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When the Crisis Becomes an Opportunity

The Role of Women in the Post-Covid
Organization



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Editors

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Challenges for the New Generation of Female Entrepreneurs: An Assessment of the Studies



Claudia Arena, Simona Catuogno, Paola Paoloni, and Patrizia Pastore

Abstract Despite the increased interest in entrepreneurship across scientific and professional fields over the years, existing research in female entrepreneurship has remained largely disjointed in the academic literature, due to the different theories, approaches, methodologies, and research questions addressed, making it difficult to take stock of what is known about women’s entrepreneurial activity. This paper aims at deepening the contribution of female entrepreneurship to organizational success/resilience, and so to the economic recovery, by conducting a review of literature and a content analysis of the most frequent topics on the subject and their chronological evolution over time.

This paper, on the one hand, provides a structured reference point to carry research on gender entrepreneurship forward into specific sub-areas. On the other hand, it offers insights about the opportunities and barrier that can explain the women’s interest and motivation for entrepreneurship encompassing a range of aspects (i.e., performance, governance, disclosure, CSR), encouraging them to become effective entrepreneurs and sustain the growth in our economies and societies.

Keywords Literature review · Female entrepreneurship · Governance · Performance · Disclosure

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1 Introduction

Due to the great disruption induced by the current health crisis and the incumbent war, women are having severe economic and social impact and have been particularly affected by the hardship. Corporations struggle to survive, people lose their jobs, and social inequalities are deepening. Such global threats are serious reminder of the need for cooperation across borders, sectors, and generations. We certainly need to become more resilient for the future and our efforts to get over from the crisis are also an opportunity to put in place a more prosperous, greener, digital, and social inclusive world. It is also time for a great push for gender equality in all fields and for rethinking women's role in the economy. Women are at the forefront of each battle, very often risking their lives to save others. They represent 70% of the global workforce and can play a decisive role in the recovery. The businesses they lead tend to be more productive, faster growing, and innovative. Unfortunately, they are still underrepresented at institutional, political, and economic levels. There is a huge gender gap in terms of employment, leadership, and entrepreneurship.

Despite the increased interest in entrepreneurship across scientific and professional fields over the years, existing research in female entrepreneurship has remained largely disjointed in the academic literature, due to the different theories, approaches, methodologies, and research questions addressed, making it difficult to take stock of what is known about women's entrepreneurial activity. Scholars have noted that economic and social contexts play strong roles in determining the entrepreneurial inclinations and success of women. In particular, in times of crisis and turbulence women may emerge as a key player in economic development of the nations, due to their superior ability to resilience, establish and maintain social ties, focus on the social importance of business, flexibility in making new decisions, and focus on learning. In this regard, various sources of data confirm that new generation of entrepreneurs may contribute at creating employment activities, generating innovation, and utilizing creativity. Nevertheless, women often still face difficulties both at the setting-up stage of business and during its running phase. The existence and persistence of a gap between men and women in entrepreneurship has long acknowledged and it is attracting increasing academic attention. The purpose of this paper is to explain the contribution of female entrepreneurship to the economic recovery by conducting a review of literature and a content analysis of the most frequent topics and their chronological evolution over time. In particular, we aim at answering at the following research question: What is the contribution of female entrepreneurship to organizational success/resilience? Are there any differences among investigated topics and settings (i.e., private/public/hybrid)?. To this aim, we employ a two-step methodology combining two different approaches. We first conduct a review of the literature based on a keyword search using the online library ISI Web of Science and illustrate the publication trend, the most prolific journals, and the country of authors' affiliations. Then, we performed a content analysis in order to understand main themes and literature background.

The paper is structured as follows: the next section provides the background of the research on corporate entrepreneurship and female entrepreneurship in particular. Section 3 describes the methodology. Section 4 highlights the main findings while Sect. 5 concludes.

2 Background of the Study

2.1 Corporate Entrepreneurship

Entrepreneurship promotes economic and social development (Schumpeter 1934), which is achieved by creating employment activities, generating innovation, and utilizing creativity. Despite the copious research on this topic, still today there is no unique and widely-accepted definition of entrepreneurship (Ahmad and Seymour 2008). This is partly due to the differentiated approaches within the field of entrepreneurship research that has presented different definitions of the term (Simba and Thai 2019). Existing literature is “*vast, complex and multifaceted*” (Hisrich et al. 2007, p. 575), spanning: anthropology (Firth 1967), social science (Swedberg 1993), economics (Knight 1942; Kirzner 1997), and management (Drucker 1985, 1999).

Even acknowledging the lack of a universally accepted definition of entrepreneurship, there are numerous theoretical and empirical studies which, on the one hand, consider creativity, innovativeness, risk-taking propensity, and proactiveness as the important attributes for the entrepreneurship. And, on the other hand, which highlight a set of characteristics of the entrepreneur, that typically include: self-confidence, result-oriented, risk taking, leadership, originality and future-oriented, innovating, and resource reorganizing.

Then, entrepreneurship is a multidimensional concept that has many definitions and connotations. Then, it could be defined as:

1. the response to economic discontinuities (Schumpeter 1934) and to changes in the environment
2. the exploitation of new business opportunities, the creation of new ventures (Hessels 2008), and/or the introduction of new economic activity within established firms (Davidsson et al. 2006)
3. the implementation of innovation, whether that be (totally new or an innovative change to existing) products/services, or processes or markets (i.e., the opening up of new markets and/or of new sources of supply) and/or business model (Marvel et al. 2015)
4. the creation of new forms of industrial organization and re-engineering/re-organization of business management processes (Burch 1986).

According to Urbano et al. (2022), these activities are closely related to the strategic entrepreneurship concept, which has been defined by Hitt et al. (2001, p. 481) as “the integration of entrepreneurial (i.e., opportunity-seeking behavior) and

strategic (i.e., advantage-seeking) perspectives in developing and taking actions designed to create wealth.”

Previous literature reviews as well as theoretical and empirical articles have highlighted how the determinants and the degree itself of entrepreneurship within a country depend on a variety of factors which refer to the combination of individual characteristics (individual level), organizational (strategy, structure, process, and values), and environmental (competitive, technological, economic, social, and political) conditions (Antoncic and Hisrich 2001). Different combinations imply different conditioning factors that have a different effect on the development of entrepreneurship across countries.

At the *individual level*, scholars ranging from psychology to sociology and economics, have posited entrepreneurship as a mix of skills and personality traits (including attitudes, values and beliefs, passion, culture, family background, and gender associated with behavioral characteristics (such as the willingness to change, the ability/propensity to take risks, make decisions, innovate, imagine, sensing and managing emotions, network, being social, etc.). Then, they have considered these human capital factors important in the entrepreneurial decision-making approaches (Lyngsie and Foss 2017) and, then, to play a vital role in initiating, promoting, and nurturing entrepreneurship activities (Heavey et al. 2009; Turner and Pennington 2015).

At the *organizational level*, literature highlights how companies' organizational size (Nason et al. 2015), structure (Antoncic and Hisrich 2001), and values (Zahra 1991) as well as the resource availability (i.e., knowledge capabilities, financial resources, R&D investments, etc.) and the access to them (Marvel et al. 2015) are closely related to the companies' overall entrepreneurial orientation and strategy, in terms of both creating new business (*entrepreneurship*) and new venturing and strategic renewal forms (*intrapreneurship*), business model reconstruction, organizational rejuvenation, domain redefinition, sustained regeneration (Pettit and Crossan 2020) within existing organizations (Covin et al. 2021).

At the *environmental level* (including legal rules and government support), as argued by Urbano et al. (2022), the emphasis is normally placed on industry-related variables such as: the degree of market dynamism (Zahra 1993); technological change (Sahaym et al. 2010); competitive intensity (Basu et al. 2011); industry growth and demand for new products (Antoncic and Hisrich 2001); or the level of munificence and complexity (Simsek et al. 2007). In addition, also institutional factors, such as national culture or regulations (Kreiser et al. 2002) or gender attitudes and roles (Lyngsie and Foss 2017), on entrepreneurship (Doh and Pearce 2004) can reinforce or penalize certain personal characteristics, and, in this way, favor or discourage entrepreneurial behavior (Djankov et al. 2002) more than others (Hayton et al. 2002; Begley et al. 2005) and, then, delineate different entrepreneurship models from one national culture to another.

2.2 *Female Entrepreneurship*

Nowadays, men and women have equal opportunities in business but women still represent a clear minority of entrepreneurs nearly everywhere, and the percentage of female entrepreneurs is, still today, lower than that of men (Elam et al. 2019).

However, as women behave differently from men, their entrepreneurship provides society with different, and often innovative, solutions to management and organizational problems as well as to the exploitation of new opportunities. In this regard, they generally choose to start and manage firms in different industries than those chosen by men, primarily: services, hospitality, retail, education, arts, childcare, etc. (Santos et al. 2018). Justifications for this vary from the motherhood heritage stereotype to women's (assumed) lack of business acumen (Greene et al. 2003). Carranza et al. (2018) argue that women's choice of industry is not actually a choice, but rather a consequence. Whatever the reason, the industries associated with women are often perceived as less important and profitable (Ama et al. 2014).

Different scholars have proposed different definitions of the concept of female entrepreneurship. Among others, the most recent studies (Jennings and Brush 2013; Hechavarria et al. 2019) have suggested a broad definition for female entrepreneurship embracing «both “self-employment,” where women are small business owners but do not create a new venture, and “entrepreneurship” in the classic and more narrow sense (Humbert and Brindley 2015), where women take initiative, mobilize resources» (Deng et al. 2020), and take personal and financial risks to create a new venture or to build a business. This paper adopts a broad definition of female entrepreneurship that captures women founders, their ventures, and their entrepreneurial behaviors.

Some authors argue that female entrepreneurs do not differ much from their male counterparts in terms of personal characteristics, capabilities, and economic performance (Ahl 2006; Watson 2002). Others believe that female entrepreneurs do diverge in terms of personal traits and styles (Santos et al. 2018), sizes of investment (Carranza et al. 2018), educational background (Ama et al. 2014), motivation (Santos et al. 2018), performance (Carranza et al. 2018), and choice of industry (Greene et al. 2003). However, social roles, stereotypes, and cultural factors explain the existing gap between men and women in entrepreneurship (Eagly 1987).

Scholars have explored women entrepreneurship from different perspectives such as growth strategies, networks, social capital, and performances (de Bruin et al. 2007) as well as from different theoretical frameworks like entrepreneurial intention, opportunity recognition, and effectuation, among others. The scholarly study of female entrepreneurship began in the late 1970s, as women joined the professional workforce in greater numbers. The psychology literature provided nearly two-thirds of the studies related to gender issues in organizations. Many studies were descriptive and focused primarily on demographic characteristics, motivations of women in business and their business ownership experiences as well as the gender discrimination faced by women entrepreneurs.

Other studies investigate the social and environmental constraints that female entrepreneurs experience. This includes a lack of skills and entrepreneurial education, resource scarcity, institutional voids, as well as low self-esteem or low status of women in the sociocultural set-up. Moreover, cultural sensitivity and general social beliefs are shown to have a strong effect on women empowerment in general and their entrepreneurship activities in particular. In this regard, in some case, social environment and cultural context are highly influential in recognizing the opportunity for women engaging in entrepreneurship and also lead to negative repercussions on “self-perception” and “personal ambition” where women develop self-conceived barriers toward entrepreneurship owing to their low social status (Sullivan and Meek 2012).

Other researchers have identified the following positive opportunities that often propel women into entrepreneurial careers: greater career advancement, increased economic rewards, and more freedom and flexibility (Zeller et al. 1994). Tigges and Green (1994) concluded that some women become entrepreneurs when job opportunities are unavailable or when jobs do not fulfill their needs. Though there is currently no clear evidence that the ability of female entrepreneurs is lower than males, actually, “female entrepreneurs experience more problems than their male counterparts in pursuing their entrepreneurial journey, at various levels: receiving funding, balancing work and family and getting specific education, among others” (Dal Mas and Paoloni 2020, p.115). Then, men and women run their businesses in different yet, however, equally effective ways (Yadav and Unni 2016, p. 11).

The scientific literature on female entrepreneurship has focused on three research areas: (1) obstacles to female entrepreneurship; (2) the relationship between culture, gender roles, and stereotypes; and (3) the role of human and social capital in the growth of female enterprises (Cardella et al. 2020a, p. 7, Cardella et al. 2020b). These investigative lines have been treated from different perspectives, such as: business and management, social sciences and gender studies, human resource management, economics, law, engineering and technological innovation. This aspect underlines the multidisciplinary nature of research about female entrepreneurship.

No single theory of entrepreneurship describes female entrepreneurship. Early entrepreneurship theories examine entrepreneurship from the institutional perspective (Schumpeter 1934; Kirzner 1999), but, over time, numerous other theories have been put forwarded, also incorporating the human capital theory (Schultz 1975), the social network theory (Granovetter 1983), and entrepreneurial leadership theory (Brush et al. 2009; Patterson et al. 2012). More recently, attention is on the stakeholder effect of women-owned businesses compared to that of men.

This theoretical study has reviewed women’s entrepreneurship theories in order to better understanding the evolution of research on female entrepreneurship, explore social and ethical considerations that motivate women entrepreneurs, and identify the gender-sensitive challenges that women entrepreneurs face (Akter et al. 2019). A combination of several theoretical approaches—such as economic, psychological, sociological, anthropological, opportunity-based, and resource-based

and behavioral—which are complementary to each other, has allowed us to obtain a greater understanding of the women’s entrepreneurship phenomenon.

2.2.1 Feminist Theories

Feminist theories attempt to explain gender discrimination in entrepreneurship as a result of stereotypes and prejudices.

Liberal Feminist Theory (Rosemarie 1992; Fischer et al., 1993; Cliff 1998; Brindley 2005; Morris et al. 2006; DeTienne and Chandler 2007; Kearney 2012) posits that men and women are essentially the same, but a set of customary and legal constraints blocks women’s entrance and success in the public socio-economic life. Systematic biases toward women (because society believes women are less intellectually and physically capable than men and discriminates them based on this belief) restrict them from getting equal access to resources, education, and business experience. The unequal access to such resources limits women’s human capital. If women had equal access to the opportunities available to men, such as education, work experience, and other resources, they would behave similarly. Lack of relevant experience affects the ability to manage quickly growing enterprises and, therefore, they purposely limit the expansion of their firms.

In contrast, *Social Feminists Theory* (Lee-Gosselin and Grise 1990; Kalleberg and Leicht 1991; Watson 2002; Carter and Williams 2003; DeTienne and Chandler 2007; Kennedy 2008; Muntean and Ozkazanc-Pan 2015) argues that men and women are different due to their socialization processes that result in fundamentally different ways of viewing the world. Female’s socialization creates different perspectives, goals, and choices for women and they choose their business field accordingly. Women view their business as an interconnected system of relations (family, community, and business). The differences related to female socialization processes and perspectives do not imply that women will be less effective in business than men, but only that they may adopt different approaches which may not be equally as effective as the approaches adopted by men.

In addition, *Feminist Standpoint Theory* (Intemann 2010; Ollila and Middleton 2012; Chasserio et al. 2014; Powell and Baker 2014; Tuin 2016) suggests that female entrepreneurs’ success can either be hindered or enhanced by the interactions of multiple overlapping and interacting standpoints. Women have unique experiences because they are women and—unlike men—have the lived experience of how structures oppress them. Women’s lives and roles in almost all societies are significantly different from men’s, and therefore see and interpret the world through different eyes. One’s identity, and knowledge of the self and the world are shaped by social relations based on inequality and domination. These inequalities are based on gender, gender and sex (the biological differences between males and females), masculinity and femininity (male and female social roles) and the unequal power relations between them. Female (entrepreneurship) traits may be different from male but equally valid. The focus is on how to appreciate and make use of gender

differences as well as on changing social structures, so that they also cater to women's needs and/or value women's unique contributions.

2.2.2 Sociological Theories

The sociological theories suggest that personal identity plus the social context (political system, government legislation, competition, and social relationships and bonds) may have an impact on entrepreneurial opportunity, on survival of new venture or the success of the entrepreneur. Particularly, women entrepreneurial success is often defined in terms of "need for achievement," "propensity to take risks," and "locus of control," but also their aspirations (what women want to achieve), behaviors (how they create and grow businesses), and self-confidence (which are actually all related to identity) could contribute to their success as well as to reduce the perceived psychological gender differences.

Social Identity Theory (Tajfel 1978; Tajfel and Turner 1979; Eagly 1987; Ahl 2006) posits that woman's decision to start a business depends on her individual beliefs and attitudes, and sociocultural background, but it is also conditioned by the social roles and stereotypes that are culturally assigned to men and women.

According to the *Social Role Theory* (Eagly 1987; Eagly and Karau 2002; Gupta et al. 2009), social roles, gender stereotypes and subsequent behavioral related to gender unfavorable social perceptions can not only reduce the propensity of women toward entrepreneurship (Koellinger et al. 2013), but it could also condition perceptions and behaviors of people who interact with women at the community level, creating an additional barrier and perpetuating stereotypes about female entrepreneurship.

Gender Role Congruity Theory (Connelly et al. 2011; Kelley et al. 2011; Jennings and Brush 2013) does compare beliefs about how men and women should behave (injunctive norms) with understandings of how men and women actually behave (descriptive norms). In essence, GRCT suggests that when injunctive and descriptive norms are congruent (e.g., when women assume subordinate roles or when men display agentic traits), individuals will be viewed more favorably than when injunctive and descriptive norms are incongruent (e.g., when women assume leadership roles or when men display communal traits).

Overall, women are faced by a myriad of challenges and there is always the perception that women cannot be good leaders. Gender stereotypes and subsequent behavioral related to gender unfavorable social perceptions can not only reduce the propensity of women toward entrepreneurship (having a negative effect on women's levels of self-efficacy), but it could also condition perceptions and behaviors of people who interact with women at the community level, creating an additional barrier and perpetuating stereotypes about female entrepreneurship.

2.2.3 Psychological Entrepreneurship Theories

These theories emphasize personal characteristics that define entrepreneurial inclination, such as: personality traits, risk taking, innovativeness, and tolerance for ambiguity.

Personality Traits Theory (Rotter 1966; Simpeh 2011; Tan et al. 2020) argues that women and men are more similar than different, but there are some exceptions. Certain specific personality traits predict an individual's likelihood of becoming an entrepreneur, and certain traits predict an entrepreneur's likelihood of achieving "successful" outcomes. The personality characteristics describe the extent to which an individual believes they can control the environment and external events affecting them, and often determine actions (locus of control). Specifically, in the context of women entrepreneurs, individual factors such as personality-related elements significantly affect women's entrepreneurial intention, and are determinants of entrepreneurship's aims. A complete understanding of the impacts of significant psychological elements on the attitude of women toward entrepreneurial aim would benefit national entrepreneurial education.

Need for Achievement Theory (McClelland 1961) posits that the need for achievement is a dominant personality feature. Human beings need to succeed, accomplish, excel, or achieve. Female entrepreneurs are driven by the need to achieve and excel. Personality traits of feminine entrepreneurs affect their rate of exploring new opportunities. Therefore, achievement motivation and entrepreneurship are closely connected: risk taking, innovativeness, tolerance for ambiguity have positive and significant influence on entrepreneurial inclination.

Expectation States Theory (Berger et al. 1977; Berger et al. 1985; Wagner and Berger 1997; Correll 2004) offers a systematic theoretical specification of how apparently voluntary individual behaviors (and discriminatory actions) are shaped by cultural beliefs about gender in social relational contexts, which bias the behaviors, performances, and evaluations of otherwise similar men and women.

2.2.4 Behavioral Economics Theories

Behavioral economics is concerned with how people actually behave and make decisions, in view of the social, economic, and political dynamics.

Institutional Theory (Langowitz and Minniti 2007; Welter 2011; Welter and Smallbone 2011; Saeed et al. 2013; Yousafzai et al. 2015) is a particularly suitable frame of reference for addressing the external context that shapes women's entrepreneurial activity. The structural characteristic of a country (i.e., economic, socio-cultural, and legal environment) influences the values, norms, motives, and behaviors of individuals, but also contextually the rate of entrepreneurial activity, and its resulting trajectories. The socio-economic framework of women entrepreneurship development based on Institutional Theory encompasses three different institutional pillars: regulatory, normative, and cognitive. These interact to promote

successful entrepreneurial activity, and to create a favorable or unfavorable environment for women's entrepreneurship. *Regulatory initiatives* in the specific country, like labor market legislation, formal gender equality recognized by law, family and social policies, and an affordable childcare infrastructure, can support entrepreneurial activities and, particularly, can facilitate women initiating, developing, and managing entrepreneurial activities as well as exercising the entrepreneurial leadership. *Normative pillar* refers to expectation, values of society, informal and invisible "rules of the game" (how things should be done, consistent with those values) that influence individuals' entrepreneurial intentions and the social desirability of entrepreneurial activity. In relation to the women's entrepreneurship, to the extent that entrepreneurial norms recognize legitimacy, respect, and admiration to the women's entrepreneurial activity, it is possible to observe a higher level of women's entrepreneurship. Legitimacy also ensures better access to the resources required to support businesses starting up and their continued growth. *Entrepreneurial cognitions* refer to individuals' perceptions of their ability (level of expected performance) to recognize opportunities and their self-efficacy (that is, the level of confidence in their own skills to start and manage a business) to get involved successfully in an entrepreneurial activity. These individual perceptions that are a representation of the specific environment can influence the entrepreneurial intentions. The presence of role models, entrepreneurial networks, and social capital could encourage the participation of women in entrepreneurial activities.

According to the *Theory of the Three/Five "Ms"* (Bates et al. 2007; Brush et al. 2009; Roper and Scott 2009), three basic constructs are frequently used in entrepreneurship theory explaining venture creation and understanding of the phenomenon of women's entrepreneurship: (1) management, in the form of human and organizational capital; (2) money, in the form of financial capital; and (3) market, in the form of opportunity for the products of the firms. The access to management, money, and market is essential for every skilled and capable entrepreneur, but entrepreneur gender poses additional and specific barriers. Particularly, for women entrepreneurs other two (M) dimensions, "motherhood" (4) (related to household/family context and work–family balancing) and "macro/meso environment" (5) (related to the expectations of society and cultural norms—macro—and intermediate support structures, institutions, and services—meso) add two new constraints, influencing: their access to the standard "3Ms"; how women perceive opportunities; how they make strategic decisions as well as how women and others view their businesses.

2.2.5 Management and Organization Theories

The *Resource-based theory of entrepreneurship* (Pfeffer 1973; Pfeffer and Salancik 1978; Hambrick and Mason 1984; Coleman 1988; Putnam 1993; Aldrich and Cliff 2003; Unger et al. 2011; Chrisman et al. 2005; Verheul et al. 2006; Diaz-Garcia and Brush 2012; Taylor and Smith 2020; Seck et al. 2022) argues that heterogeneous business resources (such as financial, social, and human resources) and capabilities give a firm competitive advantage and superior performance. Different firms extract

different services, even from the same resources. Human capital (comprised of knowledge, experience, habits, social, and personality attributes, such as creativity), knowledge, and technology exert influence on firm's innovation processes and performance and their effective management plays a key role in determining the outcomes of firms. Social capital impacts on business processes, on ventures' performance, and on firm's reputation. Stronger social and relational ties can transform opportunities' emergence and recognition into a business start-up, can facilitate the acquisition of resources and enhance the probability of opportunity exploitation. The social capital/networking (such as social obligations, connections, social networks) is one of the biggest supporting factors for female entrepreneurship as it can substitute for lack of experience in business. Financial capital helps people to exploit entrepreneurial opportunities. Firms owned and managed by women entrepreneurs experience greater difficulties than men both in the access to the human and financial resources and in obtaining support (institutional, family, and financial) when they try to access to diverse forms of capital. Women's socialization leads them to perceive opportunity differently, their social roles/place might exclude them from social networks creating information asymmetries. Women entrepreneurs are often discriminated against when attempting to access credit. Lenders can charge higher interest rates on loans offered to women entrepreneurs than their male counterparts; or it can require stronger contractual arrangements when considering to grant loans to women; or it may require better credit profile to female entrepreneurs seeking loans.

Resource Dependence Theory (Pfeffer 1973; Pfeffer and Salancik 1978; Rosener, 1997; Hillman et al. 2000; Terjesen et al. 2009; Luckerath-Rovers 2013) emphasizes the board's key role as an essential link between the firm and the external environment and resources on which it depends, underlining that this link is crucial for maximizing corporate performance. Then, this Theory explains why increasing women's proportion in the board may lead, under specific conditions, to a better decision-making within the boardroom, enhancing, on the one hand, the corporate governance outcomes and its quality and, on the other hand, the firm's performance. Some typical features identify the women leadership styles: flexibility, attention to people, ability to manage relationships with stakeholders, both internal and external, aptitude for mediation and management/resolution of conflicts within the organization (encouraging feedback and dialogue), willingness to share power and decision-making, collaborative (interactive) leadership style, tendency to give others responsibilities, a greater risk aversion. The enhancement of the typically female managerial skills: improves the quality of corporate governance and the functioning of the boards and committees; guarantees the best results in terms of employee productivity, innovation, and profits; triggers the virtuous circle of a more objective ex ante selection (for merit and competences) and ex post (for contribution and performance), where all the talents and skills, male and female, have equal opportunities to emerge and receive equal assessment and remuneration. The presence of women director links firms with stakeholders and provides the firm with prestige and legitimacy with regard to several groups of stakeholders such as employees, customers, and investors improves firm reputation and consequently its performance.

