivity concerning the classification of articles, although statistical analysis was done to minimize the subjective bias. Future studies can include a more significant number of articles emphasizing the WEO. We exploited restricting our search for articles to titles, subject terms, and abstracts, which may have excluded some articles. Likewise, the examination does not involve additional sources of academic knowledge, such as conference proceedings and book chapters. Therefore, future studies can include book chapters and conference proceedings for developing a more comprehensive SLR. Moreover, the research focused on the general SLR technique, but future studies can conduct the assessment using the meta-analysis technique.

Apart from the above gaps and recommendations, the following areas will need further research. The first aspect regards the EO themes. Autonomy and competitive aggressiveness are considerably less researched than other EO dimensions, but previous studies suggested these two dimensions are crucial for women entrepreneurs (De Clercq & Brieger, 2021; Rao *et al.*, 2023). Thus, future studies should give more attention to them. In terms of methodology, most articles were empirical studies. Hence, future research needs to pay more attention to the theoretical/conceptual studies.



**Figure 5. The WEO framework emerging from the study's findings**

Source: own elaboration (2022).



Similarly, quantitative approaches dominated in the reviewed articles. Therefore, future studies must also employ qualitative methods. Through the analysis of the national and regional focus of the studies, the study found that North America and Australasia have ranked high in WEO research. To this end, Africa and South America need more investigation in future research. Moreover, the agricultural sector has yet to see a study on WEO. Therefore, we encourage future scholars to conduct more studies on EO among women entrepreneurs in the farming sector. Regarding theory utilization, future studies need to focus more on feminist theories. Grounded theory and gender role theories better analyse the complex nature of WEO as a subject of research inquiry.

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