In this regard, *Signaling Theory* (Spence 1973, 2002; Connelly et al. 2011) and *Legitimacy Theory* (Ashforth and Gibbs 1990; Suchman 1995) have also been used in the context of gender and corporate governance.

The *Upper Echelons Theory* (Hambrick and Mason 1984; Hambrick 2007; Herman and Smith 2015) states that organizational outcomes are partially predicted by managerial background characteristics (including vision, capabilities, prior experience) of the top-level management team. Therefore, the top management team determines the formation of organizational strategy and affects the other members' inter-organizational behavior. Gender is an important characteristic that influences top management's decision-making. Boards of directors with gender heterogeneity among its members positively affect organization performance. A female entrepreneur or the presence of women in upper management (at the top management team, Chief Executive Officer, and board of director levels) fosters organizational diversity and participatory leadership styles from women: decreases internal conflict; promotes inclusion of different ideas, and increases intrinsic motivation and creativity as well as knowledge creation and transferal, which, in turn, stimulate the generation of new ideas.

2.2.6 Corporate Governance Theories

These theories are focused on the gradual introduction of women in decision-making positions and its relations with corporate governance issues.

Agency Theory (Spence and Zeckhauser 1971; Alchian and Demsetz 1972; Ross 1973; Jensen 1976; Jensen and Meckling 1976; Fama 1980; Fama and Jensen 1983; Eisenhardt 1989; Hillman et al. 2000; Singh et al. 2008); Ferreira 2010; Luckerath-Rovers 2013) postulates, inter alia, that boards of directors, acting on behalf of shareholders, must design incentive contracts that make an agent's compensation contingent on measurable performance outcomes in order to motivate executives (agents) to carry out actions and select effort levels that are in the best interests of shareholders (principals). The Agency Theory suggests that when ownership and control are unified agency costs are reduced. Gender diversity leads to an improvement in monitoring and controlling corporate managers, and directing strategic decisions.

Female representation becomes a competitive advantage for companies. Benefits associated with the presence of women on boards are: a) increased independence of the boards, improved formulation of strategy and its subsequent impact on the financial performance of the firm; b) better quality of the decision-making process in the boards as women bring a different perspectives and a wider spectrum of viewpoints, different ideas, experiences, and skill set to the board oversight, to the debate, and to the decisions; c) better monitoring for shareholder's interests, as well as alignment of management and shareholders' interests and enhancement of the monitoring process and governance sustainability.

The *Behavioral-Agency Theory* (Wiseman and Gomez-Mejia 1998; Sanders and Carpenter 2003; Camerer et al. 2004; Rebitzer and Taylor 2011; Pepper and Gore

2014, 2015) is focused on the connection among executive compensation, agent motivation, their attitudes to risk and behavior/performance, firm performance, and the interests of shareholders. Executive's professional or personal characteristics as well as the position held within the corporate hierarchy or the gender of the executives may influence risk taking and they are included in the analyses of the risk-taking behavior created by incentives. Gender differences in risk-taking propensity are reflected in the decisions that executives make, influencing the major strategic decisions of their firms, which directly impacts on the level of firm risk. Women are both more risk and ambiguity averse than men, and they make different financial decisions. Female executives exhibit a lower optimism regarding their relative performance and more conservative behavior than their male counterparts.

Tournament Theory (Lazear and Rosen 1981; Rosen 1982; Lambert et al. 1993; Lyness and Judiesch 2001; Pfeifer 2011; Messersmith et al. 2011; Connelly et al. 2014), which has frequently been employed to explain compensation structures, has extended the agency model by proposing that principals structure a company's management hierarchy as a rank-order tournament, thus ensuring that the highest-performing agents are selected for the most senior management positions. This theory postulates that executives compete for places in a company's upper echelons via a sequential elimination tournament. It predicts that compensation is an increasing convex function of an agent's position in the management hierarchy, with increases in remuneration between levels in the hierarchy varying inversely in proportion to the probability of being promoted to the next level. By implication, the compensation of the CEO, ranked highest in the tournament, will typically be substantially more than the compensation of executives at the next highest level. Tournament theory makes standard economic assumptions about human behavior: agents are rational, self-interested, and rent-seeking; their utility is positively contingent on pecuniary incentives and negatively contingent on effort; there is no non-pecuniary agent motivation. In respect of women, although they do not have a lower chance of promotion than men, there is some "negative handicapping" that required women to fulfill higher standards for both hiring and promotion. Women may have certain career paths on entering an organization regardless of the tournament rounds they win or other signals affect women's career attainment. Though men and women may be equally ambitious at earlier career stages, they may not be equally willing to sacrifice work-life balance in service of their professional goals in the long term. As careers unfold and the pressure to compete for higher paying jobs increases, qualified women may face the difficult choice of either competing in the face of subtle biases or "opting out" of the competition. The sacrifices and obstacles may result in a withdrawal from the tournament.

The *Stakeholder Theory* (Freeman 1984; Clarkson 1995; Hillman et al. (2001); Nielsen and Huse 2010; Galbreath 2011; Ntim 2015) posits that a firm's sustainability is determined, in large part, by the extent to which it considers the multiple interests and expectations of its various stakeholder groups, rather than only those of their shareholders, going beyond simple economic or financial performance. Thus, corporate boards are required to pursue outcomes that optimize the results for all involved stakeholders rather than maximize the results for one stakeholder group

(i.e., shareholders). Including women on boards helps to better link an organization to its stakeholder system. Women on boards are more stakeholder oriented than male directors and, consequently, they can improve stakeholder relationships and increase the perceived legitimacy of the board of directors and therefore of the firm. Women presence: a) can raise the confidence of investors, who expect increasing accountability, transparency, moral duty from firms' directors, and ethical conduct of the company; b) allows beneficial relationships with a broad stakeholder base (even if stakeholders have different and conflicting sentiments and demands, complicating decision-making process at the board level). All this is possible thanks to the traditionally female characteristics: a) strong female orientation toward supporting and maintaining relationships; b) women's ability at: dealing with complexity, problem solving, and strategic change; c) women leadership styles: flexibility; attention to people; ability to manage relationships with stakeholders, both internal and external; aptitude for mediation and management/resolution of conflicts within the organization (encouraging feedback and dialogue); willingness to share power and decision-making; collaborative (interactive) leadership style; tendency to give others responsibilities; and a greater risk aversion.

Signaling Theory (Spence 1973, 2002; Pesonen et al. 2009; Connelly et al. 2011; Eddleston et al. 2014; Rawhouser et al. 2017; Alsos and Ljunggren 2017) argues that, by using information signals of venture quality and legitimacy, firms can reduce the information asymmetries which may increase the uncertainty in investment decisions. Gender is a distinct factor that is embedded in the signaling taking place in the entrepreneur–investor relationships (then, influencing them), and that has consequences for resource acquisition. Stereotypical gender ascriptions influence the interpretations of signals received, leading (potential) investors to interpret similar characteristics differently between male and female entrepreneurs. Women have a stronger need to signal their own and their ventures' legitimacy to compensate for their lower perceived legitimacy related to being a woman. The entrepreneur's gender and the gendered image of entrepreneurship, as well as stereotypical ascriptions of women and men, influence the interpretations of signals. Women must overcome the inherent gender bias in the interpretation of signals. This finding is in line with the gender role congruity theory, explaining how gender stereotypes lead to different standards applied for women and men.

2.2.7 Recent Theories Related to Entrepreneurship

Effectuation Theory (Sarasvathy 2001, 2008; Chandler et al. 2011; Fisher 2012; Perry et al. 2012; Rosca et al. 2020), which is founded on the causation–effectuation logics, combines trait theory, resource-based theory, and social network theory in order to investigate the approach and logical steps that entrepreneurs undertake in order to create and sustain their firms. It argues that entrepreneurs' identity influences the entrepreneurial behaviors, the way in which they organize their preferences and make decisions in uncertain situations and operating environments. The effectuation starts with assessing the means and the resources available, by the

entrepreneur, then looking further into the potential outcomes that may be realized with the available means. Entrepreneurs are guided by a min-max criterion whereby they focus on “affordable loss” by envisioning as many cheap strategies as possible to face imagined worst-case scenarios. Instead, causation refers to the goal-oriented environments of decision-making where objectives are set, followed by distributing the means to reach the objectives. There is no statistically significant difference between men and women regarding entrepreneurial intention. However, sociocultural factors and gender asymmetry can be barriers to female entrepreneurship. Female entrepreneurial motivation and cognitive factors can influence the ability to perception about opportunities and to assemble resources to bring those opportunities into realization. Women who possess a need for achievement and a desire for independence will be able to recognize opportunities, develop ideas, and follow through on those ideas.

The *Opportunity-Based Entrepreneurship Theory* (Drucker 1985; Stevenson and Jarillo 1990; Shane 2000; Sarasvathy 2001; Murphy and Marvel 2007; Chandler et al. 2011; Fisher 2012; Marvel et al. 2016; Boldureanu et al. 2020) argues that entrepreneurship begins with the emergence and existence of opportunities. This would be the logic that women entrepreneurs apply when creating their ventures.

Particularly, this theory assumes that: a) opportunity identification and exploitation significantly drive firms’ behavior; b) entrepreneurs do not cause change but exploit the opportunities that change (in technology, consumer preferences, etc.) creates; c) entrepreneur with particular personality traits and social networks, with work experience, a higher-level education, knowledge of market and business practices is more likely to better perceive and exploit entrepreneurial opportunities; d) resourcefulness, entrepreneurial alertness, specific problems experienced personally or professionally, and access to information and knowledge affect opportunities’ recognition and exploitation. In this regard, women entrepreneur set up their ventures in response to a specific gap/problem which they have experienced themselves either personally or professionally.

3 Method

In order to identify the articles for our systematic literature review following prior research (Arena et al. 2021) we search for scientific papers published in international journals in English. No time limits were set to take into consideration all the most significant contributions during the period 2009–2021 years.

The search was conducted by keywords (e.g., “female,” “entrepreneur*”) in the topic (title, abstract, keywords, main text), using the Social Sciences Citation Index database (SSCI) incorporated into the online library ISI Web of Science. Firstly, all the articles containing search queries were searched. The research produced 185 articles. Secondly, we selected the article relevant for the analysis according to entire text of each paper. At the end of this process 42 articles were removed from the sample. Therefore, the study has been conducted on a sample of 143 articles.

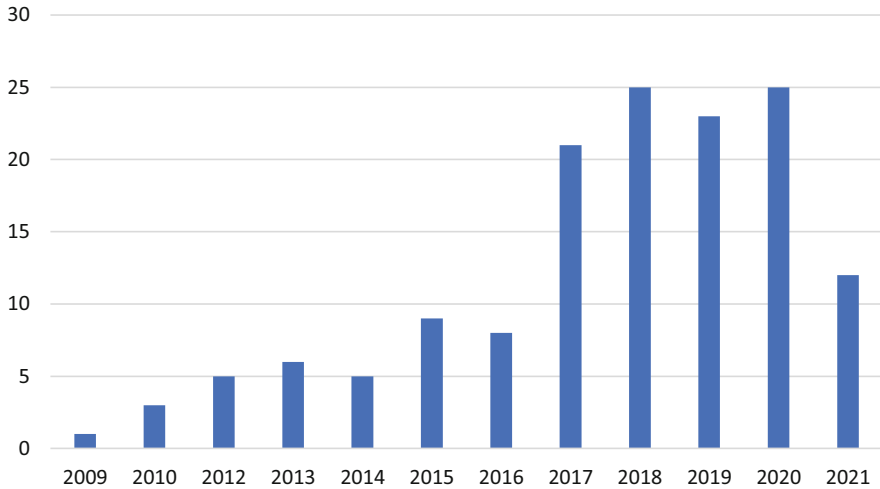


Fig. 1 Overview of articles over time. Source: Authors

Three coders (two authors and a research assistant) independently codified the set of articles based on the following parameters: (i) theoretical/empirical papers, (ii) private/public/hybrid nature of the setting, (iii) theoretical perspective, (iv) time reference, (v) geographical setting, (vi) method and variables, and (vii) research results.

The coding scheme was pre-tested on a sub-sample of 20 articles with the aim to identify the inconsistencies in the responses and reach an agreement about the final set of items to be used in the classification. The disagreements were then reconciled, an inter-rater reliability score was calculated, and the percentage of agreement was above the acceptance threshold (Cohen 1960). A review was then conducted on the whole set of articles.

Among the sample articles we found that 11 papers were theoretical research and 132 articles were empirical studies. The articles have been published in 31 international journals, from 2009 to 2021. As shown in Fig. 1, the publication trend shows an increasing tendency in line with the growing attention of regulators, academics, professionals, and the media for the topic.

Figure 2 shows that the most prolific journal is “International Entrepreneurship and Management Journal,” followed by the “Sustainability,” “Journal of Entrepreneurship in Emerging Economies,” and “Journal of Business Research.”



Fig. 2 Most prolific Journals. Source: Authors

Table 1 Classification of studies on female entrepreneurship based on level of analysis, geographical setting, and theories

		Private	Hybrid	Public
Level of analysis	Organizational	45%	50%	50%
	Individual	55%	50%	50%
Geographical setting	EU	38%	22%	25%
	US	22%	31%	50%
	Non-US	40%	46%	25%
Theories	Governance theories	52%	41%	50%
	Sociological theories	29%	43%	50%
	Blended theories	19%	17%	0%

Source: Authors

4 Findings and Discussion

In order to analyze the selected papers we conduct a content analysis of the publications. The categories for examining the selected publications were derived from previous theoretical work (Krippendorff 2004).

The first category describes the background of the publication: level of analysis; geographical settings and the theoretical framework. The second category focused on empirical papers and identifies the type of outcome; the effect of women; the main methodology. The third category refers to the main research topics (performance, governance, and CSR and disclosure). For each level of analysis, we distinguished among the studies referring to the private, the hybrid, or the public setting.

Results from the classification of studies on female entrepreneurship based on level of analysis, geographical setting, and theories (Table 1) reveal that the most of the private studies have been conducted at the individual level of analysis, refer to non-US settings, and mainly apply governance theories.

Studies on the Hybrid sector are equally distributed between the two levels of analysis, concentrate on non-US settings, and mainly apply sociological theories.

Table 2 Classification of studies on female entrepreneurship based on outcome, effect, and method

		Private	Hybrid	Public
Outcome	Financial	65%	47%	50%
	Non-financial	35%	53%	50%
Effect	Positive	62%	45%	50%
	Negative	17%	18%	25%
	Null	21%	37%	25%
Method	Qualitative (Case study)	18%	33%	25%
	Quantitative (Multivariate, SEM, CFA, Survey, etc.)	82%	67%	75%

Source: Authors

Table 3 Studies on female entrepreneurship in the three research lines

		Private	Public	Hybrid
Performance	Positive	36%	2%	19%
	Negative	10%	1%	5%
	Null	13%	1%	14%
Corporate Governance	Positive	42%	0%	16%
	Negative	16%	0%	5%
	Null	11%	0%	11%
CSR and disclosure	Positive	33%	0%	8%
	Negative	0%	0%	25%
	Null	8%	0%	25%

Source: Authors

Conversely, studies on the public sector are equally distributed between the two levels of analysis, mainly focus on US context applying both governance and sociological theories.

Interestingly, the largest proportion of studies that apply blended theories belongs to the private sector, while none of the studies published in the public sector combines theories from the governance and the social domain.

Results from the classification of studies on female entrepreneurship based on outcome, effect, and method (Table 2) reveal that most of the private studies employ financial measures of outcome, revealing a positive effect of female entrepreneurs and apply quantitative methodologies. Studies from the hybrid settings are mainly based on non-financial measures, mainly finding positive effects and applying quantitative methodology. Studies from the public sector equally use financial and non-financial measures of outcome and apply quantitative methodologies.

The literature review reveals that the sample articles can be classified in three research lines. The most investigated topic is the impact of female entrepreneurs on performance (76%), followed by the role of female entrepreneurs in governance (14%), and the implication of female entrepreneurship on CSR and disclosure (10%). Classification of the papers belonging to each research line by effect and investigated setting is provided in Table 3.

5 Concluding Remarks

This paper offers insights into what academics have learned so far about the opportunities and barrier that can explain the women's interest and motivation for entrepreneurship during hardships based on different field of research (i.e., performance, governance, disclosure, CSR). Therefore, we provide a structured reference point to carry research on gender entrepreneurship forward into specific sub-areas.

Entrepreneurs have been heavily impacted by the economic and social crisis (Alonso et al. 2020; Bartik et al. 2020; Cowling et al. 2020) as challenging times impact on emotional and physical wellbeing (Shepherd and Haynie 2011; Simmons et al. 2014). However, the mainstream business literature tells us that women leaders and entrepreneurs have a greater ability to tackle every challenge with optimism, resilience, and strength (Bullough and Renko 2017) as well as to adapt and change in future challenging situations (Stephens et al. 2021). The institutional environment (legal rules and government support in particular) in times of crisis matters for female entrepreneurs to contribute to a faster recovery by fueling innovation, job creation, and social empowerment (Shuvam and Mohanty 2020).

The paper provides evidence-based recommendations on the strategies, policies, programs (i.e., subsidies, incentives, tax relief, etc.) aimed to overcome and remove barriers to gender entrepreneurship and encourage women to become effective entrepreneurs and sustain the economic recovery.

Now the challenge is to allow female entrepreneurs to succeed in emerging and growing sectors, like the ICT, green economy, Industry 4.0, and e-commerce by mainstreaming entrepreneurship education into their training, by targeting women with funding, guidance, and business services, by tackling segregation and stereotypes encouraging women to be active in certain male dominated sectors, and finally by addressing the digital gender gap. Decision makers should not lose the opportunity to give full support to female in business. It is not only a matter of fairness toward women and equity, but it is also a way to boost the growth in our economies and societies.

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Relational Capital Between Online and Offline: The Case of Cristina Fogazzi



Rosa Fioravante  and Mara Del Baldo 

Abstract The present work contributes to the discussion of female entrepreneurship, with particular focus on digital female entrepreneurship, by asking how female leadership can foster gender justice awareness and female emancipation. A gender-issues driven model of mobilization is presented, drawing on how relational capital is deployed between online and offline community. Looking into Cristina Fogazzi (owner and founder of Veralab) case, we discuss her role in creating an online community that compels loyal customers and engaged followers and had the ability to turn it into offline engagement of its members within gender issue activism. The C.A.O.S. model is adopted as interpretative model of the case study to discuss how relational capital is deployed within the dynamic of community creation. Ultimately, we argue that the case presented offers a blueprint on how female entrepreneurship can create value to the firm and relevant stakeholders as well as to increase awareness and social activism toward gender issues, thus enhancing women's capabilities.

Keywords Female entrepreneurship · Humane entrepreneurship · Resilience · Feminist firm · Female empowerment

1 Introduction

The present work addresses female entrepreneurship from the point of view of female emancipation (Bastida et al. 2020; Eib and Siegert 2019; Pullen and Vachhani 2021). It addresses female involvement in business not by looking at

Attributions: The paper is the result of common analysis and the contribution of both authors for each paragraph is of 50 per cent.

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female entrepreneurship through the lenses of stakeholder's value creation but rather by looking at how female entrepreneurship can become a vector of gender justice and widespread advocacy for female emancipation (Borgerson 2018) and seeks to build on literature looking at both female leadership value to business and to social aim of gender justice (McCarthy et al. 2018). As gender inequality remains one of the greatest challenges of contemporary societies, it has been proven that crisis, such as the Covid19 pandemic, tends to worsen women's conditions (Clark et al. 2021; Dang and Nguyen 2021). In this light, while a growing number of initiatives are aimed to involve business in female empowerment programs (whether truly committed to the cause or as a form of washing, Walters 2021), the role of female entrepreneurship remains widely addressed from the point of view of its valuable contribution to "better business" rather than to other women's conditions.

Moving from the perspective on how female entrepreneurship can be sustained, evaluated, and deepened from a scholarly and policy-related point of view (Terjesen and Lloyd 2015; UNWomen 2018), the current work addresses empirically the theoretically driven research question on how can female entrepreneurship become a driver of gender justice and female emancipation. We provide an in-depth, qualitative, single case study (Yin 2009), discussed from an inductive-abductive point of view. The purpose of the paper is to provide insights on how a female digital entrepreneur (Cristina Fogazzi, owner and founder of Veralab) used her role as social media "influencer" to build a successful business (grew from being a startup of 13 in 2016 to the top three selling skin care brand in Italy in 2021) while creating and catalyzing an online community (the "fagiane") that became an offline sensibilization movement for female emancipation (as well as for other social and civil rights causes). By tackling RQ1: How does relational capital play a role in engaging an online/offline community and RQ2: How can relational capital fostered by female entrepreneurship be used to mobilize on female emancipation and gender justice claims. Thus, the current paper aims to build on female digital entrepreneurship literature by presenting a successful case study based on the deployment of female leadership (Pullen and Vachhani 2021), social media grasped possibilities (Ughetto et al. 2020), and the logic of authenticity (Freeman and Auster 2021). The case is analyzed through the C.A.O.S. Model (Paoloni 2011, 2021) for several reasons: the model provides the possibility to have insights from a multifaceted perspective to provide satisfactory understanding and explanation of the case; moreover, as relational capital is identified as a key factor in both Veralab business affirmation and success, as well as in the entrepreneur ability to engage and mobilize the online community, the C.A.O.S. model results particularly suitable to grasp evidences connected with the research question by leveraging on a multilevel analysis (Paoloni and Demartini 2012; Paoloni and Lombardi 2017; Paoloni et al. 2017). Ultimately, the case presented offers a blueprint for organizations aiming to fostering civil society engagement and mobilization based on gender justice.

The remainder of the paper is organized as follows: Sect. 2 provides a short literature review considering recent literature on female startups and female digital entrepreneurship; Sect. 3 provides a concise presentation of the case study, as well as research design and methodology; Sect. 3 discussed the case study through

C.A.O.S. model in relation to RQ1 and RQ2; Sect. 4 provides discussion of findings and possibilities for further research.

2 There Is More than One Glass Ceiling

Female Entrepreneurship has been gaining increasing scholarly attention for the last couple of decades. As the topic is wide and offers a variety of point of views through which can be analyzed, research on the issue has been pursued through gender and feminist studies (Stead 2017; Roos 2019), business ethics approach (both normative and empirical, for a comprehensive overview: Grosser et al. 2017), stakeholder theory adaptation (Wicks et al. 1994), CSR and corporate governance related approaches (Baldarelli and Del Baldo 2016; Machold et al. 2008), mainstream management approach (Santos et al. 2018), and several other disciplinary and theoretical lenses (such as: institutional theory—Bui et al. 2018; social entrepreneurship—Spiegler and Halberstadt 2018).

Research on female entrepreneurship has been conducted to assess women's valuable approach to business and to understand change in performance due to the introduction in business context of women's leadership and board diversity (Amorelli and García-Sánchez 2021; Islam et al. 2022), to evaluate obstacles and challenges arising to female leadership quest (Lewellyn and Muller-Kahle 2020), as well by focusing on women's peculiar traits able to foster desirable social and ethical outcomes. The latter debate has been conducted in close connection with the discussion of corporate culture (Hofstede 2001) and women's impact on it, thus looking into the defining traits of women's involvement within business. Scholarly involvement in the topic has proposed relevant findings concerning which peculiar traits characterize women's leadership in managing organizations, and whether these traits are holders of values connected to the way they welcome stakeholders' expectations (Baldarelli and Del Baldo 2016). Furthermore, research on female entrepreneurship has theorized women's impact on different capitals (i.e., cultural and intellectual), ultimately focusing on their ability to deploy a particular form of relational capital and be motivated toward social purposes (Solesvik et al. 2019; McAdam et al. 2019).

Among the wider literature on female entrepreneurship, Digital Entrepreneurship literature has been flourishing within the last years due to the generalized interest on intersection between digital possibilities and entrepreneurial ability to exploit them (Nambisan 2017; Whittington 2018; Anim-Yeboah et al. 2020; Sahut et al. 2021). In particular, a definition of Digital Entrepreneurship can be phrased as: "the pursuit of opportunities based on the use of digital media and other information and communication technologies" (Davidson and Vaast 2010: 2).

Within the wider discussion of female entrepreneurship, digital female entrepreneurship has raised significant interest as a distinctive topic: scholarship on gender issues and entrepreneurship has been lately focusing on whether the digital environment offers challenges and opportunities—and of which kind—to female

engagement and whether female digital entrepreneurship holds peculiar distinctive traits on its own (Paoloni et al. 2018). The latter approach has widely discussed how digital technologies provide increased access to data and information concerning all aspects of doing business, as well as providing increased possibilities for communication with customers, cooperation with partners and engaging stakeholders (von Briel et al. 2021) and how such increased possibilities can be exploited by women in entrepreneurship. In particular, although access to finance remains a critical issue, digital female entrepreneurship fosters new channel to look for sources of financing and “increased access to information through social media can improve a woman’s capacity to envision alternative options to make meaningful choices” (Paoloni et al. 2018).

Despite the interest in female entrepreneurship and digital female entrepreneurship, the issue of how such engagement fosters gender justice and contributes to diminishing discrimination and gender inequality remains largely untracked (Becker 1957). As Derry (1996) has suggested, a rigorous feminist research agenda should provide not only insights on peculiar features of women’s engagement within business but rather should provide an agenda able to discuss structural sources of power inequality, ethical and policy-related suggestions for reforms and further insights on how to foster significant change. Moreover, research on female entrepreneurship and CSR has widely recognized how focusing on the topic of “female empowerment” does not automatically lead to address gender injustice and inequalities (Machold et al. 2008; McCarthy 2017). On the contrary, two approaches result in undermining rather than fostering gender emancipation: on the one hand, the approach of “assimilation” of women leadership to male one (i.e., defining women leadership and capabilities as counterpart of male definitions, McCarthy 2017; Kaufmann 2021), on the other the addressing of gender issues on the basis of qualities—such as care, hearing, relational abilities—considered “good” by in the light of standards (i.e., concepts as “success,” “performance,” “competition,” etc.) established by a male centered ethics (Derry 1996; Johnstone-Louis 2017; Kaufmann 2021). As scholarship on the topic is widening, the present work offers an original approach on trying to assess female entrepreneurship as a driver of female enhancing capabilities.

3 Case Study and Research Design

3.1 Empirical Setting

The VERALAB brand of skin care and cosmetic products, registered as Re-Forme S. r.l., is owned and founded by Cristina Fogazzi. Re-Forme turnover for 2021 has been 60,000. The current 44 employees are in the wide majority female workers. Veralab—a startup 20.000 social capital in 2015—is today considered among the top three best-selling brands for skin care products in Italy.

At the time of its foundation, Re-Forme S.r.l. has been created to sustain Fogazzi’s activity as a beautician by proposing to her clients a set of skin care

products to use at home. To sustain her business as a beautician and to advertise her beauty center based in Milan, she used her passion for scientific dissemination on beauty products, treatments and look related problems of the female body, which she conveyed as dissemination contents through a YouTube channel and a Facebook page under the satiric name of “Estetista Cinica” (The Cynical Beautician). The core message of her communication revolved around the idea that the beauty industry often tries to sell both a female body image that is dangerous for women’s psychological and physical health, as well as products to obtain beauty standards that were not able to live up to the marketing claims. Rather than starting as a digital entrepreneur, she became popular online for her role of demystification of core claims of the beauty industry. In this light, hers can be framed as a case of “accidental entrepreneur” (“The accidental entrepreneur results from specific processes where entrepreneurship often happens accidentally, when people are on their way to something else” (Milanesi, 2018, p. 425). Coming from a low-income family with no antecedents in the business field, Fogazzi represents an exception to the trend highlighted by recent studies on women’s increasing presence within managerial and entrepreneurial contexts due to familiarity with it: “More and more women currently choose to promote a new company or to pick up the management of an existing one. This new presence can be found in the reality consisting of women that have been in the world of entrepreneurs for several years because they have inherited or are members of a family of entrepreneurs (Paoloni, 2021, p. 55)”.

The case raises interest not only for the ability of the entrepreneur to build a successful business and quickly overcome national competitors, but also due to the entrepreneur’s ability to use social media influencer marketing. In 2015, “L’estetista Cinica” became an Instagram profile and her online presence intensified through a communication focused on beauty related content, information display concerning the beauty industry, and the promotion of her brand (Vrontis et al. 2021; Kim and Kim 2021) while discussing other relevant topics such as supporting local artisan economy, civil rights issues and promoting fundraisers for civil society associations, no profit organizations, and other personalities and organizations involved in social causes activism. The engagement of her online community has proven one of the key ingredients to the building of customer loyalty and a driver of a commercial strategy that relied heavily on “word of mouth” mechanism. Nonetheless, the same engagement has been proven valuable in involving her community in all Veralab CSR initiatives in support of local small towns, museums, and art projects (source: Veralab website) and ultimately resulting in a movement of raising awareness on body positivity.

As the entrepreneur herself recognized, she is an “exception” to the rule: by leveraging personal professional skills, use of the social media platforms, and chance in overcoming financial issues, she succeeded in her affirmation as digital entrepreneur.

Ultimately, the case presents interesting insights into how relational capital (Costabile 2001) can be built through influencer marketing and social media communication, as well as into how can be deployed to engage in a virtuous circle of loyal customers—engaged followers—gender issues activists.

3.2 *The C.A.O.S. Model*

The methodology applied is the inductive-abductive qualitative analysis of an in-depth case study (Yin 1994, 2009), using a collection of second-hand interviews to the entrepreneur, analysis of social media contents provided by the entrepreneur, available data on the firm performance and relevant information (Atoka platform).

The interpretative model chosen to discuss the study case is the C.A.O.S. model by Paoloni (2011, 2021). The model is particularly suitable to answer RQ1: How does relational capital play a role in engaging an online/offline community? and RQ2: How can relational capital fostered by female entrepreneurship be used to provide female emancipation and gender justice?

The C.A.O.S. model (Character, Ambiente/Environment, Organizzazione/Organization, Sostenibilità/Sustainability) is a model developed to provide a multifaceted explanation drawing from a variety of considerations regarding the female entrepreneur and features of her leadership, the surrounding context, organizational abilities and preferences as well as the ability to initiate and operationalize the new business (Table 1).

The C.A.O.S. model has been proven valuable to grasp relevant insights from the field of female entrepreneurship looking at its different features, by being deployed to answer questions such as “How does relational capital contribute to the startup phase of women-owned micro-enterprises?” (Paoloni and Dumay 2015), “Is there any difference in the effect of previous experience on new venture opening between male and female entrepreneurs? And RQ2. Is there any difference in the effect of venture complexity on new venture opening between male and female entrepreneurs?” (Dal Mas and Paoloni 2019a, 2019b). In the following section, the CAOS model proves useful to deepen the role of relational capital in Veralab startup phase and its evolution and to understand how the entrepreneur’s personality affects the business values and the development of both the online and the offline community.

Table 1 C.A.O.S. model description

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- The personal element: who the entrepreneur is (C)
 - The macro-company element: where the company operates (A)
 - The company element: how the company works (O)
 - The time element: when the company is observed (S)
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Source: Paoloni (2021)

4 Discussion

4.1 *Who Is the Female Entrepreneur?*

4.1.1 Accidental Entrepreneur

Cristina Fogazzi was born in Brescia (Lombardy, Italy) where she currently lives, from a middle-low income family. 47 years old, hers is a story of apparently missed opportunities: with an high school diploma from a Liceo Classico, she wanted to become a contemporary art exhibitions curator but she could not proceed with her studies due to financial restrictions of the family; she worked in several low-skilled jobs before becoming a beautician in Milan.

Later, once become a successful entrepreneur, she would use her social media accounts and interviews with national newspaper to denounce low-paid jobs, irregularities with job contracts for employees, and precarity. Her familiar roots in low-middle income family and previous experience as young female employed in multiple low-paid and low-protected jobs have influenced her ethical standards in pursuing the entrepreneurial mission, based on the concept of the dignity of work (Kostera and Pirson 2017) and on responsibility:

As the beauty center where she was employed fired her, she started her own beauty center in Milan, asking for financing and obtaining it after many difficult stages of searching. Gender posed to Fogazzi the challenges that have been identified by literature (Ughetto et al. 2020), among which quest for financing is one of the more pressuring to female process of entrepreneurial creation (Bird and Brush 2002).

As she published a book in 2016 with a medical expert with the aim to debunk antiscientific myth concerning beauty problems and promote a body positivity message, she launched her brand of cosmetic product Veralab.

Motivation for starting the new business (Chakraborty et al. 2019) can be thus found in the peculiar contingency where the entrepreneur has found herself at a crossroad in her professional life, as well as in the confidence she had in her ability to do her job with knowledge and talent. Also, personal values and beliefs of the entrepreneur (Del Baldo 2019) have been pervasive of her business vision, beyond her personal exposure on social media.

4.1.2 Leadership Style

Together with beauty related contents, she used her social media account “l’Estetista Cinica” (the cynical beautician) to engage in a number of active citizenship causes, to comment on everyday public issues at the center of the debate, to suggest local products and brands, to promote fundraising for social causes.

Social media activism (Suseno and Abbott 2021; Miller et al. 2021) can thus be interpreted as being consistent with previous findings: Studies show that women, including women entrepreneurs, are more likely than men to work in ways that

integrate their professional life with their private life (Paoloni and Dumay 2015). So that the nickname that Fogazzi used for her friends was used as well to address online followers, the “Fagiane” (ironic nickname for someone who is not very sharp, literary: pheasant) community:

Fogazzi used her online presence to build a leadership based on spontaneity and being “straightforward.” Nonetheless, she problematizes her leadership style to underline how female leadership is always under scrutiny by male standards for leadership (Pullen and Vachhani 2018): leadership for women managers often means being in a double folded position of having to be both masculine and feminine (Ughetto et al. 2020). Indeed, “Simply put, for females, social, intersubjective, and organizational engagement often includes the manifestation of so-called caring traits, which contrasts with varied notions and practices of power, a traditional path to organizational advancement. [In addition] stereotypical feminine notions—such as emotional attachment and self-sacrifice, often embedded in care ethics—potentially undermined female agency, that is, the ability to make things happen (Borgerson 2018, p. 2).” Further literature has underlined how being in a position of leadership does not represent the only relevant aspect for female empowerment to be pursued (McCarthy et al. 2018; Pullen and Vachhani 2021). In the newsletter (always directly written by Fogazzi) addressed to her followers for the 8th March International Womens’ Day celebration, she extensively discuss the topic by sharing her mixed feeling on being a woman in power:

From the analysis of the character, we can therefore extract the following relevant findings:

- Motivation supporting the business can be found in adverse circumstances, that pushed her to start her own business, as well as in confidence in her own ability to do her job with success and to produce value for her and her customers.
- The business vision has always been centered on “authenticity” and “credibility” as key values, starting from a small-scale production, and moving forward to understand what customers were looking for.
- Her role within the firm has been crucial in setting up her communication through social media and assuming risks connected to the new business on herself, as well as by deploying the ability to persuade previous colleagues to work with her and share difficult times for the start-up phase.
- The decision-making process has been centered on her and highly centralized.

4.2 *Where Does the Female Entrepreneur Operate? (A: Environment)*

4.2.1 Geography

The Female Entrepreneur started her business in Milan, Lombardy. She discusses this choice as being a way to seize opportunities that would not be otherwise encountered in other territories:

Y9

There is a possibility for everyone, of course, if you work hard. When someone, up until today, tells me: “Of course, you were lucky because in Milan is easy” I reply that I came to Milan on purpose. By looking at numbers: what could I do if I remained in Brescia? I slept on a cot in Milan and I did—and I still do—a life of commuting. It is not like Milan comes to you.

Veralab brand is distributed mainly on the Veralab ecommerce, although Fogazzi owns two flagship: one based in Milan and the second opened in 2020 in Rome:

Y6

I have two flagship, one in Milan and the one in Rome that I just opened and then I distribute in around 100 stores (pharmacies and perfumeries). But I really was resisting the issue of retail, I did not want to do it, I wanted to sell only online. Then I understood that also having the retail makes sense but it should be done properly. [...] In my idea there was not the physical presence, then the first thing has been that we had a mini market research, then two years ago I went as “circo cinico” in Italian squares to give advices and we sold products on an ipad not materially, after our consultation you could place the order. This has been a great success and putting data together we realized that where we had been physically, online selling were better. And our multichannel strategy is that were we have a strong vending point it does not cannibalize the online, the other way around: online grows.

4.2.2 The Digital Environment

As the main focus of Verlab strategy is on ecommerce and digital entrepreneurship, it is appropriate to discuss the environment in which the entrepreneur operates by looking at the digital and social media environment as well (Salamzadeh and Ramadani 2021; Dutot and Bergeron 2016).

Y2

On social media, it makes sense to invest in contents creation rather than in BOT. To create contents is expensive in particular with regard to time consuming, because you need to have the idea on what content to create, and also in resource consuming in terms of economic resources.

The choice of using online platform, as much as her entrepreneurial endeavor, has been quite “accidental” but, at the same time, issued by her relational network in Milan:

J5

The character of the Estetista Cinica—who would be me—starts from an intuition that came while talking with a special client: the female strategist Veronica Benini aka Spora. She was doing some treatments and I told her that I would like to do some cartoons. She thought about it for a moment and decided we would “rock it.” This is how Estetista Cinica was born.

Cristina Fogazzi case represents an exception to previous findings concerning digital entrepreneurship and social positionality (Martinez Dy et al. 2018; McAdam et al. 2020; Dy et al. 2017). She underlines how her trajectory as female entrepreneur sheds light on opportunities for non high-income family born to build a successful business, but she also points out how the enabling role of social media has been crucial to her affirmation. Indeed, she beheld her activism on social topics one of the key ingredients of her success, in as much critical customers are more and more interested in ethical positions of the entrepreneurs and in ethical values conveyed by the brand and social media allow this perspective on values and belief to emerge:

J4

On Instagram my existence and my brand coexist quite smoothly, in the sense that I try to communicate from my profile things that are not only related to my products, but also the image of a woman that works and has her own point of view on the world.

Deploy of relational digital capital, consisting of both followers interested in her dissemination contents and her social media activism on gender issues and other social related issues, is thus considered key to her success:

J3

[...] I have never delegated the management of my social accounts to anyone and this still serves to make me understand what my audience wants, what the people who follow me like and also, above all, what they don't like. You can't really get the pulse of these things without reading the feedback, whatever your role. And it's not the same if you're doing it on business for someone else. I don't manage a community, I'm inside my community.

4.2.3 The Beauty Sector

Cristina Fogazzi's exposure on social media has been source of both her success and the popularization of her profile and her brand, as well as source of tensions with competitors and pundits looking at the Beauty Sector:

Y6

[Snobism on social media from experts of business] has also been my luck [...] When I started to go on TV shows, as a beautician, I gave recipes to do treatments at home, other beauticians arose because complained that I was distancing clients from beauty salons. [...] in their opinion the fact that I was at that TV show was a debasement of beauticians [...] Nonetheless, I continue to sell products [...]

Concerning Environment we can outline how:

- The choice of starting the business in Milan has proven valuable for the fitting environment, although very competitive.
- The “real” environment to discuss in the present case is the digital environment where both Fogazzi popularity and the brand success grew.
- The digital environment has proven source of competitive advantage as well as critical for the relationship with competitors.
- Fogazzi's strategy, based on the online presence of both herself and her brand, do envision social occasions where to meet followers and supporters as well as to have clients directly involved in offline brand marketing activities.

4.3 “How Does the Female Entrepreneur Define the Organisation of her Enterprise? Organisation (O)”

4.3.1 Female Employment

Re Forme S.r.l. mostly employs women labor force. In this light, hers is a case that openly contradicts stereotypes on female employment that suggest how it should be less convenient for the entrepreneur. As previous literature has underlined, not only this cannot be proven but it directly depends on an outdated cultural prejudice concerning women’s role and imagine within the society: “However, the idea of higher costs in the case of female workers is, in reality, a prejudice born from the marginal neo-classical theory that favours the aspects connected with production for the market and conceals the economic as well as social value to be attributed to the production activities of female workers” (Paoloni 2021, p. 41).

S1

“Would you hire a woman who is pregnant or of ‘childbearing’ age?” At this moment there are 2 pregnant women 1 on maternity leave, the others are all of childbearing age.

This is the implication of her business vision based on ethical behavior of the entrepreneur toward her employees:

J3

[. . .] Yes [it is possible to carry on an ethically sustainable business] and this makes me very angry. In the sense that I remember those titles of my VAT number when I started my own “you will discover all the difficulties.” I pay all the salaries and I have no problems doing entrepreneurship, then it probably depends on how much money the entrepreneur wants to take home for himself, right? But I lead a life that I never thought I would lead [. . .] I definitely lead a life of privilege.

4.3.2 Trust

Relational capital has been crucial in developing a network of collaborators that proved essential for the startup phase (Paoloni and Demartini 2012; Paoloni and Lombardi 2017; Paoloni et al. 2017). Being “an accidental entrepreneur” led Fogazzi to run her business, in the beginning phase, on day-to-day basis, thus requiring people who worked with her to follow her path without assurance on the immediate future:

Y3

[...] I really thank my General Director who solved all the problems that arose in years of crazy run... the management [gestational] has gone online in October [...] organizing the logistics has been crazy. We started in 4 and now we are 44. I am here to do entertainment but people who outdid themselves this year for this firm... even if they were at home, and in a young firm there were not already established processes so that everyone would have known exactly what to do. In a huge race of numbers they have all been amazing.

Y6

In this moment I might be the first or the second brand of skin care in Italy. With 51 millions and EBITDA of 30%. I am in the first five beauty brands that are sold not only online, in general. [...] I started 5 years ago [...] and the activity has been mainly on social networks. [...] we have a conversion rate on our website [from visitor to buy], usually a website if it is really good does 2, we do 6 or 7. [...] I do the part of social network but I have a really good ecommerce manager.

4.4 “When Is the Enterprise Observed? Sustainability (S)”

4.4.1 From Online to Offline

Fogazzi’s popularity on social media has been exploited in terms of credibility and affirmation of the brand, thus leveraging value for the firm and ensuring growing success (Foroudi et al. 2017), but the level of the offline activities has been a concern as well.

First, with particular focus on customer relation:

J4

In my stores there is always a kind of big party when I go to meet people on the spot. My followers know everything about me. I like meeting them even if it’s challenging—somewhere every weekend for two months—but it’s very exciting.

Y2

[the “word of mouth”] counted a lot. Whoever looks at the numbers of my online shops understands that are not justified by some 300,000 followers on Instagram and—I don’t remember—160,000 on Facebook. It is clear that at one point a word of mouth mechanism has been spreading outside the web. This was due to the product, which was good, maybe because it was well explained, but something went beyond my personal visibility online [...] the Fagiane [online community] has counted a lot and this is why I go to meet there in city squares.

Secondly, the issue has been addressed by Fogazzi through understanding that her relational capital built online with the “Fagiane” community would be strengthened by creating activities and events to meet them and to experience these happenings together:

Y9

[...] [le fagiane] I brought my first followers to the stage at the Scala Theater [...] I brought two on the red carpet in Venice, and I meet them. That is, I also try to trigger true relationship not only through the mobile phone.

S5

the best moments for me are those in which a project comes to life, those in which you change people’s lives by giving them a “good” job, not just “a job,” those in which you change the economy of the territories.

Moreover, Fogazzi constantly addresses her audience (both on social media and through interviews) by tackling issues connected with the growth of the firm and the meaning of her entrepreneurial role. Even when addressing strategic choices such as becoming a Benefit Corporation (Del Baldo 2019; Nigri et al. 2020):

S3

I strongly believe in the fact that in addition to paying taxes, we must try to create value. I have no children and I have no heirs to leave houses and things to. I have already become much richer than I could ever dream of. On the other hand, . . . I would say poor, I’m not particularly interested in villas in Sardinia, motorboats. And so, if in some way, with what I do I can create value by helping places of culture, by helping people—I have a project for you women—this is what makes me really happy. [...] As far as my company is concerned, we would like to become a Bcorp, the B corp certification is a certification that I like very much and that speaks precisely of this thing, creating value.

4.4.2 Value-based Sustainability

Relational Capital has been central to the overcoming of all challenges typically All the above-mentioned features of the model present elements that can be found within the description of causes of gender gap in entrepreneurship as summarized by Ughetto et al. 2020:

- Gender biases and stereotypes on women’s skills, vocational and emotional patterns
- Difficulties in seeking and obtaining financing

- Cultural influences on women inducing them to self-doubt
- Women less likely to engage in traditionally male-dominated fields.

Facing all these challenges it emerges how relational capital has been crucial in overcoming difficulties connected to the initial phase. Through all the startup phase, and subsequent affirmation, it emerges how a strong ethical leaning and strong belief in a business ethics rooted entrepreneurial vision have played a central role. Recalling Pullen and Vachhani (2021) feminist ethics challenges the individualism, universality, difference, and rationalism found in leadership ethics.

In this light, we can argue that the engagement of the online community, both in support of the entrepreneur personality and in support of gender related issues and social causes, has been the key ingredient to overcoming difficulties and to generate value for firms and customers that acted not only as customers but also as social network supporters and empowered citizens. In sum, the key ingredient, connected with relational capital and intangible values used by Fogazzi to ensure sustainability to the firm has been leveraging on the ethical role of both herself and her brand.

5 Conclusions

Our findings confirm that the case raises interest not only for the ability of the entrepreneur to build a successful business and quickly overcome national competitors, but also due to her ability to use social media influencer marketing as well as leverage her influencer role to foster social engagement and sensibility toward gender issues:

- From the analysis of the personal characteristics of the entrepreneur we outline as key features her personal quality of straightforwardness—which became both a personal ingredient for digital success and to gain customers’ trust in “telling the truth.”
- From the analysis of the Environment of the entrepreneur, we highlight the strategic relevance of being based in north Italy, especially in Milan, but we also highlight how the digital environment has been crucial to the affirmation of both the entrepreneur’s popularity and the brand. This increased the opportunity to reach new customers but also the formation of “an audience” interested in both Veralab products and gender issues related debates and awareness campaigns.
- From the analysis of the Organization, we outline the ability of the entrepreneur to deploy her relational capital to surround herself of trustworthy collaborators and to acknowledge her lack of skills, thus recognizing key figures to be employed within the enterprise to reach the firm’s goals. The organization has been subjected to abrupt growth and some failures that have been continuously addressed by the entrepreneur on her online social media in order to strengthen the bond with her community.
- From the analysis of Sustainability, we highlight how the startup phase has been characterized by difficulties in finding source of financing, as well as by a high

degree of “spontaneity” and “intuition” given the feature of “accidental entrepreneur” characterizing the case. Link to made in Italy and continuous CSR engagement into promoting social causes have proven crucial to foster high growth and to create value for the firm and relevant stakeholders.

Ultimately, we argue how female entrepreneurship can escape “pink washing” strategies and deploy relational capital and relational skills in order to provide contents and foster intangible values able to sensitize and mobilize the audience on gender related issues, as well as by providing a blueprint for other female entrepreneurs from middle-low income provenience with both entrepreneurial ideas and a vocation for social causes.

Findings are consistent with the preliminary study of the case, undergone through the application of the integrative model of humanistic management (Spitzeck 2011) as highlighted by Fioravante et al. (2021) thus confirming authenticity as key value not only for Veralab success and to overcome times of crisis, such as COVID-19 pandemic, but also to develop an online community that later became an offline community with gender issues and social engagement as bonding driver.

The present work bridges literature on female relational capital (Paoloni and Dumay 2015; Paoloni and Demartini 2012; Paoloni and Lombardi 2017; Paoloni et al. 2017; Bruni et al. 2004) with literature on gender business ethics (Lim 2018; Kaufmann 2021) proposing an original standing point, able to grasp distinctive features of female entrepreneurship and how the latter intertwines with ethical choices, dignity in leadership and female work (Kostera and Pirson 2017), and the ability to build meaningful social networks. The ability of the entrepreneur to leverage on her online community, as well as on the value of authenticity, has been crucial to the brand’s success and reputation.

More in detail, it provides an analysis of those features belonging to female entrepreneurship grounded in strong ethical views (i.e., credibility and moral status for fairness, sustainability, and female empowerment), which resulted in being key success factors in creating the online community and the offline relational environment that can be considered strategic for business economic sustainability as well as for its ability to create intangible values for stakeholders.

Practical implications of the current work can be found in its ability to increase scholars and public opinion awareness concerning the valuable contribution of female entrepreneurship, both as a driver of economic prosperity and of fairness and justice, as well as in its suggestions concerning public policy reform apt to support gender equality and foster women’s opportunity for starting a new business.

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Gender Contribution to the Agenda 2030



Paola Paoloni, Rosa Lombardi, and Salvatore Principale

Abstract Gender equity issues contribute to the policies of governments and companies. These matters become even more central facing the impacts produced by the Covid-19 Pandemic. The 2030 Agenda is a concrete commitment that various international institutions have made to ensure a better future for future generations. Governments are committed to ensuring a future without discrimination of any kind. The study aims to carry out a review of the literature on the topic of gender within the context of the Sustainable Development Goals. Through a mixed methodology, bibliometric analysis and literature analysis, the study aims to carry out a mapping of the state of the art on the relationship between Agenda 2030 and gender. The results show the presence of 3 clusters relating to the field of gender equality, governance, and gender empowerment. The study provides useful data for scholars who intend to contribute to the literature on these topics. This review of the literature is among the first to carry out a study on the subject with a qualitative–quantitative methodology.

Keywords Women · Gender studies · Sustainable development · Literature review · Bibliometrics

1 Introduction and Research Purposes

In recent years, policymakers and companies have paid ever greater attention to issues relating to the paradigm of sustainable development (Bebbington and Unerman 2018; Abhayawansa et al. 2021). Climate change or the generalized increase in inequalities are just some of the events that have posed the need to change priorities and reformulate strategies in a more development-oriented

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perspective that follows the criterion of sustainability before policymakers and private companies (Calderón Márquez et al. 2019). Therefore, the approach oriented purely to the protection of the environment is overcome by accepting issues related to different dimensions.

In this sense, the 2030 Agenda represents a fundamental step since for the first time a very large presence of Countries has committed themselves to actively contribute to the achievement of some specific objectives (Silva 2021). Specifically, the 169 members of the United Nations, aware of the need for a paradigm shift, have signed the commitment to achieve the 17 sustainable goals by 2030. Despite the goodness of the proposal, it should be noted that the 17 objectives, made up of a total of 189 sub-objectives, represent very ambitious objectives (Pizzi et al. 2021b).

Furthermore, several scholars who have approached have highlighted some critical issues. Among these, the interdependence between the various objectives and sub-objectives is highlighted. This makes a goal difficult to achieve if the related goals are not achieved. In addition, in the field of accounting, in emphasizing the importance of reporting the SDGs, several scholars have strongly emphasized the absence of specific guidelines that are, on the one hand, aid to businesses and the other that favor data comparability (Pizzi et al. 2021a).

Among the various issues dealt with by the United Nations, gender has been widely considered within the objectives of the 2030 Agenda. For example, there is a specific objective, goal 5, on gender equality (Monteiro et al. 2019). But, as highlighted above, thanks to the close connection between the different objectives, gender equity is interrelated with others.

Some scholars have highlighted the slow progress toward achieving the goal set by the 2030 Agenda (Eden and Wagstaff 2021). The difficulties already present were associated with the negative repercussions of Covid-19 which had a significant impact, especially on the female gender (Kogut and Mejri 2022). The Covid-19 pandemic has had a strong impact on gender equality by highlighting and widening existing inequalities. Yet, there is numerous evidence from scientific studies that demonstrate how gender diversity brings greater value to companies, with a positive impact on economic-financial and socio-environmental results (Paoloni and Lombardi 2018). In the literature, some have analyzed the contribution of women to sustainable development. However, a topic that has not been fully explored by management and accounting scholars.

In this context, the aim of this work is to answer the following research questions:

RQ1: What is the state of the art regarding the relationship between gender and the 2030 Agenda?

RQ2: What are the areas that future studies should explore?

The study provides theoretical contributions as it identifies the most influential articles, journals, and authors on the topic and provides new questions for future research. In addition, it adopts a mixed methodological approach to reduce any bias resulting from the use of single methods.

The paper is structured as follows. In the following Sect. 2, the literature on gender and sustainability is set out. Next, the method and the findings of the literature analysis are shown in Sects. 3 and 4. Implications for future research and conclusions are presented in Sect. 5.

2 Gender and Sustainability

The study of the relationship between gender and sustainability is not a new topic in the literature (Paoloni and Lombardi 2018; Dal Mas and Paoloni 2020). It is a fact that the attention toward the gender has been gradually increasing in the last decades (Khandelwal et al. 2020). The attention of scholars and international institutions has been placed on women due to some critical issues that still occur today. Although women represent about 50% of the world population, the World Bank data shows that on average there are only 38% of working women in the world. Or even different is the evidence of the low percentage of women occupying management positions in the company as well as the greater difficulties that women entrepreneurs have to face compared to male entrepreneurs (Deng et al. 2021).

Faced with these critical issues, over the years, the scholars who have approached the issue have found various evidences of positive relationships between the presence of women at various levels and company performance (Glass et al. 2016; Elijido-Ten et al. 2019). Especially in the sustainability field, there are several contributions in the literature that agree in attributing an important role to women in improving the sustainability performance of companies (Eberhardt-Toth 2017; Martinez-Leon et al. 2020).

Scholars who have been interested in corporate governance have shown various evidences of a positive relationship between female representation on the board and sustainable practices.

Recent work has shown that companies with a higher percentage of female directors are those with lower environmental impacts due to lower GHG emissions (Tingbani et al. 2020). Another study on global companies suggests that companies with different gender leadership teams are more effective in pursuing strategies aimed at protecting the environment (Glass et al. 2016). Other scholars have highlighted positive correlations with the social dimension. They suggest that companies with greater respect for gender equity are also those that have more attention to social issues such as human rights (Monteiro et al. 2021).

At the base of these empirical evidences, the scholars have highlighted some peculiar characteristics of women that would favor greater socially responsible behaviors. These studies emphasize the difference between men and women in their psychological traits, referring to values, altruism, or leadership styles (Chen et al. 2016). Some argue that while men socialize to be more autonomous and competitive, women tend to be more other-oriented (Glass et al. 2016). This would imply that women are more concerned than men about the links with the environment and with the human capital inside and outside the company (Stern et al. 1993). Furthermore, since women are sensitive to ethical issues and interested in others, they are also more inclined to stakeholder engagement (Pucheta-Martínez et al. 2020). These characteristics mean that women can positively influence socially responsible behavior and the CSR commitments of companies.

3 Research Approach

To answer the research questions, the study proposes to analyze the literature on the subject. This methodology allows to analyze the state of the existing literature and to map the treated areas, it allows to identify the research gaps that future studies can fill. We believe that the use of literature review methodologies is the most appropriate for answering research questions. Indeed, the purpose of the literature review is to measure the impact of contributions, identifying the most influential authors and journals, as well as the most important keywords (Lombardi and Secundo 2020). Furthermore, literature review works are useful for making a synthesis of the accumulated knowledge on the topic and for serving as a theoretical basis for future studies.

The method used is of a mixed type, a quantitative and qualitative approach was used (Tello et al. 2016). In the first phase, a bibliometric analysis was carried out, and subsequently, a literature review was conducted. The use of mixed methodologies is used in the literature by scholars to minimize the risks that would arise from the single use of both methodologies (Pizzi et al. 2021b; Caputo et al. 2021). The results of the various bibliometric analyses are aimed at identifying the most influential journals, authors, articles, and research topics. Qualitative analysis makes it possible to identify the areas covered by previous studies and define questions that future studies can explore.

The sample of articles was composed using Scopus, following the good practices identified by the scholars. The research was cross-validated using the Scopus database as well. Scopus and the Web of Sciences are two of the largest databases most used in literature review studies (Monteiro et al. 2019; Mora et al. 2019).

Figure 1 summarizes the methodological steps adopted to conduct the research. In the first phase, the authors met to define the research protocol. The following search string has been defined as follows: TS = (Women) OR TS = (Gender) OR TS = (Female) AND TS = (“Sustainable development goal”) OR TS = (SDGs). The search was set on titles, abstracts, and keywords. In addition, some filters have been put in place to narrow down the search. First, we have decided to focus on Business and Management magazines. Then only the articles were selected

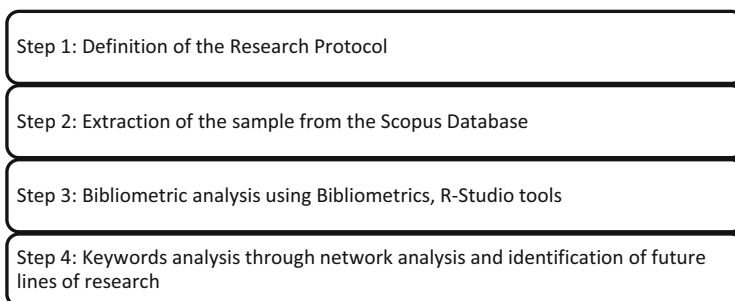


Fig. 1 Methodology. Source: Author's

excluding books, working papers, or contributions to conferences. Finally, articles in English were considered, thus excluding articles published in different languages. With these limitations, the final sample consists of 90 documents.

Regarding the analysis conducted, two software programs were used: Bibliometrics and Vosviewer. The first software is an R-studio application that is finding wide use in the literature (Aria and Cuccurullo 2017). It allows the statistical-quantitative analysis useful for bibliometric analyses. Otherwise, Vosviewer was used to carry out the analysis by keyword, useful for grouping keywords and identifying the different clusters present (Lombardi and Secundo 2020).

4 Primary Results

Figure 1 shows the annual production from 2016. The data is consistent with the publication of the 2030 Agenda in September 2015. The figure shows a trend increase in contributions on the topic from year to year, with the peak that was obtained in 2021. The growth between 2019 and 2020 turned out to be the lowest in the period considered. On the contrary, contributions between 2020 and 2021 almost doubled. The data for 2022 suggest that the positive trend can also be confirmed in this last year (Fig. 2).

The analysis by source (Table 1) reveals how Journal of Cleaner Production is the magazine that has published the major contributions on the topic (9). Following are Journal of Sustainable Tourism and Gender In Management with 7 and 5 articles published. The presence of generalist magazines or different fields highlights the multidisciplinary nature of the topic.

Table 2 highlights the authors who have published major contributions on the topic. As you can see, there are no authors who have distinguished themselves. The presence of authors with more than 2 works on the subject under analysis was not found.

Table 3 shows the articles that have contributed most to the debate on the topic as well as those that have been most taken as a reference. The work that stands out most is a work published in Journal of Cleaner Production (101 citations) followed by an article by Chaudhary et al. (2020) published in Corporate Social Responsibility and Environmental Management. Among the articles cited by the articles in the sample, we find the contribution of Alarcón and Cole (2019) in the field of tourism. Among the first 3 places, we find the contribution of Rosati and Faria (2019a, 2019b). The presence among the local citations of a few interconnections among the scientific works confirms the multidisciplinary nature of the theme already highlighted in the previous analyses.

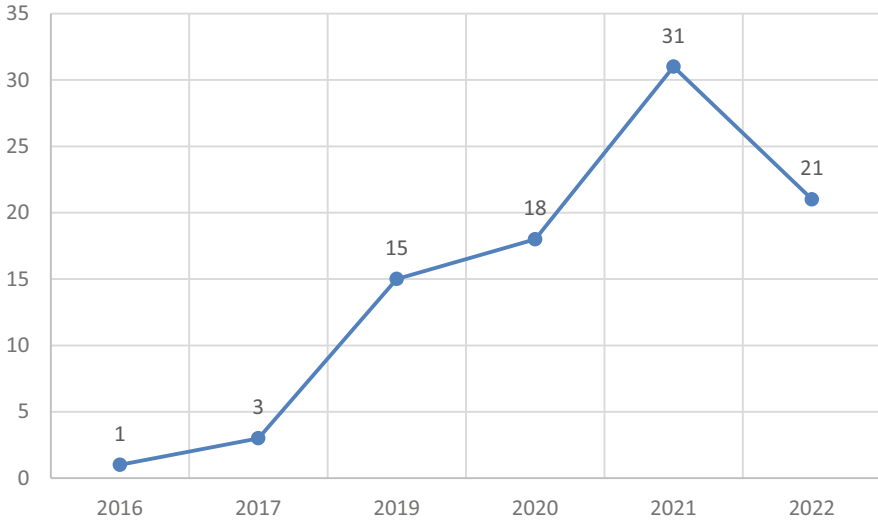


Fig. 2 Annual Production. Source: Author’s elaboration through biblioshiny for Bibliometrix

Table 1 Source

Sources	Articles
Journal of Cleaner Production	9
Journal of Sustainable Tourism	7
Gender in Management	5
Statistical Journal of The IAOS	3
Business and Human Rights Journal	2
Business Strategy and Development	2
Cities	2
Corporate Social Responsibility and Environmental Management	2
Humanities and Social Sciences Communications	2
Technological Forecasting and Social Change	2

Source: Author’s elaboration through biblioshiny for Bibliometrix

Figure 3 shows a map of the globe from which it is possible to obtain two types of information. From the different shades of blue it is possible to see which countries have contributed most to the theme. The United States, India, and Europe (Italy and Spain) are among the countries with the highest production of scientific works on the subject. The red curves show the collaborations between scholars from different countries. The major collaborations on the subject concerned England and Spain and Finland and South Africa. No relevant collaborations were found between the Asian and American contexts.

Table 2 Author

Authors	Articles
ASONGU S	2
GERSHON O	2
KUSAIRI S	2
MUHAMAD S	2
ZAMRI N	2
ABBAS F	1
ABD MAJID N	1
ABIDIN AFZ	1
ABUBAKAR IR	1
ACHA-ANYI P	1

Source: Author’s elaboration through biblioshiny for Bibliometrix

Table 3 Document

Global cited			Local cited	
Paper	Total citations	TC per Year	Document	Local citations
ROSATI F, 2019, CORP SOC RESPONSIB ENVIRON MANAGE	101	25.25	ALARCÓN DM, 2019, J SUSTAINABLE TOUR	6
CHAUDHARY R, 2020, CORP SOC RESPONSIB ENVIRON MANAGE	82	27.333	EDEN L, 2021, J INT BUS POLICY	2
ALARCÓN DM, 2019, J SUSTAINABLE TOUR	63	15.75	ROSATI F, 2019, CORP SOC RESPONSIB ENVIRON MANAGE	2
MONTEIRO NBR, 2019, J CLEAN PROD	58	14.5	VILLARINO MEJ, 2022, STAT J IAOS	1
PLA-JULIÁN I, 2019, FUTURES	32	8	FREUND D, 2021, TOUR MANAGE PERSPECT	1
ABUBAKAR IR, 2019, UTIL POLICY	29	7.25	ONG F, 2021, J SUSTAINABLE TOUR	1
YARRAM SR, 2021, J CLEAN PROD	24	12	BARRIOS LM, 2020, J CLEAN PROD	1
LIAO H, 2019, J CLEAN PROD	23	5.75	KATO K, 2019, J SUSTAINABLE TOUR	1
CERVELLÓ-ROYO R, 2020, J BUS RES	20	6.667	EBRAHIMI R, 2022, HUM SOC SCI COMM	0
MANOLIS EN, 2021, J CLEAN PROD	17	8.5	PHASHA TN, 2022, HUM SOC SCI COMM	0

Source: Author’s elaboration through biblioshiny for Bibliometrix

4.1 Keyword Analysis

Figure 4 shows the keywords analysis performed with the Vosviewer software. This analysis is functional to respond to RQ2, the figure highlights the presence of

Country Collaboration Map

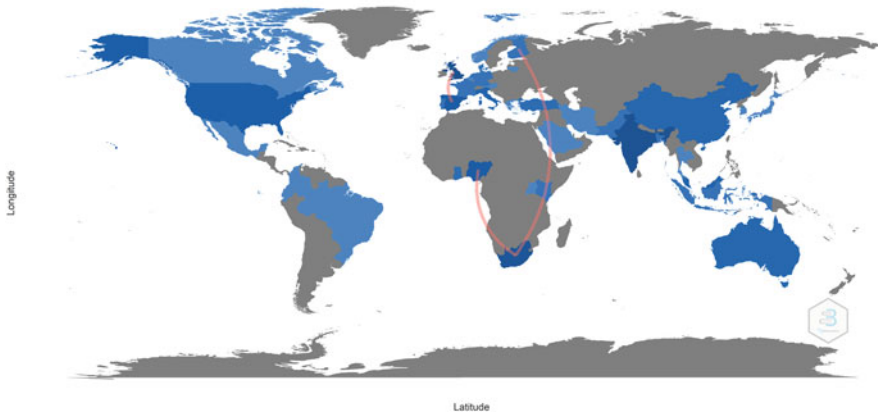


Fig. 3 Country Collaboration. Source: Author’s elaboration through biblioshiny for Bibliometrix

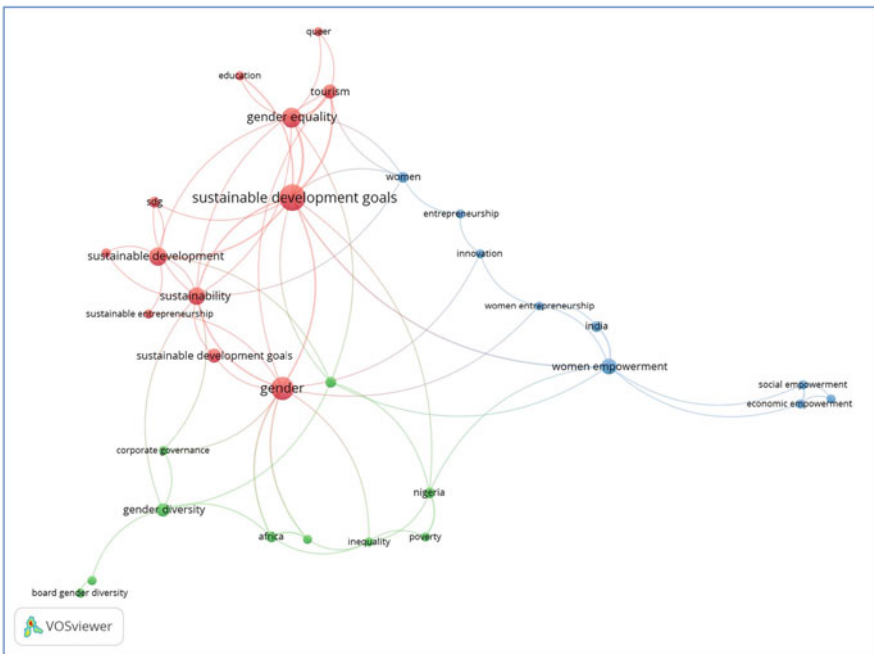


Fig. 4 Keyword analysis. Source: Author’s elaboration through Vosviewer

3 clusters. The red cluster includes all the studies that have analyzed sustainable development and the specific contribution to SDG 5 gender equality. The green cluster refers to studies that have dealt with the topic of gender from an internal

company perspective. Blue is the cluster that refers to women's entrepreneurship and women empowerment.

The red cluster highlights the close relationship between sustainable development goals and gender equality. Some authors argue that the process is slow toward achieving the goal of gender equality (Eden and Wagstaff 2021). Other studies have highlighted the problems relating to the mining sector. A study has shown the difficulties and gender discrimination that women suffer in certain contexts but at the same time highlights the need for a change of direction to reduce gender inequalities (Monteiro et al. 2019). Also interesting is the presence of works that have focused on the tourism sector. Emblematic is the work of some authors who highlight how there can be no sustainable tourism without the dimension of gender equality (Alarcón and Cole 2019). Several studies in recent years have focused on the relationship between tourism and gender equality (Bidegain Ponte and Enríquez 2016; Dashper et al. 2022).

Within the green cluster, corporate governance appears to be of significant importance. Over the years, increasing importance has been attributed to this body. Several studies have highlighted the positive relationships between diversified boards and financial and sustainability performance (Paoloni and Lombardi 2017a; Paoloni and Lombardi 2018). The articles in this cluster agree in considering the relevance of adequate female representation in governance or top management roles for those companies that intend to pursue corporate objectives oriented toward the perspective of sustainable development (Orazalin and Mahmood 2021; Yarram and Adapa 2021). Also interesting is a work that has studied the relationship between culture and the propensity to communicate and carry out behaviors oriented toward sustainable development (Rosati and Faria 2019a). The study highlights how companies operating in less masculine contexts disclose more information relating to the SDGs. This underlines the stringent link between women and the objectives of the 2030 Agenda.

Cluster blue incorporates studies that have analyzed gender from the perspective of entrepreneurship and empowerment (Chakraborty and Biswal 2022). Some scholars argue that the promotion of female entrepreneurship is one of the main sub-objectives of SDG5 (Bastian et al. 2019). Global efforts are needed to promote and support female entrepreneurship as a means of enhancing gender equality and social development. Some argue that female entrepreneurship can help alleviate poverty, improve health care and education, and reduce environmental damage (Ebrahimi et al. 2022). Finally, some highlight how, especially in some contexts, education is essential to encourage good practices by women entrepreneurs (Mason and Siqueira 2014; Paoloni and Lombardi 2017b).

5 Primary Conclusion, Limitations, and Future Research

Answering the first research question, this study aims to map the state of the art on the relationship between women and sustainable development by investigating the areas that have been analyzed by scholars. The 2030 Agenda is very clear, there can be no sustainable development without gender equality. The literature that has analyzed the issue by investigating the phenomenon from different angles and contexts agrees with this statement. Several authors agree that gender inequalities persist and are still deeply rooted in some contexts (Vijayarasa and Liu 2022).

Studies on the subject have highlighted a double link between the 2030 Agenda and women. On the one hand, the contribution that the 2030 Agenda can make in the fight against inequalities and women's emancipation is important (Chakraborty and Biswal 2022). The attention placed on these issues, together with the policies implemented by governments to direct and raise awareness of certain behaviors of the community, represent fundamental steps to guarantee these rights to all citizens of the globe. On the other hand, scholars have also emphasized the opposite relationship, that is, the contribution of women to the achievement of goals (Rosati and Faria 2019b; Martinez-Leon et al. 2020). Attention to others, attention to environmental issues, and social issues that women have shown to have compared to men can represent a positive driver that can encourage the adoption of socially responsible behavior by companies (Bidegain Ponte and Enríquez 2016).

Thus, the study highlighted 3 different clusters that express more specifically the link between gender and the 2030 Agenda. Future studies can start from the issues examined in the analysis of clusters for the preparation of future research. Future studies could answer some questions that remain unexplored. Below are some questions that need to be better investigated by future studies.

- The potential of women's social entrepreneurship in addressing the goals of the 2030 Agenda
- Research on broader forms of entrepreneurship (social, rural, eco) and their contribution to the goals of the 2030 Agenda
- The role of women, at various company levels, about the reporting practices of the SDGs
- Contribution of women entrepreneurs to sustainable tourism
- Role of education for women's empowerment.

These are just a few points that we believe need more contributions. As already highlighted, this is a topic that, given its recent discussion, is still in an initial phase and, consequently, presents ample space for future studies. Ultimately, the study therefore responds to RQ2 by identifying research gaps that should be filled by future research.

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Gender and Social Media in the Entrepreneurship: A Structured Literature Review



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Abstract Over the last decade, women and social media have changed their role from the past. In fact, compared to the past, there are many more women who hold entrepreneurial roles. Likewise, the way of communicating, receiving feedback, selling and promoting has changed thanks to the widespread use of social media. For this reason, the purpose of this paper is to provide an integrated analysis about how social media is studied in relation to female entrepreneurship and what are the main thematic areas of literature in which these issues are investigated.

The work aims to understand what the empirical evidences between social media and entrepreneurship (RQ1). This work is supported by a SLR; the structured literature review methodology is an approach that is able to contribute to identifying research trends and future research directions (Di Vaio, A., Syriopoulos, T., Alvino, F., & Palladino, R., “Integrated thinking and reporting” towards sustainable business models: a concise bibliometric analysis. *Meditari Accountancy Research*, 2021; Secundo, G., Ndou, V., Del Vecchio, P., & De Pascale, G., *Technological Forecasting and Social Change* 153, 2020; Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., ... & Duffy, S., A product from the ESRC methods programme Version 1, 2006; Jesson, J., & Lacey, F., *Pharmacy education* 6, 2006). This method has successfully been used in several interdisciplinary fields as well as in accounting, IC, and knowledge management (Massaro, M., Dumay, J., & Guthrie, J., *Accounting, Auditing & Accountability Journal*, 2016; Paoloni, P., Modaffari, G., & Mattei, G., *Journal of Intellectual Capital*, 2020). More recently,

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due to the wide availability of academic papers, SLR has reached significant progress going beyond simply summarizing and deducing prior research (Massaro, M., Dumay, J., & Guthrie, J., *Accounting, Auditing & Accountability Journal*, 2016). The structured literature review conducted on the Scopus database allowed to identify 22 articles about the theme of social media in relation to female entrepreneurship, than for the second research question was used a quality assessment process based on the manual approach for the treatment of the contents.

Several findings bring out for different focus groups identified by this SLR. For example: the fact that women are more attracted and predisposed to the use of social media, or how women have been able to counter the impact of the crisis in their businesses through the use of new strategies to keep their businesses running. Therefore, findings show that from the scientific point of view the treatment of social media and female entrepreneurship is not a lot developing.

This SLR is a contribution for scholars and professionals to improve the studies on social media, in particular related to gender. From a theoretical point of view, the document provides a systematization of the scientific contributions, which jointly deal with social media and female.

Keywords Social media · Enterprises · Female · Gender studies

1 Introduction

In recent years, social media have established themselves more and more, not only in the daily life of people but also in the development of the daily life of companies. We delved into literature to understand the state of the art of literature at this time; in particular we have linked the world of social media with that of gender. Analyzing the world of social media in relation to that of gender is very important because in recent years women have increasingly held important roles in the company or have developed their entrepreneurship by creating their company. It also emerged that through the articles found through the research carried out on Scopus, it was analyzed how women use social media more easily and more. The research also highlighted how, especially in some countries of the Middle East and Asia, social media have helped women to be able to build their business by being able to manage it thanks to them from the comfort of their home.

However, the research has also highlighted how through social media women are expected to be seen, in fact it emerges that identity problems can also arise in women entrepreneurs who use social media.

To develop this theme, the methodology used will be that of the structure literature review (SLR) classifying the scientific works on the phenomenon of social media in relation with gender on the basis of:

- Topic such as strategy, governance, performance
- Research Area where each item is placed such as Business, Management and accounting or Economics, Econometrics, and Finance

- Geographical Area covered in the article
- Research Methods distinguishing the qualitative, quantitative, and mixed method.

This work aims to contribute to the literature on Social media in woman entrepreneurship, exploring the existing literature in this field, to synthesize the previous works and to identify the major areas of research and the methods used to carry out these studies. It identifies the geographical areas to which the authors are affiliated and the periods in which these studies were published. Thanks to the systematic review, evidence is obtained (Tranfeld et al. 2003) which provides answers to the following research questions:

RQ1: How social media is studied in relation to female entrepreneurship?

RQ2: What are the main thematic areas of literature in which these issues are investigated?

After reviewing the literature, the authors have identified the topics most analyzed by scholars over ranges in certain time periods. The authors have also identified the most used method to carry out this research and the geographical regions from which researchers have published (RQ1). The topics most frequently addressed have been outlined (RQ2), and gaps in the literature have been identified so that future work can be directed to these areas. Therefore, the authors have achieved their predefined objectives.

2 Methodology

To reaching the objectives described—identifying, evaluating, and interpreting the available evidence (Cillo et al. 2019)—the authors decided to use the systematic literature review (SLR) proposed by Tranfeld et al. (2003), because it is the approach that best suits the needs of the present work. From this type of qualitative literature review, it is possible to analyze, in an efficient way, a certain part of the literature (Natalicchio et al. 2017). This result is obtainable as this type of literature review must be carried out according to predefined and well-developed steps, so that the research is replicable, scientific, and transparent (Tranfeld et al. 2003).

In this paper, articles concerning the relationship between social media and the world of woman were examined, published between 2016 and 2021. The research of the articles was carried out entirely on Scopus. The first articles written, which have social media and gender as topics, date back to 2016, so the time frame began in that year and ended in 2021. The topic of social media is very recent and even if it has become very important quickly, there are not many scientific researches that have been done on this theme.

2.1 *The Review Process*

In order to understand how paper “gender and social media in the entrepreneurship” was carried out, the authors initially identified as keywords “social media” and “enterprises.” The search was carried out by restricting the search to “title, abstract and keywords,” in this way documents that were not related to subject of the search were excluded, as the keywords must be present in the body of the text. The search and subsequent extractions were carried out from December 16, 2021. Initially the search yielded 611 results. However, keeping in mind the final goal of the work, the authors decided to also include the word “female” as a third keyword in the “search results” field. In this way we focused on the concept of social media and enterprises in reference to gender studies. The final string used was (TITLE-ABS-KEY(“social media”)) AND (TITLE-ABS-KEY (“social media”, AND enterprises)) AND (“female”). This reduced the number of articles found to 22. It should also be remembered that in the string, as regards the reference area, the authors limited themselves to “Business” and “Economics.” The language used in the articles searched was English.

2.2 *Defining the Analytical Framework*

The structured literature review protocol is recommended for the holistic approach on the investigated topic.

To answer the first two research questions, the authors analyzed specific items, such as article focus, research method, period in which the studies were published, and the geographical region from which the article authors’ published. Knowing that the approach used for the analysis would be manual and that each scholar would work independently, the guidelines for the analysis of the individual classes have been defined in advance (Table 1) to make the behaviors more homogeneous and to reduce both the number of errors and personal judgments.

2.3 *Topic*

In this section, we have defined the taxonomy that served to analyze the link between social media and gender. We have divided into four classes within which the most important topics contained in the articles analyzed can be inserted.

The topics considered are the following:

A1. Strategy: This topic includes: the impact of social media in the female company, as social media can support women’s businesses, the opportunities given by the Internet in small and medium enterprises, involvement of women who, after marriage, decide to start a “Company,” female development in emerging areas.

Table 1 Analytical framework

A—Topic
A1—Strategy
A2—Governance
A3—Performance
A4—Other
B—Research area
B1—Business, Management, and Accounting
B2—Economics, Econometrics, and Finance
C—Geographical area
C1—Europe
C2—Middle East
C3—America
C4—Asia
C5—Africa
C6—Not available
D—Research methods
D1—Qualitative
D2—Quantitative
D3—Mixed methods

Source: Authors

- A2. Governance:** In this class you understand what are the effects that are evident, through a massive use of social media by women entrepreneurs.
- A3. Performance:** This class serves to consider the importance of perceived results and obtained from a company.
- A4. Other:** In this class were inserted the papers that could not be inserted in the previous classes. For example, articles dealing with feminism in social media or the problems of identity for women entrepreneurs who use social media have been included in this class.

2.4 *Research Area*

With reference to the Research Area, two main fields have been identified directly linked to the research on the Scopus database:

- B1 Business, Management and accounting
- B2 Economics, Econometrics and Finance.

This category aims to classify the articles analyzed according to the area in which the research was carried out. In this research, we decided to directly examine the areas identified by applying the filters on the database on which the research was performed.

2.5 *Geographical Area*

This variable identifies the geographic area covered by the articles.

Six macro categories were therefore taken into consideration:

- C1 Europe:** For this geographical area have been taken into consideration—Hungary, South Wales, and Sweden.
- C2 Middle East:** For this geographical area have been taken into consideration—United Arab Emirates, Jordan, Indonesia, and Saudi Arabia.
- C3 America:** For this geographical area have been taken into consideration—USA and Canada.
- C4 Asia:** For this geographical area have been taken into consideration—India and China.
- C5 Africa:** For this geographical area have been taken into consideration—Sudan Egypt.
- C6 Not available:** In this class all the articles where the geographical area could not be inserted in only one of the previously listed categories have been inserted. In this class, for example, those articles have been included in which interviews with people from all over the world have been made.

2.6 *Research Methods*

The research methods that have been taken into consideration are the following:

- D1 Qualitative**
- D2 Quantitative**
- D3 Mixed methods**

3 **Results**

In the following paragraph will be illustrated the results obtained through the analysis of the tables, where the topic covered are: the topic, the research area, the geographical area, the research method, and the number of citation.

It is clear that there has been a gradual increase from 2016 to today in the number of articles that have been published dealing with the topic of social media and gender.

3.1 Topic Results

The results that emerge from Table 2 allow us to understand which are the topics mainly used by the authors who have written so far on the topic of social media and gender.

Thanks to Table 2 it is evident that the most used topic is the one concerning the strategy (A1); more than half of the total articles (58%) have strategy as their topic; the strategy can be understood in many ways; for example, some articles have seen the use of social media as a strategy thanks to which female enterprises have managed to create their own space in the market, other female enterprises have seen the possibility to manage their business from their homes simply by using their computer or smartphone, still others to make known the main characteristics of the products they wanted to put on the market (such as informing the consumer that their products are eco-sustainable).

Table 2 also highlights how the concept of governance (A2) was used little in the articles analyzed (only in 10% of cases). This topic has been used mainly in articles where the topic is female startups that have social media as their main means of communication.

Table 2 also highlights how the topic performance is used only in one case; in this article, the concept of performance has analyzed how entrepreneurial learning and success of Welsh female entrepreneurs can be linked to social media.

In the last topic, “other” (A4), the articles that do not have a topic in common have been grouped and these represent 30% of the articles. Articles have been included in this topic, which for example concern feminism in social media, identity problems for women entrepreneurs who use social media or the use of social media by women to create a self-taught career.

Table 2 Article Topics

Year	A1	A2	A3	A4	Total
2016	2	0	0	0	2
2017	2	0	0	1	3
2018	1	0	0	2	3
2019	2	1	0	1	4
2020	2	0	1	1	4
2021	3	1	0	1	5
Total	12	2	1	6	21

Source: Authors

^aWhich in detail are as follows:

- A1: Strategy
- A2: Governance
- A3: Performance
- A4: Other

3.2 Research Area Result

The research on the Scopus database was carried out by identifying two main research areas Business, Management, and Accounting and Economics, Econometrics, and Finance, but the research only produced results in the Research Area (Business, Management, and Accounting area—Table 3).

3.3 Geographic Area Result

Using Table 4, it is easy to understand that the Middle East (C2) is the geographic area most taken into consideration for writing articles concerning entrepreneurship and gender.

Another relevant geographic area is that Asia, since countries such as China and India have often been analyzed; as it is evident that in countries where women (especially after marriage and children) spend more time at home, she has managed

Table 3 Research area

Year	Title	Research area (Business, Management, and Accounting)
2016	2	2
2017	3	3
2018	3	3
2019	4	4
2020	4	4
2021	5	5
Total	21	21

Source: Authors

Table 4 Geographic area

Year	C1	C2	C3	C4	C5	C6	Total
2016	0	0	0	0	1	1	2
2017	0	1	1	0	0	1	3
2018	0	2	0	1	0	0	3
2019	0	1	1	1	0	1	4
2020	1	0	0	2	0	1	4
2021	2	1	0	0	1	1	5
Total	3	5	2	4	2	5	21

Source: Authors

^aWhich in detail are as follows:

- C1: Europe
- C2: Middle East
- C3: America
- C4: Asia
- C5: Africa
- C6: Not available

to find her own space on the web to promote her business. However, it must be borne in mind that for some articles it was not possible to give a geographical location, as they took into consideration the use of social media by women globally.

3.4 Research Method Result

The research method (Table 5) mainly used is the qualitative method, this was used in about 62% of the articles examined.

The other research method used by the authors mainly in the years from 2020 to 2021 is the mixed method, used in 38% of the articles; this method.

4 The Most Cited Articles

To understand the impact of the articles on an academic level; in this section, we analyze the impact of the individual papers through the citation index.

In order to understand what was the impact on the literature, we analyzed the citations made for each year and analyzed by topic (Table 6). From this research it clearly emerged that the year in which the highest number of citations were made was 2017. It is also important to note that the articles that have the highest numbers of citations mainly concern those contained in the A1 category, Strategy. Another category that has often been is that A3, Others, in fact this category contains articles that have very different characteristics. Finally, it is also necessary to mention another topic that has been mentioned often, namely A3, which corresponds to Governance, a topic that especially in 2019 was mentioned very often.

Table 5 Method result

Year	D1	D3	Total
2016	1	1	2
2017	2	1	3
2018	2	1	3
2019	3	1	4
2020	2	2	4
2021	3	2	5
Total	13	8	21

Source: Authors

^aWhich in detail are as follows:

- D1: Qualitative
- D3: Mixed methods

Table 6 Cited articles

Year	A1	A2	A3	A4	Total
2016	24	0	0	0	24
2017	36	0	0	50	86
2018	16	0	0	12	28
2019	5	11	0	5	21
2020	1	0	0	5	6
2021	3	0	0	2	5
Total	85	11	0	74	170

Source: Authors

^aWhich in detail are as follows:

- A1: Strategy
- A2: Governance
- A3: Performance
- A4 Others

5 Discussion

5.1 RQ1

Through the research on Scopus it is evident that social media in relation to female entrepreneurship has been studied from different points of view; in fact, various points were taken into consideration such as the high use by women of social media, the identity problems of women born through social media, the sponsorship of products for women through social media, or the facilitation that social media can give women to work from home.

Therefore, it was clear, from the reading of paper, that there are various topics: Strategy, Governance, Performance, and Other. In the Strategy group there are studies that deal in a strategic key with the use of social media by woman. For example, Steel G (Steel 2021) investigated how Khartoum's women managed to start their businesses by using social media to create digital communities and sell their assets. Through the use of social media they have therefore managed to create a partial space where commonly due to conventional gender and economic norms often restrictions and sanctions for Sudanese entrepreneurs. This article therefore shows how the strategic use of social media can lead to a development on ICT as regards female entrepreneurship.

In the topic Governance there are studies that have dealt with the effects deriving from a wide use of social media by women entrepreneurs. For example, Kèzai and Szombathelyi (2021) analyzed how social media plays a fundamental role in the development of company and its maintenance in Hungarian startup. This article also shows how social media created an opportunity for startups to promote ideas during the pandemic.

Through the topic Performance we analyze how the use of social media can change entrepreneurial success. For example, Andre and Tomos (2020) observed that, in Welsh female entrepreneurs, the concept of entrepreneurial leaning and success can be considered linked to the use of social media.

The last group, “Others,” contains all articles that do not have a specific topic. Some examples can be articles that have as their theme the use of social media by women to create a self-taught career or the problems faced by woman entrepreneurs through the use of social media.

The research has also pointed out how social media has facilitated entrepreneurship especially in countries where the figure of women is less emancipated such as in the Middle East and Asia.

5.2 RQ2

Thanks to the analysis of the topics we can say that women use social media more as a strategic means through which they can expand their business or can manage it in the way that suits them best. In fact, it emerged that women use social media in the simplest way according to their needs. We can see the strategic use of social media by woman in many cases such as when speaking of Indian woman we see, how they have to managed to create their own business and manage it from their homes in order to better agree post-partum commitments, strategically. Another example of women’s strategic use of social media was found in women’s businesses in emerging areas, such as Egypt, in this case the use of social media served them to make their business known to a wider audience, larger audience, in the shortest possible time and at lower prices. Furthermore, the strategic use of social media has managed to give space to sustainable projects linked to the world of woman in some backward Indian Villages. In addition to these examples, we can also cite how the strategic use of an e-commerce held by woman for woman has managed to shorten the gap between those who look for product and those who buy them. It can therefore be seen how social media has facilitated and simplified the entry of women into the market. It is therefore clear how social media have various points that can be taken into account in relation to female entrepreneurship.

Social media have therefore been used not only as the main means of communication, but also as the main means of distribution, as through their use it is not only possible to receive feedback from buyers, but it is also an important means of sale.

6 Conclusion

The results provided by the study, on the relationship between gender and social media in entrepreneurship, led to various points to be analyzed.

First of all, it is easy to see that over the years it is growing the number of articles that have begun to deal with these issues; in fact, social media is an increasingly present topic in everyone’s daily life and for this reason it has also become a fundamental point in the life of the company. Social media in the future will therefore play an progressively important role in the life of the company and for

this reason it will be necessary to hit the existing GAP, that is to understand what is the specific role of social media can be within the company from a strategic point of view, as to date it does not have an explicit collocation.

Another point that emerges from this research is the way of using social media; as it is clear to everyone that the use of social media in a more constant and effective way is done by women; in fact, they are able to use social media in order to use them in their favor as much as possible both from the point of view of communicated message and from the practical point of view, as they are able to exploit the main feature of social media, namely instantaneity; in fact, social media are able to connect people remotely to each other immediately or are able to obtain post-purchase feedback so as to be able to make sellers understand if they are using them correctly.

A final point connected with the use of social media by women is that they have managed to create their own space in some markets, where until recently for reasons of distance or because they could not get away from the family they would never could approach.

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Relational Capital to Revamp the Pink Side of Agri-food



Giuseppe Modaffari and Martina Manzo

Abstract The current economic scenario has increasingly challenged Small and Medium-sized Enterprises (SMEs), threatened their competitiveness, and endorsed the gap with larger companies. To reduce this gap and foster the innovation process in SMEs, the Italian legislator regulated the “innovative start-up” (IS). He recognised some benefits in terms of tax advantages. The substantial requirements defining ISs confirm the critical role literature has attributed to Intellectual Capital (IC) in elaborating innovative elements. In particular, the research focuses on Relational Capital (RC), the IC’s component that encourages a precious knowledge-sharing process enriching collaborative innovation and reactive resilience. Its relevance is maximum in female enterprises, where all SMEs’ typical structural limits are amplified, especially the difficult access to credit, significantly affecting the firm’s innovative capability. Given this, the present research aims at investigating the RCs contribute to a reality that is innovative by definition, namely women-led innovative start-ups (WIS). In particular, the authors focus on the agri-food industry, a milestone of the Italian economy strictly anchored to the tradition and still recording a low research level.

In particular, the paper aims to answer the following Research Question (RQ).

RQ1: How does RC affect innovation and resilience in WIS operating in agri-food?

The present work uses an exploratory, descriptive qualitative approach, analysing a single case study. The research is performed during the pandemic emergency and applies the CAOS (an Italian acronym for “Caratteristiche personali, Ambiente, Organizzazione, Start-up”) model (Paoloni 2021). Data are acquired through a semi-structured interview (Yin, R. K., *Case Study Research*. SAGE Publications,

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Unites States of America, *Design and Methods*, 1984) directly placed by the company's owner.

The present work contributes to expanding literature on intangible resources and gender studies and confirms that RC can help female entrepreneurs overcome crises. Moreover, it offers a specific analysis of innovative female agro-startups.

Findings could be helpful to female agro-food start-ups to recognise the importance of investing in RC to overcome a challenging scenario and help WIS reduce the gender gap and, in general, the agro-startups entrepreneurial gap with larger companies.

Keywords Intellectual capital · Crisis · Female entrepreneurship · Innovative start-ups · CAOS model

1 Introduction

Small and medium-sized Italian enterprises (SMEs), which have always constituted the Italian entrepreneurial skeleton, have seen their competitiveness strongly threatened by the markets' evolution and multiplication in recent years (Capozza et al. 2020; Escribano et al. 2009). The Italian legislator has taken specific measures to reduce the entrepreneurial gap between SMEs and larger companies, including regulating a new entrepreneurial configuration: the Innovative Start-up (IS) (Law Decree 179/2012). The requirements established to identify IS confirm the role of Intellectual Capital (IC) in improving the innovative capacity, especially concerning Human Capital (HC) and Structural Capital (SC). Hence, the present research investigates the impact on innovation of the third IC component, Relational Capital (RC). Literature has already confirmed its crucial role in enriching companies' capacity of catching new business ideas, improving firms' innovative capability and resilience. RC's relevance is maximum in female entrepreneurship, where it mitigates financial and managerial lacks.

Although the gender gap has been widely debated, literature has not deepened Women Innovative Start-ups (WIS) as a potential means of empowerment. The present research explores RC's impact on the development of WIS, focusing on a sector that is highly relevant to the Italian economy and identity and is moving its first steps in innovation by combining it with tradition: Agri-food.

In light of this, the study aims at answering the following question.

RQ1: How does RC affect innovation and resilience in Women-led Innovative Start-ups operating in agri-food?

The research wants to contribute to gender studies focused on intangibles, highlighting their innovative value and the close correlation with the ability to adapt to the context, even the critical one. From a managerial point of view, the research shows how careful management of RC is essential to strengthening the business and opening new opportunities.

The work uses an exploratory, descriptive qualitative analysis performed during the pandemic emergency and applies the CAOS model (Paoloni 2021), an interpretative model used in SMEs' studies to analyse RC. The paper is structured as follows. In Sect. 2, the literature review is analysed. In Sect. 3, the methodology is defined. Section 4 applies the CAOS model to the case study. Finally, in Sect. 5, discussions and conclusions are exposed.

2 Literature Review

SMEs represent more than 95% of the Italian enterprises contributing to most of Italian gross domestic product (GDP) (Cortesi, 2004). Nevertheless, they are characterised by undetectable structural limits that find their origin and consequence in a limited economic availability (difficult access to credit, which provokes undercapitalisation, uncertain short-term liquidity availability, insufficient working capital, and inability to attract high-skilled human capital) (Birley & Niktari, 1995). Together with a poor financial culture, all this discourages SMEs' growth and significantly undermines their competitiveness (Sena et al. 2012), provoking a larger and larger gap between big companies and SMEs. The Italian legislator elaborated specific measures to reduce it, including a new entrepreneurial configuration: the Innovative Start-up (IS) (Law Decree 179/2012). Indeed, if previously innovating was a prerogative of the most foresighted enterprises, the market opening and the constant technological progress have made innovation the only competitive advantage source to survive in a fluid and smart and demanding market (Adam and Alarifi 2021). The legislature's goal is to develop a dynamic and competitive innovation ecosystem, create new opportunities for doing business, and encourage employment; it is intended to promote a sustainable growth strategy. IS is a corporation, also established as a cooperative, which meets the following formal requirements (DL 179/2012, art. 25, comma 2): (i) it is a new company or one established no more than five years ago; (ii) is resident in Italy, or another country of the European Economic Area, but with production headquarters or branch in Italy; (iii) has an annual turnover of fewer than five million euros; (iv) is not listed on a regulated market or a multilateral trading platform; (v) has not distributed profits; (vi) has as its exclusive or main corporate purpose the development, production, and exchange of a product or service with high technological value; (vii) is not the result of a merger, demerger, or sale of a company branch. Finally, a start-up is innovative if it meets at least one of the following three substantial requirements: (i) it incurs expenses in R&D and innovation equal to at least 15% of the greater value between turnover and cost of production; (ii) employs highly qualified personnel (at least 1/3 PhD, PhD students or researchers, or at least 2/3 with a master's degree); (iii) is the owner, depositary, or licensee of at least one patent or owner of registered software. In addition, Decree-Law no. 34 of May 19, 2020 (the so-called Relaunch Decree) introduced measures to strengthen and support the ecosystem of innovative start-ups, including, for example, the possibility of raising capital through equity

crowdfunding campaigns; access to internationalisation services for businesses; tax incentives for investment in the capital of innovative start-ups; and free and simplified access to the Guarantee Fund for SMEs. Indeed, the three substantive requirements highlight the relevance of financial resource to be available for investment. In the first case, it is explicitly required to invest financial resources in R&D. In contrast; the other two requirements indirectly ask the company to invest a significant amount of money in enriching its Intellectual Capital (IC), namely the knowledge-based resources and capabilities that allow a company to create value (Bueno et al., 2016). According to some scholars, IC includes Human Capital (HC), referring to employees' capabilities (Andrikopoulos 2010) whose the second requirement requests a high-skilled compound; Structural Capital (SC) definable as the knowledge strictly connected to the business, namely patents and licences (Aramburu and Saenz 2011) as required by the third requirement; and RC, configured as the company's bonds set up to carry out the business activity (Paoloni 2021). Although RC may seem negligible for an innovative process compared to HC and SC, it represents the main access door to the needed financial sources in some scenarios. That happens especially in female enterprises, where the typical SMEs limits are emphasised. Indeed, according to national and international literature, female entrepreneurs are considered less appealing to investors mainly because of three reasons: structural characteristics (Alesina et al. 2013); personal choices (Watson 2006; Heilman & Chen, 2003); and a stricter attitude towards credit institute. Firstly, female enterprises are usually smaller, younger, and, consequently, have less capital stock (Cesaroni & Sentuti, 2014). Moreover, they are over-concentrated in sectors with low technological levels, hence less attractive to investors (Aernoudt & De San José, 2020). Secondly, women have a lower risk aversion which could impede their entrepreneurial spirit, hindering them from undertaking new businesses or innovating existing ones (Dohmen and Falk 2011). It can be due to poor financial literacy (Sena et al. 2012); the voluntary choice to keep the business small to preserve a work–life balance. Finally, banks' willingness to grant financing is more remarkable for bigger and older companies, having more work experience and can offer more guarantees (Cesaroni & Sentuti, 2014). Indeed, data shows that although female enterprises are not charged higher interest rates, they are more likely to be asked for collateral and face greater limitations in accessing credit (Bellucci 2010). Literature does not agree about a discriminatory attitude towards credits institutes (Cesaroni and Sentuti 2015). Still, it recognises banks' preference for credit applicants with older experience, high reliability, and a significant solidity. Male-led enterprises, which have been operating on the market for a longer time, have a higher risk aversion and are bigger and better correspond to these requirements. Therefore, women tend to rely more on personal loans—obtained mostly from family and friends (Coleman and Robb 2009). In other terms, they resort to RC. RC has a key role in female entrepreneurship in many guises, favouring a precious knowledge-sharing process. It covers financial needs (Cesaroni and Sentuti 2015); enriches the management competencies (Cosentino & Paoloni, 2021); increases the enterprise's creative ability, combines internal and external knowledge (Ali et al. 2021); and improves the company's stability (Prasad

et al. 2015), empowering information that allows it to be more reactive to the possible changes in the market (Jia et al. 2020) and to create new ideas (Di Fatta et al. 2018). The literature recognises a material bond between RC, economic performance, and the company's susceptibility to disruptions since a well-developed RC plays a decisive role in preventing a crisis or in overcoming it (Sardo et al., 2018; Mansion and Bausch, 2020), improving its resilience (Jia et al. 2020), namely the ability of a system to maintain and adapt its essential structure and function in the face of disturbance.

The IS distribution significantly changes according to gender and the sector. Agro-food sector is nowadays moving its first steps in innovation, pursuing its new sustainable goals mainly counting on a trustful network that encourages a precious knowledge-sharing culture (Maizza et al., 2019; Matricano et al. 2021). In recent years, this sector has implemented attractive, innovative solutions resorting to a process of digitalisation: traceability and transparency in the supply chain (Rialti et al., 2022), prevention and enhancement of food surpluses (Secondi et al., 2019), the implementation of production or distribution's green solution. Nevertheless, the level of innovation and technology in the agri-food sector is still inferior. In Italy, the market growth potential of "Agriculture 4.0" and "Farming 4.0" solutions is very high, but the adoption of the related technological innovations is still low (Scuderi et al., 2022). The reason for this backwardness lies in the unawareness of most small agricultural producers (Scuderi et al., 2022), also due to their high average age, considering that the farms managed by over 64 years old give to the formation of the national standard production a more significant contribution than that provided by the farms managed by younger people (ISTAT, 2020). Nowadays, only 0.7% of innovative Italian start-ups operate in this sector (Paoloni and Modaffari, 2018; Modaffari and Della Corte 2021), whose 11% are WIS.

3 Research Method

The present work uses an exploratory, descriptive qualitative approach, analysing a single case study (Benbasat et al. 1987; Yin 2009). The research is performed during the pandemic emergency and applies the CAOS model (Paoloni 2021), an interpretative model used in SMEs' studies since it allows a deep analysis of RC. Data are acquired through a structured interview (Yin 1984) directly placed by the company's owners. It lasted two hours and was performed on an online platform (Zoom). The selected company is an innovative Italian start-up whose core business is microgreens cultivation through the aquaponics technique.

3.1 Methodological Background

The CAOS model (an Italian acronym for “Caratteristiche personali, Ambiente, Organizzazione, Start-up”) was born in 2011 to measure RC’s strategic role in female SMEs (Paoloni, 2011), which nowadays finds transversal application in the business world (Paoloni et al. 2021; Paoloni et al. 2021). It is based on four variables. The entrepreneur’s characteristics (C), namely the personal dimension, involve the entrepreneur’s ambition and role in the organisation, the leadership style, and the decision-making process.

Then, the external environment (A) represents the macro-economic dimension. It clarifies what kind of exchanges within the domain is set, what needs emerge, and what development possibilities, ideas, or threats derive from them. The organisational aspect (O), the microeconomic dimension, describes the entrepreneur’s objectives, defines the profit position among them, and identifies how the responsibilities are shared. Finally, the variable S must be interpreted as the moment the company is observed, regardless of the specific phase in the company’s life (Paoloni and Modaffari 2021). Our research considers 2020, namely one year later the start-up’s birth, in the middle of the pandemic crisis due to COVID-19.

The C.A.O.S model investigates the relationship between these variables. Figure 1 shows the so-called cardinal bonds (Paoloni 2021), classified in:

- first-type bonds (S-C/C-S) involve all the relationships that the entrepreneur activates because of personality, needs, personal goals
- second-type bonds (S-O/O-S) are created to organise the company and clearly define the functions, roles, tasks, and responsibilities
- third-type bonds (S-A/A-S) concern the company’s relationships with the surrounding environment where it is inserted.

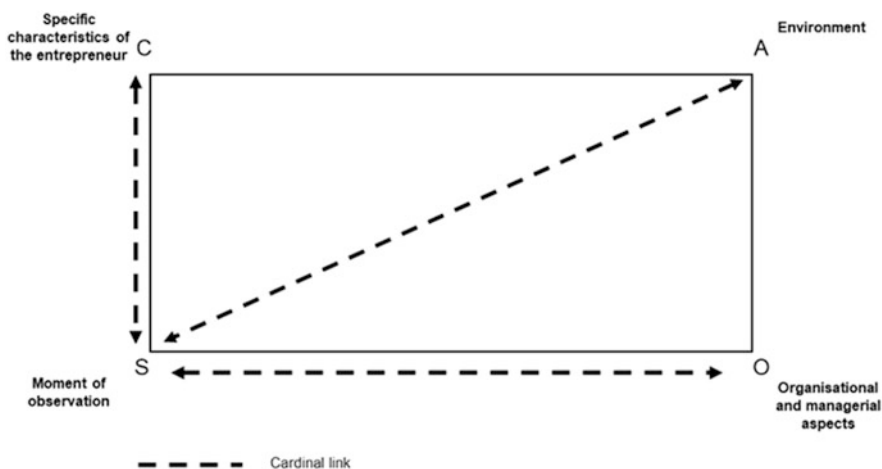


Fig. 1 C.A.O.S. model. Source: Paoloni (2021) p. 88

Furthermore, the CAOS model classifies relationships according to their nature and duration. As for their character, it distinguishes between formal and informal bonds. Traditional bonds are based on a legal, managerial, or economic obligation, whereas informal bonds originate from personal or family choices. Concerning the duration, permanent relationships are consolidated by trust and mutual financial benefit, making them lasting. Temporary relationships, instead, consist of occasional exchanges.

4 The Case Study

The innovative start-up authors considered operates in the agri-food. It was born in 2019, and it is composed of three partners: the company administrator, a 29-year-old woman who holds 20% of the shareholding, and her parents, controlling 80%. This start-up gained the “Innovative” status satisfying the first substantial requirement. The business idea consists of microgreens’ indoor cultivation. Microgreens are undeveloped vegetables containing 20% more nutrients than ordinary vegetables. Their cultivation is based on a technique known as aquaponics, a combination of aquaculture and hydroponic cultivation to achieve a symbiotic environment. The water in which the fish are reared is deprived of solid waste through a filtering system and transmitted to the tanks where the plants absorb the nutrients. It is a fascinating project of the circular economy. Indeed, there is no soil exploitation, and the water waste is zero without considering the dispersion by evaporation. It helps to reuse disused sheds where the tanks are placed and, due to the interdependence between plants and fish, the absence of antibiotics and pesticides in the products is guaranteed.

The following paragraph analyses the company’s RC by applying the CAOS model.

4.1 Personal Characteristics (C)

The young entrepreneur created her company in 2019 to take advantage of her degree in environmental science, supported by her father’s entrepreneurial experience. Her parents co-participate in the business with a majority stake and support it financially, operationally, and strategically. Indeed, they are the leading investors in the industry, but they also operatively work for the start-up and participate in the decision process.

4.2 *Enterprise Environment (A)*

The business was founded in a small village in Northern Italy. The activity occurs in a two-storey warehouse: the lower part is used for aquaculture, i.e., fish breeding, while the upper floor houses the tanks with the plants. The city environment is perfect for aquaponics, which does not need fields. Indeed, in the city it is easier to find convertible warehouses where placing tanks and restaurants interested in buying fish and microgreens. Concerning the socio-economic context, Italy has not developed a demanding microgreen market. Indeed, they are still almost unknown. This unconsciousness translates into detached, limited, and inexperienced support from category associations, which only pushed the start-up to participate in the European call for funding for innovative start-ups. On the other hand, relevant cooperation involves the start-up and another microgreen producer located in the South of Italy, which has become a helpful consultant and a friend. External experts, like nutritionists or biologists, also make an essential contribution, who helping the entrepreneur comprehend the microgreens' peculiarities and future potential uses. Potential customers also represent an important relationships to cultivate; they involve new restaurants and new companies interested in introducing microgreens in their production process.

4.3 *Organisational Aspects (O)*

The selected start-up is a family business. Indeed, the entrepreneur's parents have managerial, financial, and operational roles; there are no employees except for them. The company's primary purpose is to minimise the environmental impact of its production process and differentiate itself as a sustainable, non-polluting, and circular activity that ensures high product quality. No pesticides can be used on the plants; otherwise, they would harm the fish and, vice versa, no antibiotics or hormones can be used on the fish as they would break the plants; this contributes to industrial warehouses' recovery tanks being placed.

4.4 *Temporal Element (S)*

The enterprise is observed during the current pandemic crisis, when the business development is severely hampered, especially for SMEs. Agri-food is among the most affected by the restrictive measures to limit the virus spread. This observation moment consists of the company's start-up phase when it has tested the aquaponics' efficacy and is looking for new clients.

4.5 Analysis of Relationships

The first cardinal links (S-C) involve the founder and her parents, who supported her by investing the first capital injection and investing in R&D even during a crisis. Moreover, they take part in the decision process and act in the operative role. These bonds are informal and permanent.

Because of the organisational simplicity, these links coincide with the second cardinal ones (S-O). The three members have a specific role assignment: the founder manages the relationships with stakeholders; her father takes care of economic cliches, and her mother takes care of microgreen’s technical aspects. However, the organisation is flexible and fluid. These bonds are informal and permanent.

The third cardinal links (S-A) concern the relationships with the institutional environment, external experts, and potential clients. The former refer to universities, trade associations, and European public entities, whose support is defined as “marginal and disappointing” by the entrepreneur. Instead, the external experts are relevant for the current and future business development. Potential clients are indistinctly restaurants or other companies. They all represent formal and temporary relationships. Instead, the consulting and friendship ties established with the other producer represent an informal and permanent relationship because it is not regulated by any contract, but a mutual need for knowledge-sharing supports it (Fig. 2).

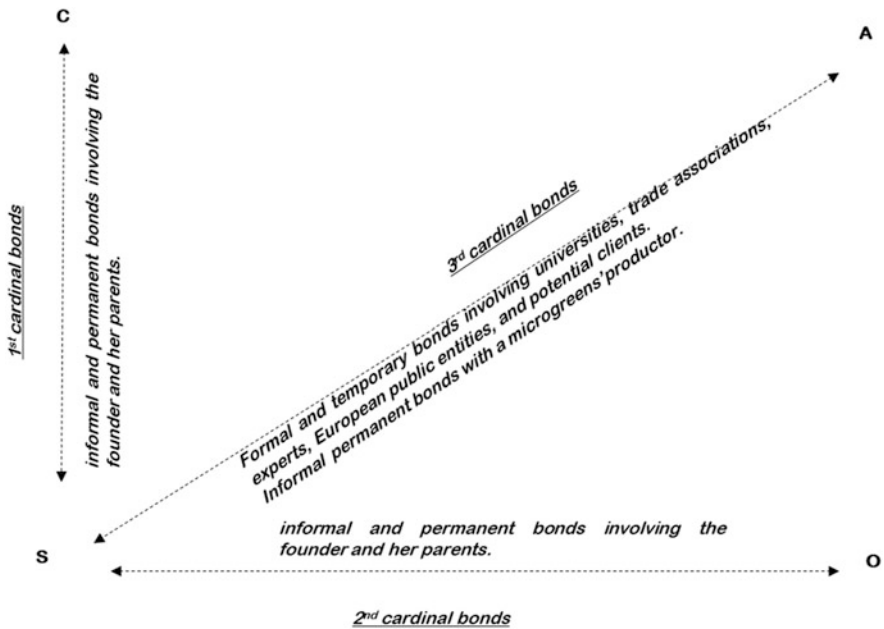


Fig. 2 The C.A.O.S. model framework. Source: Authors

5 Discussion and Conclusion

The innovative start-up is a reality born to strengthen the foundations on which the Italian economy rests: the SMEs (Law Decree 179/2012). Innovating is the only winning strategy to obtain a competitive advantage that the company can exploit to be recognised on the market and offer a product or service that meets needs (Adam and Alarifi 2021). The literature recognises Innovation as a strategic element, especially in crises, affecting the SMEs' resilience making them more open to new business opportunities and more able to catch them (Ciasullo et al., 2022; Al-Hakimi et al., 2021; Anggadwita et al., 2021).

However, this legislative support for entrepreneurship has been received differently based on the entrepreneur's gender and the sector in which they operate. Firstly, WIS deals with severe constraints that hinder its growth, including financial constraints. The difficult access to credit significantly affects their innovative attitude and, consequently, their ability to resist and overcome crises. The gender literature agrees on RC's non-negligible role in supporting female entrepreneurship by mitigating its limitations. On the other hand, concerning the sector where WIS operates, agri-food is firmly rooted in tradition. Still, it registers a low rate of innovation, despite the considerable progress made in recent years.

This analysis wants to verify the RC's role in stimulating the development of a legally recognised reality as innovative but operating in a sector with a low propensity for innovation. The work answers the RQ: How does RC affect innovation and resilience in WIS operating in agri-food?

The case study analysed confirmed the RC's relevance in developing its innovative capabilities during COVID, preserving its resilience. In particular, informal permanent bonds are essential, as is typical of SMEs and start-ups (Paoloni 2021). In this case, the cardinal bond of the first and second type, coinciding with the relationship between the entrepreneur and her parents, constitutes the primary support to the operational activity of the company, through directly working, and to R&D, through financial investments. Indeed, her parents offered the company resources and time to invest in R&D. During the crisis period when the company's main clients (the restaurant) were closed; the start-up was able to focus on the study of new uses of microgreens to expand the pool of clients in the function of benefits of the products offered. With this purpose, the start-up established temporary and formal bonds with a new company studying with it a new product incorporating microgreens. Therefore, the permanent and informal bonds allowed the company to establish new temporary and formal ones, which would represent new opportunities for profit through the development of innovative solutions concerning new outlet markets. This allowed the start-up to emerge from the period of crisis and come out of it in a new, versatile garb, strengthened by the diversification of the outlet market.

In conclusion, the analysis confirms the irreplaceable role of relational capital in supporting the development of innovative solutions, which fosters business resilience.

The research wants to contribute to gender studies focused on intangibles, highlighting their innovative value and the close correlation with the ability to adapt to the context, even the critical one. From a managerial point of view, the research shows how careful management of RC is essential to strengthen the business and, at the same time, open to new opportunities.

The application of a single case study could represent a research's limit. Thus, in the future, the authors aim at replicating the analysis by considering a more comprehensive sample.

Future research perspectives could focus on the study of other firms to acquire more data on the topic of innovation in the agri-food sector and how intangible resources could contribute to start-up resilience. Focusing on gender studies, the authors will compare any differences between start-ups run by female and by male entrepreneurs.

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Women-led Start-ups: A Literature Analysis



Niccolò Paoloni and Martina Manzo

Abstract Although according to previous studies, female enterprises are smaller, younger, and fewer than male-led ones, gender studies represent a significant part of the economic literature, which is increasing and expanding its boundaries in the most varied fields of study. This paper aims to analyse how economic literature is facing women-led start-ups (WSs) (RQ1); classify the main foci of analysis in the extant literature (RQ2); identify thriving future research areas (RQ3).

The analysis is conducted through a Structured Literature Review (SLR) methodology, a literature classification widely used in business studies. SLR allows classifying scientific works based on: Article focus; Research area; Geographic area; Research method. The present work considers 311 studies among articles, conference papers, book chapters, and books identified on the SCOPUS database.

This paper implements gender studies about entrepreneurship and, mainly, about female enterprises in their start-up phase. It classifies all the studies focused on the selected topic, outlining the main issues dealt with and those that still need to be explored or remain in the shadows.

Keywords Start-up · Female entrepreneurship · Gender · Structured literature review · Female enterprise

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1 Introduction

The present work examines the evolution of research exploring female entrepreneurship, focusing on female entrepreneurship. This issue has been widely addressed by gender studies in many research areas (Ooi and Nasiru 2015; Veselovsky et al. 2017) and represents a growing trend in line with socio-cultural evolution. This study adopts a purely economic perspective, mainly focusing on women-led start-ups (WSs). They represent strongly hindered entrepreneurial realities, facing even more significant difficulties than those familiar with the generality of small businesses (Cesaroni and Sentuti 2014). Financial needs are more urgent (Stefani and Vacca 2013); external support, in terms of competencies and knowledge, is more demanded (Kremel and Yazdanfar 2015); and the tendency to fail is more pronounced (Al-Shami et al. 2019).

A literature analysis summarising what has been stated about this topic and what, instead, has been unexplored is relevant to foster future studies examining why these barriers exist and, more importantly, how they can be overcome.

For this purpose, the authors aim to answer the following research questions.

RQ1. How is literature developing the topic of female-led start-ups?

RQ2. What are the main foci of analysis in the extant literature?

RQ3. What are the possible future research areas?

The analysis uses the structured literature review (SLR) methodology (Paoloni and Demartini 2016), classifying scientific papers on female-led start-ups according to Article focus; Research area; Geographic area of affiliation; Research methodology.

This paper is structured as follows to delineate better the research question and the results achieved. In the next paragraph, SLR is described, and a detailed presentation of the taxonomy used is provided. The results obtained and the general trends identified are illustrated below (RQ1). In the fourth paragraph, answers to RQ2 and RQ3 are exposed.

2 Methodology

This paper aims to overview what scholars have written about WSs. The work uses the Structured Literature Review (SLR) (Serenko 2021; Dumay 2014), a methodology becoming more and more popular in business studies (Jaim 2021). Indeed, it facilitates the collection of a large volume of articles concerning a specific topic, helping scholars who aim at deepening that field (Paoloni and Demartini 2016) examine the old theories (Massaro et al. 2016) and identify new appropriate research questions (Tranfield et al. 2003) for further studies. SLR requires the use of a rigid protocol, on which its validity (Petticrew and Roberts 2008) and reliability (Yin 2009) are based, and a strict description of how the process happened (Broadbent

and Guthrie 1992). The following paragraphs explain how this research was carried out.

2.1 The Sample Selection

To analyse how literature is developing the topic of female-led start-ups, what are the main foci developed, and what future research areas could improve, the authors looked for papers containing the word “start-up*” (or “start-up*”) and, alternatively, the words “female entrepreneurship”, “female enterprise*”, or “gender”. The analysis was limited to “Title, Abstract, Keywords”, to prevent documents unrelated to the research object from being extracted (Paoloni et al. 2020b). Hence, the starting string was TITLE-ABS-KEY (“start-up*” OR “start-up*”) AND (“female entrepreneurship” OR “female enterprise*” OR “gender”). The research was done on February 1, 2022, through SCOPUS, listed among the most extensive business and management databases (Fratocchi and Di Stefano 2019). At first, 469 studies resulted. They were skimmed to limit the analysis to specific documents: articles, books, book chapters, and conference proceedings (Paoloni et al. 2020b). These boundaries reduced the sample to 440 documents. To overcome linguistic problems (Mauro et al. 2017), the authors selected only the papers in English and Italian, namely 424 documents. As the literature review wanted to maintain an economic perspective, the authors agreed to focus on three research areas: Business, Management, and Accounting; Economics, Econometrics, and Finance; and Decision Sciences. They were selected to embrace three different economic perspectives: administrative, financial, and strategic. Finally, to preserve the reliability of the analysis, papers with incomplete information were excluded, and the final sample, stripped of two papers missing the abstracts, was composed of 311 documents. Figure 1 shows the full sample selection process (Paoloni et al. 2020a). The authors did not establish any temporal boundaries to obtain a sample providing a meaningful overview of the studies’ evolution facing the topic. The resulting works covered the period from 1989 to 2022.

2.2 The Analysis Framework Elaboration

As previously mentioned, SLR requires the application of a valid framework. The present study uses the one Paoloni and Demartini (2016) introduced, appropriately declined according to this research’s needs. As Table 1 shows, SLR classifies the papers according to their article focus (A), research area (B), geographical location (C), and research method (D).

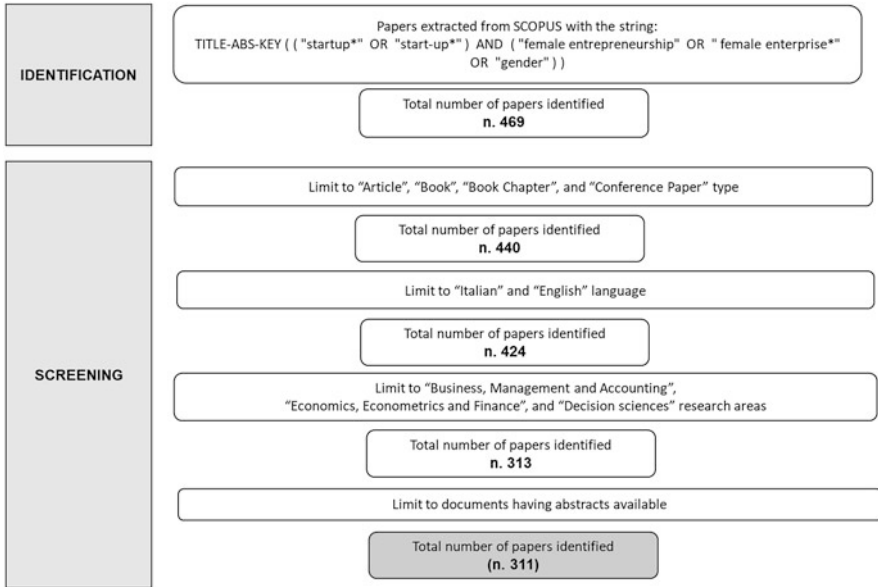


Fig. 1 The sample selection process. Source: Authors

Table 1 Analytical framework

A. Article Focus	B. Research area	C. Geographical area	D. Research methods
A1. Innovation	B1. Business, Management and Accounting	C1. Arabian Countries	D1. Literature review
A2. Financing/ Investment choices	B2. Economics, Econometrics and Finance	C2. South America	D2. Qualitative
A3. Education	B3. Decision Sciences	C3. North America	D3. Quantitative
A4. Performance		C4. North Europe	D4. Mixed methods
A5. Gender stereotypes		C5. South Europe	
A6. Other		C6. East Europe	
		C7. Mix Europe	
		C8. Asia	
		C9. Africa	
		C10. UK	
		C11. Oceania	
		C12. Mix	

Source: Authors

A. *Article focus*

Firstly, to answer the RQs, the main themes found in the extant economic literature facing WSs were split into six categories.

- *A1. Innovation.* This class clusters research investigating the innovative solutions' implementation in WSs. In interpreting the concept of "innovation", the authors choose to adopt a wide-ranging perspective, considering innovative elements not only high technologies or digital solutions but, more generally, new features changing the entrepreneurial direction, leading to new goals, or providing new tools to pursue the old ones.
- *A2. Financing & investment choices.* As stated in the literature, one of the leading female enterprises' limits is the difficult access to credit, affecting how they invest the available resources. Hence, A2 involves studies facing both WSs financing and investing strategies.
- *A3. Education & formation.* This rank gathers countless research tracing the educational steps of young aspiring entrepreneurs and how the formation they received affected their capabilities and choices. Some of these studies strictly analyse the educational experience, focusing on students; others consider specific formative courses for women entrepreneurs; some research investigates the role of mentoring in WSs.
- *A4. Performance.* Literature involved in this class reports female-led companies' turnover, innovation level, or efficiency in pursuing specific goals. Some of these studies compare female and male performance in similar geographic or cultural contexts.
- *A5. Discrimination & gender stereotypes.* These studies adopt an inquiring perspective to test the impact of sex stereotypes on female businesses' development. They express some specific WSs obstacles closely linked to gender discrimination, and some describe how institutions intervene or should intervene.
- *A6. Other.* This residual class includes niche topics that are less covered than the previous ones. Some of them include studies investigating the personal motivations behind women's choice of entrepreneurship, the characteristics of immigrant entrepreneurship, which is predominantly female, or the Intellectual Capital relevance in WSs.

B. *Research area*

The current SLR focuses on the economical literature; hence only three research areas were involved. This kind of classification is derived from the database selected. Nevertheless, the authors noticed that SCOPUS often attributed the same papers to different research areas. They manually assigned each duplicate to the more suitable category to avoid duplicates.

C. *Geographical area*

The present work classifies papers according to the geographical area of the universities where the authors are affiliated. This criterion appeared more straightforward than a classification based on the geographic location of the studies concerned because of the numerous papers focused on phenomena involving multiple countries, which would have thwarted the ranking, and due to works concerning WSs in general, without a specific location. Moreover, this criterion can help comprehend which topics are of greater interest in particular countries (Paoloni et al. 2020a).

D. *Research methods*

This classification can show how specific research methods change based on different years, countries, and research topics. D4 involves research that applies both qualitative and quantitative methodologies.

3 Findings

3.1 *Article Focus*

The authors did not establish a temporal limit to have a complete literature analysis. Hence, a broad period lasting 33 years was considered. To provide readers with a more precise representation, the timeline considered was classified into six periods, each lasting six years. Being 33 years, it was not possible to divide them equally. However, since this is a topic on which much more studies have been published in recent years than in the past, the authors preferred to make an exception in the most recent period (2019–2022), lasting four years. Nevertheless, as Fig. 2 shows, more papers were published from 2019 to 2022 than from 1989 to 2012. The first result of the analysis is the increasing nature of studies focused on female start-ups.

The literature review shows some interesting trends regarding the article focus evolution (Fig. 3).

The broadest category gathers papers about *Financing & Investment* choices (A2) adopted by women, which are often different from the decisions taken by men. It represents 24% of the sample (counting 76 papers), and it keeps attracting interest among scholars, even if recently, *Innovation* (A1) has become the most trending topic. Secondly, A3, analysing how *Education & Formation* affect the starting-business decision, constitutes 22% of the sample (67). As well as A1, the first studies belonging to A3 date back no earlier than 2001. Nevertheless, they have been steadily growing until 2018, whereas A1 has represented the most discussed topic since 2019. The category about female business *Performance* (A4) represents 19% (58), whereas the group outlining *Discrimination & Gender stereotypes* (A5) constitutes 15% (47). Finally, research about *Innovation* (A1) counts for 13% of the overall (41). The low percentage is due to the topic's recent evolution. Papers

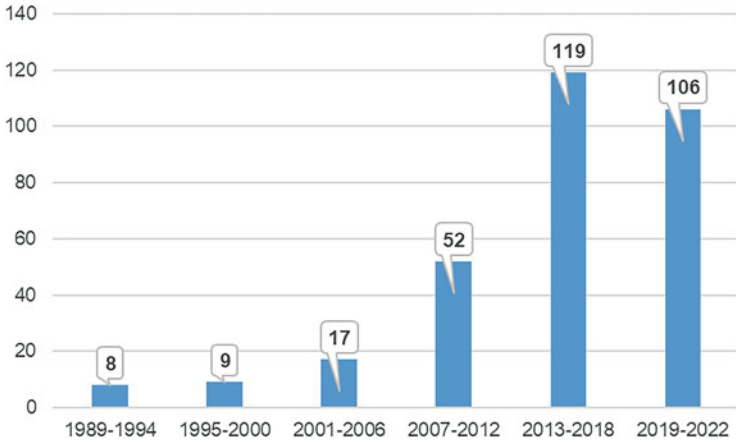


Fig. 2 Research distribution over the year. Source: Authors

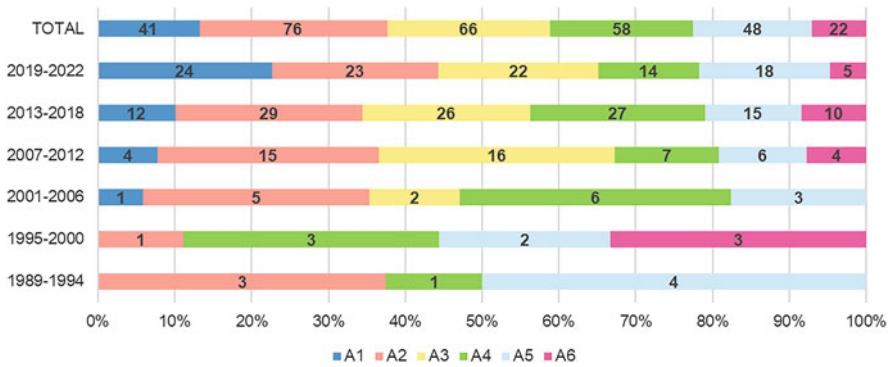


Fig. 3 Article focus distribution over the year. Source: Authors

investigating further aspects of WSs, grouped in *Other* (A6), represent 7% of the sample (22).

3.2 Research Area

Figure 4 shows in which research area the extracted studies are mainly placed and how the distribution has evolved.

The largest category is *Economics, Econometrics, and Finance* (B2), representing 54% (167 papers) of the total and whose majority dates 2013–2018. After that, 43% (134) of the studies are placed in *Business, Management, and Accounting* (B1),

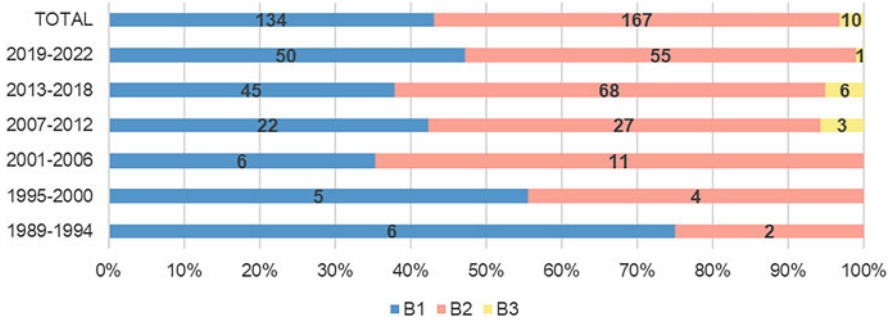


Fig. 4 Research area distribution over the year. Source: Authors

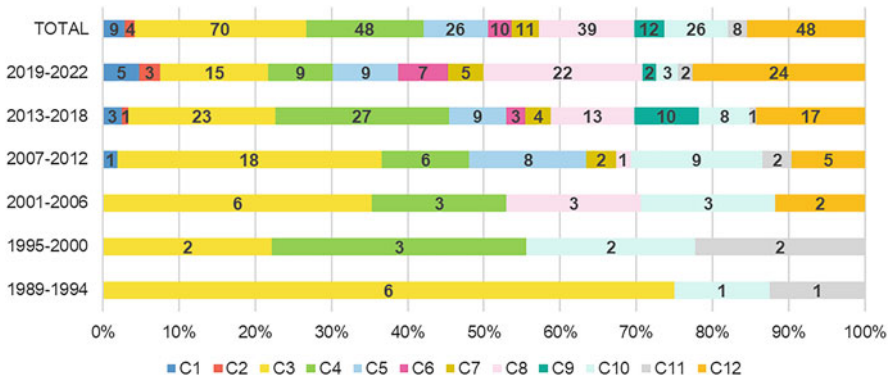


Fig. 5 Geographic area distribution over the year. Source: Authors

undergoing a staggering growth in the last period. Finally, Decision Sciences (B3) is only 3% (10), also due to its recent interest in WSs (from 2007).

3.3 Geographic Area

As shown in Fig. 5, the production records significant gaps considering different areas, even in the same continent.

The most significant number of studies on female-led start-ups are located in North America (C3), covering 23% (70) of the total. In contrast, Universities located in South America (C2) only produced 1% (4) of the works, representing the least numerous category.

European production also varies significantly. A relevant part of the studies is in North Europe (C4), equal to 15% (48) (the same research percentage awarded to authors coming from all over the world (C12)). South European studies (C5),

instead, represent 8% (26) (as well as British (C10) works). East Europe (C6) publishes 3% of the total (10), and the residual European studies (C7) cover 4% (11).

Regarding Asian universities (C8), they represent 13% (39) of the economic gender studies concerning WSs, whereas middle East papers (C1) are 3% (9).

The least involved countries are Africa (C9), whose research only counts for 4% (12), and Oceania (C11), with 3% (8) of the contributions.

3.4 Research Method

SLR also provides an interesting analysis of which research methods are mainly used to explore WSs.

As Fig. 6 expresses, the primary methodology is quantitative research (D3), used in 45% of the contributions (141); followed by the qualitative method (D2) applied in 30% of the studies (93). Research using both these approaches (D4) is 24% (74), and literature reviews curiously constitute a residual 1% (3).

3.5 The Most Cited Articles

The articles were also analysed based on how many times they have been quoted in other research.

The analysis reveals that studies investigating female-led start-ups' performance (A4) represent the most cited papers (26%). A significant consideration is also reserved for the theme of financing and investing decisions (A2), counting 23% of the total. Studies inquiring about gender discriminations and stereotypes

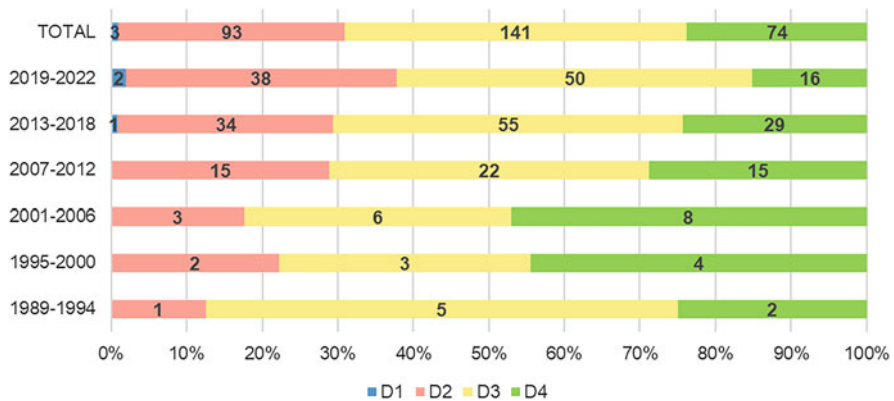


Fig. 6 Research method distribution over the year. Source: Authors

(A5) compose the third most cited category (21%), followed by research analysing the impact of education and formation on the entrepreneurs' capabilities (A3), which count 15% of the total. The recent development of studies facing innovative solutions contributes to making A1 the less cited topic (6%).

3.6 Analysis

To answer the RQ1, namely how economic literature is developing the topic of women-led start-ups, this paragraph summarises the findings that emerged from the present research. They suggest that the economic literature focuses primarily on the financial divergences between female and male businesses (A2), highlighting the different sources entrepreneurs' access to and how they choose to deploy them. This result is reflected in the fact that the studies are primarily concentrated in the economic-financial area (B2) and that quantitative analysis (D2) is the most used methodology. As for geographical distribution, North America (C3) is the area where female entrepreneurship arouses the highest interest, but the average continental production is significantly reduced by the production of South America, which has only four works. Therefore, Europe is the continent that has dealt chiefly with WSSs, counting for 30% of total productions.

4 Discussion

4.1 The Main Foci of Analysis in the Extant Literature (RQ2)

The authors want to identify the themes mainly explored in the current literary context according to the research.

A1 involves studies about start-ups operating in high-technological sectors (Kuschel et al. 2020); implementing innovative productive or distribution processes (Sharma 2019); or pursuing new goals (Gavrilut et al. 2021). An interesting sub-topic identified in the Italian literature consists of the "innovative start-up", a new entrepreneurial configuration regulated by the Italian legislator and identified through specific requirements (Law Decree 179/2012).

The topic researchers focus on the most is A2, concerning which kind of financial resources they resort to and how to use them. This result is understandable considering that all over the world, one of the most discriminating characteristics of female entrepreneurs is their difficulty in accessing credit (Brixiová et al. 2020; Abbasian et al. 2014). The literature identifies several reasons behind this limitation, among which there are a lower inclination to risk (Cotei and Farhat 2017; Hernandez-Nicolas et al. 2015); an over-concentration in sectors that are less attractive to investors (Aernoudt and De San José 2020); the banks' mistrust (Verheul and Thurik 2001), and women lower confidence towards banks (Derera et al. 2014). The

financial gap is a barrier to starting a business (Kwong et al. 2012), which leads women to adopt different strategic choices, like resorting to greater use of family loans (Abbasian et al. 2014) or microfinance institutions (Brana 2013), as alternative financial sources.

A3 is the second broadest topic category, grouping studies about how personal education (Morrar et al. 2021), university experience (Birch et al. 2017), or specific formation courses dedicated to female entrepreneurs (Gupta and Eitzkowitz 2021) affect women decision of starting a business and then, their entrepreneurial capabilities. Some researchers confirm that gender has no significant effect on entrepreneurial behaviour (Armuña et al. 2020; Badri and Hachicha 2019), whereas most studies identify gender-based differences related to students' entrepreneurial attitudes and motivation (Joensuu-Salo et al. 2020; Kriz and Auchter 2016), as men choose to become entrepreneurs much more often than women (Gavurova et al. 2018). An interesting strand of studies involves research investigating the mentoring value for female business development, encouraging an inspiration and imitation approach (Theaker 2021), and the higher propensity of women to consider external business advice (Yazdanfar and Abbasian 2015).

Literature listed in A4 involves studies investigating female-led start-ups' results measured through different parameters. Some studies analyse the business trends in turnover (Salgado et al. 2020); others consider the enterprise's innovation level (Song and Berger 2019). Further research bases its evaluation on the efficiency of pursuing business goals (Guelich 2020); others highlight the good impact of gender diversity on business teams' performance (Hoogendoorn et al. 2013; Patterson 2020). What is interesting to observe is the different perspectives European and American studies express. European studies find that women underperform due to gender differences regarding personal and firm characteristics, like a poorer technical education (Kuschel et al. 2020), less experience (Gottschalk and Niefert 2013), a lack of funding, or engagement in lower-tech industries (Weru et al. 2018). American researchers, instead, agree that the extant quantitative gender gap in the distribution of start-ups does not reflect significant differences between male and female returns (Cook et al. 2007), whose success is statistically equal (Artz 2017).

A5 involves works that base their analysis on the existence of an embedded and debilitating gender inequality. Gender discrimination and the stereotypes on which it is based are social, cultural, and economic, as it translates into different opportunities and constraints (Tahir and Baradie 2019). Furthermore, this category also contains papers focusing on how the institutions could and should intervene to change the discriminating scenario by implementing policy measures tailored to the specific needs of women and contrasting those elements that cause the gender gap (Lin et al. 2018; Yusuf 2015).

Finally, A6 is a residual category involving studies focused on different themes. However, some strands of research can be distinguished. Firstly, it is worth highlighting research regarding the concept of female immigrant enterprises, an increasingly important component of the current world economy, where women act as the main characters (Munkejord 2017; Halkias et al. 2016). Another relevant topic is intellectual capital's (IC) contribution to female businesses. Scholars

recognise three IC components: Human Capital, referring to employees' capabilities (Andrikopoulos 2010); SC, definable as a set of material and financial resources of the company (Aramburu and Sáenz 2011); and RC, configured as the bonds set up to carry out the business activity (Dal Mas and Paoloni 2019). In particular, the latter is a key-tool in fostering the venture's success, especially in the start-up phase, helping women fill the financial (Welsh et al. 2018) and experience (Kremel and Yazdanfar 2015) gap.

4.2 Future Research Areas (RQ3)

To answer the RQ3 and identify thriving future research areas, the first step can be verifying the topics' trends. The analysis shows that the innovation literature is residual, mainly due to the recent case, but it offers an increasing trend (as visible in Table 2). Therefore, the number of studies concerning this topic is undoubtedly bound to increase. The current socio-economic context is constantly changing and requires adaptability, creativity, and resilience. Such a frantic and demanding context risks amplifying the structural limits characterising WSs (Kuschel et al. 2020) and the discriminatory attitude towards female entrepreneurs (Tahir and Baradie 2019) emerged from the research. Future research could better delimitate the innovative path to comprehend why and how an innovative process is implemented and what it consists of. Firstly, it would be essential to analyse the measures that many countries have recently implemented, also driven by the severe impact of the pandemic crisis, to support female entrepreneurship and encourage the innovation process, measuring their actual effectiveness. It would also be interesting to investigate the characteristics, allocation methods, and impact of the new financial

Table 2 The most cited articles

	A1	A2	A3	A4	A5	A6	TOTAL
1989-1994		281		1294	855		2430
1995-2000		307		865	238	231	1641
2001-2006	4	533	420	379	151		1487
2007-2012	348	1000	572	138	278	153	2489
2013-2018	199	554	455	522	428	111	2269
2019-2022	45	176	89	13	212	21	556
TOTAL	596	2851	1536	3211	2162	516	10872
	5%	26%	14%	30%	20%	5%	100%

Source: Authors

solutions developed by credit institutions and offered exclusively to women. To this end, it is previously relevant to comprehend how the concept of innovation is conceived and declined in different locations. In Italy, for example, the legislator has identified specific formal and substantial requirements defining the “innovative start-up” to the granting of tax benefits. After understanding the prerequisites of an innovative process, future research could investigate which innovative elements are preferred by women’s businesses, first through individual case studies, then with a comparative analysis that could also highlight the similarities and differences among countries because of the different incentives granted. Once it has been established what the innovative process consists of, future research could aim at showing how innovation itself can become a tool for solving or at least reducing the entrepreneurial gender gap.

5 Conclusions

This article contributes to the literature in several ways. Firstly, it provides an analysis of research that has analysed the context in which women’s enterprises take their first steps and the elements that directly or indirectly influence their start-up phase. This allows researchers to have a clearer view of the difficulties and opportunities encountered by women entrepreneurs in the market. In addition, the analysis provides an overview of the most frequently addressed research strands and their results. On the one hand, the study summarises the trends of previous research in terms of the topics covered; the methodologies considered most suitable, the countries and the research area that mainly analyse female entrepreneurship.

On the other hand, the present work facilitates the identification of literary gaps that can be filled by future research. In particular, the authors consider it necessary to start by identifying which factors can concretely support female entrepreneurship development, giving them an equal chance of achieving performance levels comparable with male entrepreneurship. To this end, empirical studies can offer concrete cases of successful entrepreneurial experiences, even in crisis scenarios. In addition, they can focus on a business whose good chance has been marked by specific financial incentives and innovative processes that have outlined a competitive business model capable of bridging the gender gap. In conclusion, some limitations have to be taken into account. Firstly, the selection of research is limited to that resulting from the database used (SCOPUS). However, it is unlikely that significant variation in results would occur if a different database was used. Secondly, the coding process could be improved. Although it was carried out systematically with care to ensure consistency in each component, there may be errors of omission and coding. Finally, adding the variable: “other” in the classification of some categories may have hidden some exciting results.

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Entrepreneurship, Gender Issues, and Different Perspectives in Economic Theory



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Abstract Starting from the critique of the entrepreneurship concept in economic literature, we analyse the relationship between equal opportunities and gender issues (Equal Opportunities and Gender Mainstreaming in the Council of Europe Secretariat, 2004), deducing the need for a change in the point of view regarding the nature and functioning of economic markets, as well as their crisis-related transformations. The concept of entrepreneurship implicit in conventional economic literature is twofold. On the one hand, entrepreneurial activity is regarded as management work, thus standardised, purchasable in the market, delegable to third parties (Walras, L. *Elementi di economia politica pura*, Milano Finanza Editore, Milano, 2006 [1874]) (Pareto, V. *Manuale di economia politica*, Egea, Milano, 2006 [1906]). On the other hand, it is believed that the profit achieved derives, at least in part, from the individual capacities of the entrepreneur, that is not delegable to others (Marshall, A. *Principi di Economia*, Milano Finanza Editore, Milano, 2006 [1890]) (von Mises, L. *Entrepreneurship*, Oxford University Press, Oxford, 2000 [1978]). Equality between individuals, or differences that can be found on the basis of a given factor, is a dichotomy that also characterises gender issues literature (Serafini, G. *Organizational Resilience and Female Entrepreneurship During Crises*, Springer Verlag, Heidelberg and New York, 2021b). From this perspective, the very concept of female entrepreneurship, and the literature on its differential characteristics with respect to entrepreneurship in general, implies irreducible gender differences, which cannot immediately be considered gender discrimination (Serafini, G., & Paoloni, P., *Advances in Gender and Culture Studies in Business and Economics*. Springer Verlag, Heidelberg and New York, 2019). Once gender differences are separated from gender discrimination, a restructuring of conceptions related to economic subjects, to the nature of markets characterised by groups of individuals, rather than independent individuals (Serafini, G., & De Felice, G., *Chaos and Complexity Letters*, 15-26, 2019), and to the value and distribution of economic resources

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emerges, which we believe is central to addressing the transformations that each economic crisis imposes.

Keywords Entrepreneurship · Female entrepreneurship · Equal opportunities · Gender issues · Theory of value

JEL Classifications B41 · B54

1 Introduction

In some previous works, we have noted that the concept of female entrepreneurship, despite its name, is still to be clarified, in relation to its individual or collective nature (Serafini and Paoloni 2018, 2019). We also have noted a similar lack of clarity in gender diversity and gender inequality literature (Serafini 2021b) and in the next section we also find similar ambiguities in equal opportunities studies (see below). In all these fields of study, differentiation between genders is sometimes considered the result of irreducible qualitative differences, while at other times it is considered a consequence of cultural and discriminatory effects to be overcome, alternatively assessing entrepreneurship as a collective variable or an individual variable. In both cases, however, no consideration was given to the field of investigation in which the qualification of this economic variable could be consistently assessed, and thus the conditions under which this variable could be qualified as collective or individual.

The equality between individuals or the differences found on the basis of a given factor, therefore, constitute a dichotomy that characterises gender issues literature (Serafini 2021b). The very concept of female entrepreneurship, and the literature on the differential characteristics of female entrepreneurship, in turn, imply irreducible gender differences that must be distinguished from gender-based discrimination (Serafini and Paoloni 2019). Once gender differences have been separated from gender-based discrimination, a necessary restructuring of economic subjects conceptions, and thus of the nature of markets and economic resources, emerges (Serafini and De Felice 2019, Serafini 2021a) which we believe is central to addressing the transformations that every economic crisis imposes.

In the following parts of this paper, therefore, after clarifying the differences between female entrepreneurship and the concept of equal opportunity, we first indicate the field of economic investigation in which the qualification of entrepreneurship can be identified, and then present a critical assessment of the coherence of the qualification of entrepreneurship as an individual variable, as expressed in the neoclassical economic literature. A critique of the individual entrepreneurship conception consistency plays, in this sense, a fundamental role as a preliminary to any alternative theoretical approach.

2 Female Entrepreneurship and Equal Opportunities

The expression female entrepreneurship implies, in itself, the belief that the economic variable “entrepreneurship” can be characterised by qualitative differences between groups of economic subjects. However, literature is still ambivalent in its general qualification as an individual or group concept (Serafini and Paoloni 2018, 2019) and also the literature on gender diversity and gender inequality studies (Serafini 2021b) as mentioned, confirms the contradictory hesitation between individuality and group. Equal opportunity studies, on the other hand, in our opinion oscillate between considering individuals as all equal and rejecting discrimination on the basis of gender differences, which would therefore exist. Indeed, equal opportunity is pursued precisely to tackle discrimination and, in this sense, it seems consistent that gender differences that are not discrimination are not considered in this context. It seems to us, however, that at the basis of the considerations in favour of the pursuit of equal opportunities, there is a confusion between gender and discrimination. If individuals were considered to belong to (at least) two genders, the pursuit of equal opportunities would attempt to apply equal starting conditions to different individuals, thus constituting a contradiction. If, on the other hand, individuals were considered qualitatively equal, since there are no different genders, any qualification of gender would undoubtedly be considered to be based on a kind of discrimination.

As stated in the practice documents of some International Organisations, Equal Opportunities, after all, is an activity carried out so that individuals do not suffer differential treatment on the basis of gender. Preventing individuals from being treated differently on this basis implies striving to ensure that individuals are equally treated as individuals, as differentiation on the basis of gender would clearly constitute discrimination. This aim, however, in the very context of the concept of equal opportunities, does not fully clarify whether one considers gender to be an ineliminable element, which should not in any case constitute a basis for discrimination, or directly a surmountable construct, anyone having to refer instead to individuals as the only subjects of human interactions. The very reference to genders, in fact, does not imply the recognition of the insuperability or otherwise of their possible different qualification.

Thus, when the fundamental point advocated by the proponents of equal opportunities is that they believe it is possible to achieve these equal opportunities, individuals would obviously be considered as equal. The goal of equal opportunities in this case would make sense insofar as it is deemed attainable, and therefore insofar as its pursuit is deemed to have a chance of success, which is obviously guaranteed by considering all individuals fundamentally equal. This approach, however, seems to clash with the case in which one reasons by considering, instead, gender differences as ineliminable. In this second case, pursuing the aim of reducing discrimination, in fact, one could be led to make gender differences coincide with gender discrimination. That is why, in our opinion, literature about female entrepreneurship (Serafini and Paoloni 2018, 2019) has a foundation that can be considered

antithetical to that of equal opportunities. While the former considers that gender differences exist, the latter considers that these differences immediately constitute discrimination.

In order to clarify these aspects, we consider it essential to reflect on the thought of one of the greatest proponents of individual freedom, Friedrich A. von Hayek, who believed that it was appropriate to strive for equal starting points for all individuals. Thus, in reflecting on this topic, we believe we can introduce the critical reflections we will make in the following paragraph, regarding the very coherence of the economic concept of entrepreneurship, as expressed in economic theory.

The concept of equal opportunities is of liberal background concept, because it is based on the belief that each individual, by virtue of being immersed in a horizon that is not of perfect rationality and perfect information, is the only possible evaluator of what seems appropriate to him or her. von Hayek came to explain his position through a battle fought against the planned economy (von Hayek 2000 [1982], 1997 [1949]) which was then being advocated in much of the world, by arguing against advocating social justice. To fight for social justice would be to fight for a certain kind of society desired by someone other than the individual. In other words, he believed that “the real question, then, is not whether man is or should be guided by selfish motives, but whether he can be allowed to be guided in his actions by those immediate consequences which he may know and which may affect him, or whether he should be led to do what seems appropriate to someone else, deemed to possess a greater understanding of the significance of those actions for society as a whole” (von Hayek 1997 [1949], p. 57. Our translation). This implied that the affirmation of an equality of social conditions would be a fight for social justice (von Hayek 2000 [1982], p. 269) by establishing a “road to serfdom” (von Hayek 1999 [1945], p. 40), as it would mean acting in accordance with the wishes of super-individuals, organised for the pursuit of certain ends not freely determined by each individual. Rather than striving for an equality of final conditions, to move coherently with human nature one should therefore have advocated an equality of initial conditions, of each individual, i.e. equal opportunities. von Hayek’s approach, as we have pointed out in our other works (Serafini and De Felice 2019; Serafini 2021a) does not consider that the mind of each individual can be directly the result of interactions with other individuals, which have also determined its structure. The difference between an individual or a collective nature of an economic variable, however, has important repercussions also on the characterisation of entrepreneurship as an economic variable, because if this variable were irreducibly collective, its identification and characterisation could not proceed by means of an analysis of economic systems based on the existence of independent individuals. If, on the other hand, the differences between individuals were to be traced back to mere social cultural juxtapositions, studies on the differential characterisations of the genders would have to be considered (perhaps unconsciously but) discriminatory. There could be no room for a consideration of the concept of entrepreneurship as a function of gender, which would not be considered scientifically inadequate and prejudicial. From this point of view, the same female entrepreneurship, expressed and investigated so far

by the literature we have mentioned, would paradoxically constitute a reflection constituting the reinforcement of a prejudice.

In order to take a step towards a possible decision on whether entrepreneurship should be qualified as an individual or collective economic variable, it is then necessary, as mentioned in the introduction, to assess the qualification of entrepreneurship in its economic context and thus with respect to other economic variables. Analysing the principle of determination of an economic variable with respect to the others can clarify its nature as an individual or collective variable; that is, as a variable whose value is determined on the basis of the interaction carried out by individuals or on the basis of the interaction of social groups, helping to clarify, at the same time, the equality or qualitative differences that may characterise the various economic subjects.

3 Value Determination and Entrepreneurship Qualification

As we have repeatedly underlined, the qualification of female entrepreneurship obviously contains a reference to the female gender, indicating, already in the phrase that names it, the reference to a classification of entrepreneurship according to the gender variable. It should be made clear, however, that the possibility of classifying an economic variable according to a factor does not imply that that variable has the nature corresponding to the factor by which it is classified. For example, the subjective conception of the nature of economic variables, typical of neoclassical economic theory, which we will criticise in the following paragraph, does not forbid that existing individuals who determine the value of economic variables through their individual and independent behaviour, can be grouped into four categories: landowners, capitalists, workers, and entrepreneurs. According to the general framework of this approach, the typological identification of categories does not prevent each individual from playing all the roles, even simultaneously. It is sufficient to think of the (1) landowner who employs (2) capital, either owned or borrowed, to start (3) an entrepreneurial activity, in which (4) he will work. The categorisation in terms of grouping, therefore, corresponds only to the need to construct a simplified representation of reality in modelling terms, without denying that the economic qualification of variables can always maintain, as a determining principle, a subjective nature and, in the particular case of neoclassical economics, is considered to be determined at the stage of market exchange, through supply and demand. This is the reason why a possible collective characterisation of the entrepreneurial variable cannot be traced in the categorisation of its characteristics; and this applies, precisely, also to female entrepreneurship. The possibility of classifying the economic variable “entrepreneurship” as a function or a factor capable of grouping its characteristics, therefore, we do not think it also implies that it is consistently qualified as a collective economic variable. This we think may be the basis of the dual nature of female entrepreneurship, individual or collective, which is still unclear in the relevant literature.

We believe, instead, that the possibility that any economic variable has an individual or collective nature must be traced in the role that this variable plays in that field of studies of economic science that deals with the determination of the value of each economic variable in relation to the other variables, that is, in the field of the theory of value. Specifically, in the field of economic studies that deal with the determination of the value of each economic variable as a relative value in relation to all other variables. For a qualification of entrepreneurship as a gender or individual variable, we therefore consider it necessary to clarify, as a preliminary step, the way in which the value of this economic variable is determined, investigating its qualification by assessing the way in which its exchange value is determined.

In order to verify this, we must examine the consistency of its identification with respect to all the other economic variables of the economic system of which it is part, or which it contributes, in whole or in part, to constitute. In other words, we must investigate whether the way in which this variable is valued is consistent with respect to the other economic variables, in order to verify whether the economic valuation of this variable has an autonomous principle of determination and, if it is not autonomous, what the fact that it is derived from other elements or principles of determination entails. We do not intend, therefore, to identify and investigate the characteristics of entrepreneurship, but rather to assess the consistency of the theoretical construction relating to the determination of its exchange value.

It is, in fact, evident that there are individual subjects, even if individuality does not imply an independence of the minds of each one (Serafini and De Felice 2019). However, if the economic qualification of entrepreneurship does not have a principle of determination that is consistent with that of the other variables, we must proceed to the elaboration of an alternative theory that could possibly guarantee such consistency. In the following section, therefore, we do not assess the characteristics of entrepreneurship but rather the consistency of the conception relating to the determination of its exchange value, emphasising from the outset that the inconsistency we believe we have found can only negatively characterise the qualification of that variable but not even clarify the terms of foundation of an alternative variable. It is, in fact, a negation and not directly also an affirmation of its opposite. It is true that every negation is a determinate negation, that is to say, when one negates, one necessarily affirms something; precisely for this reason, the mode of negation that takes place also counts. In this case, however, as we shall see, the mode of negation consists in the identification of the inconsistency of the mode of determination of the value of entrepreneurship, in relation to subjection to market law. In other words, it is not a matter of the denial of the qualification of individual entrepreneurship, but rather of the denial of the possibility of tracing a remuneration of individual entrepreneurship that is consistent with the law of the market, as it should be according to the same theoretical approach that supports it. What we report in the following pages, therefore, we believe represents a first critique, consisting in denying the coherence of the remuneration of productive factors according to the law of supply and demand, and therefore the coherence of the relationship between entrepreneurship and productive factors. Once the coherence of this relationship has been denied, a different conception of the economic system must be constructed, and

with it a different concept of entrepreneurship, which therefore remains to be defined. From the critique that we are about to present, we can therefore only start to consider the different characteristics of an economic system that is not affected by the same inconsistency with regard to the determination of the exchange values of economic variables. And in the concluding paragraph, we shall mention some elements that should, in our opinion, qualify the different economic construction.

4 The Inconsistency of Neoclassical Entrepreneurship Exchange Value

The concept of entrepreneurship, whose coherence we assess in this section, is expressed in the literature on the theory of value in the neoclassical tradition.

The reason why we proceed to critique this concept is due to the fact that, in addition to being the most widespread concept in literature, it represents entrepreneurship, like all other economic variables, as an individual quantity. (Serafini 2021a, p. 11; Serafini and Paoloni 2018, p. 1; Parker 2018, p. 300; Swedberg 2000, p. 11; Screpanti and Zamagni 2005, p. 216; Agnati 2001, p. 274). This makes it particularly interesting to differentiate from the conception of female entrepreneurship or other conceptions that may alternatively be based on non-individual foundations.

According to this approach, entrepreneurship is an individual but twofold magnitude. On the one hand, entrepreneurial activity is regarded as management work, which is transferable to third parties and can be purchased on the market (Walras 2006 [1874], p. 323; Pareto, 2006 [1896/7], p. 169; Pareto, 2006 [1906], p. 158). On the other hand, it is considered to consist of individual capacities that cannot be fully delegated to a third party (Marshall 2006 [1890], p. 816; von Mises 2000 [1978], p. 89). In the first case, which is part of the economic concept of general equilibrium, the profit consists of the remuneration of a management activity, which can also be purchased on the market and should rationally be classified among the costs of the enterprise. In the second case, which is typical of an approach that does not consider simultaneous equilibrium on all markets as essential, at least part of the profit achieved is considered to derive from the individual capacities of the entrepreneur, which are not considered delegable to others.

Although both conceptions share the basis of the individuality of entrepreneurial activity, there is a differentiation with regard to the remuneration that characterises it. According to the first approach, this activity is analogous to management work, the services of which can be bought on the market. On the other hand, in the economic approach that does not see general economic equilibrium as essential, the remuneration of entrepreneurship is the remuneration of entrepreneurial activity corresponding to management work, plus an amount recognised in exchange for particular entrepreneurial capacity.

In the first case, entrepreneurial activity is considered to be an activity that can be carried out by any subject, so much so that, as well as being able to be carried out by an entrepreneur who decides autonomously to proceed to purchase the services of the factors of production, this activity can be carried out by a management worker, as the effect of an operation of transforming one element into another (Pareto, 2006 [1906], p. 127) and following the marginalist economics substitution principle (Dasgupta 1987 [1985], p. 140). In this case, the activity of associating the factors of production (Walras 2006 [1874], p. 318) can be carried out by the entrepreneur, or it can be entirely replaced by management work that can be purchased on the market at a standard rate of return, so that the entrepreneur's profit must be rationally considered as a cost for management work. Once the profit is considered as a cost of production, in a competitive market the price of the product is equal to the cost of production and the profit is therefore zero. This approach obviously requires the consideration of entrepreneurial activity as an activity of standardised quality that can be purchased on the market, as well as being fully delegated to a third party. In order for a quality to be standardised on the market, it must constitute a homogeneous element. In this case, therefore, entrepreneurship does not admit different characteristics between individuals and individuals, and even less so between different genders. Furthermore, in order for profit to be considered as remuneration for a standard activity, it is also necessary that this activity is fully transferable on the market. Only in this way can its price be determined on the market, according to supply and demand, and with it the very possibility of considering the remuneration of the profit achieved as if it were a cost of production for the purchase of the service of a management job. Considering profit in analogy with a cost of production, profit, understood as remuneration for an activity not carried out, is set at zero and the theoretical system manifests the desirable situation, typical of competition, in which each person is remunerated according to her/his contribution to production, and evaluated by the market, independently of the will of each subject involved in the same production process.

However, this is not the only way in which the economic literature qualifies entrepreneurial activity, as we told. Before proceeding to a critique of this conception, let us therefore illustrate the other conception of entrepreneurial activity as a non-standardised activity.

As mentioned, the other neoclassical view derives profit from the market recognition of a particular ability of the entrepreneur, qualifying profit as a remuneration that cannot be fully considered as a cost of production. Entrepreneurial capacity connected with particular qualities possessed by the entrepreneur (Marshall 2006 [1890], p. 797) in fact, precisely because it is an element typical of one entrepreneur but not another (von Mises 2000 [1978], p. 93) cannot be directly traded on the market. In this conception, remuneration is acknowledged on the market through the determination of a price of the product, which makes it possible to remunerate all the production factors employed and also to allow the entrepreneur to make a profit. This portion of remuneration can in fact only be obtained indirectly, on the product market, as remuneration for an activity that is the result of an individual quality that

cannot be bought and sold on the market, because it is personal to the person who possesses it by dowry.

These are, therefore, the two particular ways of determining the value of entrepreneurship, according to the neoclassical view, which at the same time qualify individual entrepreneurship with respect to other economic variables.

In the first case, entrepreneurship is considered as an activity fully analogous to management work and therefore substitutable by it. In the second case, on the other hand, each individual who is endowed with such an ability is recognised as having a particular capacity and the profit made on the market from the sale of the product to which she or he has contributed is related to the relative value of this particular variable with respect to the production factors associated in the production process. In our view, these two representations contain fundamental elements of inconsistency, which undermine the very possibility that entrepreneurship can be founded individually on this determination of its value.

First of all, let us specify that there is a relationship between the first and the second way of determining the value of entrepreneurship. While in the first case, in fact, entrepreneurial activity is integrally traced back to analogous management work, in the second case, this analogy remains, but it refers only to a part of the complex of activities carried out by the entrepreneur. That is to say, in this mode, a personal part of the entrepreneurial activity that corresponds to the personal qualities of the entrepreneur himself, which makes him different from any other person, remains. Thus, in the first case, the entrepreneur could either sell his activity on the market or buy the management activity in order to combine the production factors and transform the initial resources into the final resources, simply by having the choice of proceeding autonomously or relying on a management worker. In the second case, such a choice remains but only for the standardisable part of the entrepreneurial activity, i.e. the management work. The two conceptions are both based on the determination of value on the market, according to the law of supply and demand, which would determine the quantification of the remuneration of the different activities, thus establishing the value of each of them. In both, therefore, it is the behaviour of the economic subjects that is central, expressing the reciprocal interaction on the market, formulating proposals for the purchase and sale of the different activities, thereby establishing their respective value, as a relative value. The central element for the formulation of the value of entrepreneurship is therefore represented by the interaction in the market and, in particular, by the determination in the market, through exchange, of the relative value of this quantity with respect to economic quantities. In the neoclassical representation of this determination, however, we believe that in the first conception there are elements of inconsistency relating to the mode of interaction between subjects, and in the second conception there are elements of inconsistency and autonomy of value determination. Let us explain.

In the case of the conception that considers entrepreneurial activity as a standard activity that is fully marketable, it is considered as fully substitutable by a standard activity that can be purchased on the market, which can be carried out by a managerial employee. It is precisely this full substitutability that makes it possible

to treat the profit as equal to the remuneration of a management salary and then to shift this amount to costs and treat the profit as zero. In our opinion, this procedure reveals the following inconsistency: in order to be considered as an activity that is fully substitutable for management work, the entrepreneurial activity must consist of the same activities as management work. It should be noted here that while management work is chosen and purchased on the market, the activity that proceeds to this choice and thus to selecting, choosing, and commissioning the management worker, is an entrepreneurial activity. This means that, in order to be able to activate management work, an activity that is entrepreneurial must still be carried out. The activity of choosing to delegate management work to a third party, in fact, is primarily an entrepreneurial activity. It consists, as mentioned, in the choice of the activities to be delegated, in the selection of the management employee to be appointed, and in the assignment of the management task to this third party. This activity, in the event of delegation, cannot be performed. When, in fact, the entrepreneur decides to carry out these activities himself, he carries out the entrepreneurial activities without delegating anyone. When, on the other hand, he proceeds to delegate these activities to a managerial employee, he performs a typical entrepreneurial activity by deciding and carrying out this activity of choice, which, moreover, shapes the subsequent course of the business activity itself.

The element of inconsistency in this theoretical construction therefore consists in the irreducible difference between entrepreneurial activity and managerial work, which denies, in our opinion, that there can be an integral delegation of entrepreneurial activities and therefore a perfect substitutability between the two figures. This non-substitutability denies that one can consider profit as analogous to management salary, because at least a part of entrepreneurial activity is not transferable and purchasable on the market. This fact implies that profit cannot be the result of a market determination of the purchase price of such an activity. With the result that the conception of the zeroing of economic profit and the determination of the profit rate on the market is therefore incoherent.

With regard to the second conception, we consider that the step for the assessment of an element of inconsistency is shorter. In this case, in fact, as we have already summarised, the profit would derive from the performance of a non-standardised activity, which would be remunerated on the market through the sale of the product it helped to produce. The central point is that the particular capacity of the entrepreneur would be the source of the remuneration, but its extent would be determined by the market. This remuneration, however, is not directly determined by the market. Indeed, entrepreneurial capacity as a quality of the entrepreneur is not transferable on the market and therefore its remuneration cannot be directly traced as the effect of a sale or purchase. What is bought and sold is, instead, the product resulting from the association of production factors achieved precisely through entrepreneurial activity. The point is that the rate of remuneration of entrepreneurial activity cannot therefore be a standard rate, because the activity to be remunerated is not standard, while the activity itself is not the object of sale, because only the product is the object of sale on the market. From this, it follows that profit can only be sized in an indirect and derivative manner, as the result of the distribution of the result of the production

process between the income of the production factors and the remuneration of the entrepreneurial activity, against the possible determination on the market of the remuneration of the various production factors that are the object of sale on the market, but without the entrepreneurial activity also having been, nor ever being, the object of a similar sale. Entrepreneurial activity is therefore not directly subject to the law of supply and demand, but only indirectly (Menger 1976 [1871], p. 246). It is only indirectly so, insofar as it is an activity that permits the obtaining of that product, which is instead the object of purchase and sale. It should be specified, then, that, according to Alfred Marshall himself (Marshall 2006 [1890], p. 480), even “indirect” demand could not constitute a case of demand that could escape the law of the market, the law of supply and demand. According to this law, it should also be possible to find on the market the rate of remuneration of an activity that is not directly bought and sold, but only indirectly. This is because, in order to have an autonomous principle of determination, each part of this total value should also have its own principle of direct determination, on the market. Because of the way this variable is constructed, however, this is not the case.

On the other hand, with regard to production factors, we note that in this pricing system they are remunerated at a standard rate while their use gives rise to different productions, which have a different price and a different profit. The different use of the factors decided by entrepreneurial activity has in fact contributed to determining differentiated products, and thus the very basis of the differences in profit. In other words, the entrepreneurial activity has chosen to initiate and conduct each particular production process from which it thus derives a differentiated profit; given that the production process has been carried out through the use of production factors, it should however be emphasised that the entrepreneur has purchased the production services to be used by paying them at a standard market rate.

In fact, the productive factors are not remunerated according to their contribution to each production, precisely because they are instead remunerated at a standard rate determined by subjection to the law of supply and demand. It is therefore not correct to say that subjection to the law of the market determines a remuneration, for each factor, that is proportional to its contribution to the production process itself. In other words, the factors are not remunerated for the work done, for the particular services provided, but are instead remunerated as standard factors of production. This is a further element of inconsistency in the neoclassical conception which, on the other hand, with regard to the distribution of income, precisely states that subjection to market law ensures that each productive factor is remunerated according to the work done, or the services provided, and the productivity it has achieved or the profitability it has contributed to determining.

While the concept of entrepreneurship we have drawn from the literature is thus twofold, the individualist basis remains in both. In the first case, entrepreneurial activity is regarded as analogous to managerial work, even though we cannot consistently consider entrepreneurship to be fully transferable and thus equal to managerial work. In the second case, entrepreneurship is personal and does not have a price determined on the market autonomously but only indirectly, as a price-forming component or resulting from price partition, of the product to which it has

contributed. Thus, even in this case, there is no general subjection to the market law of supply and demand and each individual remains different. It only remains to consider these two approaches as incoherent when assessed in relation to the theory of value they are supposed to underpin. The conception that considers entrepreneurship as analogous to management work does not understand that it is logically incoherent to assume the possibility of fully replacing entrepreneurship itself in order to have, therefore, its own market price. The conception that considers entrepreneurship as a personal and special ability cannot, in the same way, identify a market price for this non-transferable activity, although it would have to do so in order to qualify as remuneration with an autonomous principle of determination. In this way it contradictorily qualifies entrepreneurship as derived from another variable, because it quantifies its remuneration by difference, always changing, with respect to that of other economic variables.

From this derives, for both conceptions, the impossibility of placing the concept of entrepreneurship thus derived, as the basis of the relative theory of value, that is, of the determination of the value of economic variables for the entire economic system. The lack of a market price consistent with the qualification of entrepreneurship, in fact, in general prevents one from being able to consider that there is a subjection of the value of economic variables to market law. The latter does not apply to entrepreneurship and therefore does not apply to economic variables that are constituted with the intervention of this element. There remains only the possibility of considering that each exchange may constitute the moment or phase determining the value of each variables, but on condition that the price constituted in each exchange cannot be linked to the generality of the prices of each other economic variable.

Given the above considerations, made on the basis of the assessment of the concept of entrepreneurship in the literature, we believe that the determination of the value of entrepreneurship, as a relative value, therefore contains contradictory elements. Hence, the need to overcome the individual conception of entrepreneurship; whether it is considered as an object to be bought and sold on the market, or as a characteristic that is the result of subjective capacities and therefore not an object to be bought and sold on the market.

In both cases, the result is that the value of entrepreneurship underlying the market value theory of individual variables cannot be brought within the category of an applicable to the set of economic variables market law, with the result that the economic concept of individual entrepreneurship itself becomes unusable as it cannot be determined consistently with other economic variables.

5 Conclusions: The Qualitative Differences of an Economic System with Non-individual Economic Variables

We have already discussed some of the distinctive features of an economic system in which economic variables, and in this case entrepreneurship, are not individual but group variables in two previous papers (Serafini and De Felice 2019; Serafini 2021a). In this case, however, the need for a different theoretical qualification, a function of non-individual economic variables, emerges from the inconsistency of the construct related to neoclassical value theory, which is based on individual characteristics. As we have argued in the preceding paragraphs, however, a negation does not directly constitute an affirmation, but every negation is a determinate negation, i.e. it negates something specific. Each negation imposes a different qualification of the subjects and hence a different qualification necessary to explain and describe the functioning of the economic variables and hence of a coherent economic system. In this case, with regard to the denial of the coherence of the construct of individual entrepreneurship, we can therefore only abstractly indicate the cogency of such a determination and refer to the need to construct a literature that dispenses with such an individual concept. The construction of an alternative theoretical system that is instead based on non-individual variables has yet to be specified, and in these lines we consider it only useful to draw attention to a differential element, with respect to current economic theory. In considering that subjects are not effectively equal and independent individuals, precisely because they are subject to the same law of the market, characterised by the scarcity of resources and rivalry in their appropriation, an essential characteristic of economic subjects that does not only concern their quantitative dimension is missing. It is not only a matter of being able to consider that, instead of single individuals, one could consider groups of individuals, equal to each other. Precisely the denial of this form of individuality consists in the denial that a standardised and uniform valuation can be found in the market for each individual; and that, when one intends to identify a remuneration that should be the result of particular capacities, the reference to the subjection of the determination of economic variables to the law of supply and demand in any case determines an incoherent theory. This determined negation implies that the different subjects necessary to express the determination of the value of economic quantities in a more coherent manner, must be characterised by the negation of reciprocal equality, and therefore must be constituted by reciprocal differences. In fact, economic subjects should be formed precisely in continuity with respect to certain characters and should differ from each other precisely because of discontinuity with respect to these same characters. For example, the transition from individual entrepreneurship to female entrepreneurship cannot constitute a mere change in size of the economic subjects present in a certain economic system. Clustering cannot constitute a mere decrease in the number of subjects present in the economic system, each now of greater size. On the contrary, one must consider a change in the quality of the subjects present, who could no longer be considered as equal individuals but would be subjects composed of different groups of individuals,

grouped together, internally, according to continuity with a certain character and, externally, characterised by qualitative differences. This characterisation poses potential problems. The different interests between different groups constitute an economic system in which it is not possible to consider that there are similar interests between different subjects. This is because we are not faced with independence between similar subjects, as in the neoclassical case; instead, we are faced with subjects that are qualitatively different and whose characteristics can only be defined by their respective differences. This means that there cannot be analogous individuals competing for the same goals, but different groups with different goals. This implies that there are not, in the same economic system, similar objectives and therefore that to tackle discrimination, for example, it is neither consistent nor sufficient to assume that individuals are all the same and that, on the contrary, it is necessary to recognise differences, precisely to prevent their non-recognition from causing discrimination. The different qualification of the variables, as the first result of the denial of the coherence of the individual representation of the economic variables, therefore implies that, in order to reduce discrimination, it is not appropriate to deny the differences but, on the contrary, they must be valued. Only the knowledge of differences, their analysis and their valorisation could in fact make it possible to begin a process of understanding the distinctive characteristics inherent in the economic system. However, it should be made clear that such a path cannot be taken by idealising economic reality as being populated by identical individuals, but only by starting to progressively adapt the categories of economic theory to actual economic reality.

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Female Businesses Between Crisis and Resilience: Economic and Generational Opportunity



Sabrina Ricco and Maria Teresa Bianchi

Abstract The purpose of this document is to provide an overview of access to state guaranteed credit by women's businesses in the period 2000–2021 with particular focus on the period characterized by the pandemic. This document analyzes the literature on access to credit by women's companies and uses data from the Central Guarantee Fund as a source, limiting itself to exposing the data in an aggregate manner. At the moment, limited access to information allows us to verify in absolute terms the differences between access to credit by companies led by women and the rest of the companies that have obtained financing from the financial system assisted by the SME Fund Guarantee. This study provides new information on the limited demands, by small- and medium-sized female businesses, in formal and state-backed credit markets.

Keywords Women entrepreneurs · Credit · Funding · Gender gap · Gender studies

1 Introduction

The company, as a production center, has as its main objective its survival (Bianchi 1993) closely related to its ability to create value (Zanda et al. 1994; Guatri and Sicca 2000) both in terms of wealth and utility (Galeotti and Garzella 2013) and the availability and access to credit is a crucial element for the growth, development, and survival of any business (Marlow and Patton 2005). The issue of access to credit is complicated for small- and medium-sized enterprises (Beck et al. 2006), which represents, for them, the main source of external financing (Berger and Udell 2002).

From the point of view of credit, the economic and financial crisis has certainly not helped: in recent years, bankruptcies have increased, domestic demand has

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decreased, and the possibilities of accessing credit have decreased and companies led by women are less likely to raise risk capital than companies for men only and the amounts they collect are lower and sometimes even under different conditions.

Starting from the assumption that women entrepreneurs are drivers of corporate business (Paoloni and Lombardi 2018) it should be emphasized that doing business for women has been a topic that has been addressed for years and in particular in the period marked by the COVID-19 pandemic.

The period of the pandemic (Paoloni and Tutino 2020) has put a strain on the economic and social system: all governments and central banks have implemented extraordinary measures, both monetary and fiscal, to deal with this crisis. Massive state aid, in particular, has helped absorb the shock caused by the crisis, allowing many companies, affected by the pandemic, to avoid taking their books to court—at least for the time being.

And this is the main role of the Next Generation EU Program and the National Recovery and Resilience Plans aimed at stimulating growth and modernizing legal and institutional structures, thus favoring the efficient allocation of resources in terms of European funds aimed at financing the investments that produce the resources for their coverage.

The goal of government interventions is also to avoid gender, social, and territorial inequalities, favoring access to credit without discrimination of any kind.

The review of the literature reveals a marked gender gap with respect to access to bank credit, which in many ways represents a brake on the development of female entrepreneurship (Aernoudt and De San José 2020; Na and Erogul 2021; Mand et al. 2018).

Much research shows that women, on average, show greater risk aversion than men (Hibbert et al. 2008; Jianakoplos and Bernasek 1998). Reason because many times they deliberately choose to maintain modest goals, not to grow in company size and income results. They are less inclined to face uncertain situations, overestimating the concept of loss and underestimating that of profit. Of course, however, the probability of success can be pursued more easily if the company has easy access to credit.

Small businesses led by women face a number of difficulties (Dal Mas and Paoloni 2020) compared to companies led by men and this gap is due to stereotypes that consider female entrepreneurs as less qualified and efficient.

And it is precisely in this context that the issue of the credit gap is inserted, while remaining access to credit for women's companies as one of the fundamental problems (Aristei and Gallo 2021). In fact, women's businesses not only start business with a lower volume of capital, but also in the later stages of the enterprise's life cycle they tend to use smaller loans than male businesses.

Businesses owned or operated by women use lower capital and less heterogeneous third-party sources of financing than their male counterparts. According to several studies, women's businesses have difficulty accessing bank financing: on the supply side, they experience a higher rejection rate; on the demand side, they require bank loans less frequently, as they fear rejection. The analyses highlight in particular the characteristics (such as company size, age, and sector of activity) that make

women's businesses (Paoloni and Serafini 2018) structurally different from those led by men, leaving no room for a significant gender effect.

The literature is broad on the subject, which assesses the existence of significant differences in the financial structure between male-led companies and female-run enterprises (Cesaroni 2010). In particular, women-led businesses tend to start their business with a lower capital injection and relying more on their own financial resources than on third-party sources (Carter and Show 2006; Coleman and Robb 2009). In addition, the use of sources of finance, such as venture capital, appears to be used very little by female-run businesses (Aspray and McGrath Cohoon 2007). To summarize the aspects analyzed in the literature, it emerges that female enterprises are on average younger and smaller than male enterprises, are more concentrated in the trade and services sectors, and are more likely to be organized as sole proprietorships rather than as companies. Each of these specific characteristics could influence the relationship of women's companies with third parties providing loans.

The literature examined the topic on both the demand and supply sides of the credit market. The literature focuses on two possible main explanations: debt aversion on the demand side and supply side discrimination (Villaseca et al. 2020).

On the demand side, there are several studies that show that, many companies led by women do not proceed at all to requests for funding for fear of rejection (Ongena and Popov 2016; Treichel and Scott 2006) or a lower probability of applying for loans than companies led by men (Robb and Wolken 2002; Galli et al. 2020; Moro et al. 2017). The literature highlights a risk aversion on the part of women when starting a business compared to male counterparts (Mittal and Vyas 2011; Kwapisz et al. 2014).

This difference in the view of risk can create a different approach toward the entities that provide funding. The research of Brush et al. (2014) found that the majority of early-stage women's businesses finance their company with their own capital by avoiding the use of external finance.

On the demand side, apart from the possible discrepancies rooted in the structural characteristics of the female enterprise itself, the differences are often linked to the problem of a greater risk aversion of women, which may imply a lower propensity to exploit the enterprise through external funds (Croson and Gneezy 2009).

In addition, differences in demand behavior may result from a possible lower ability and propensity on the part of women to negotiate than men (Babcock and Laschever 2003). In financial markets, a difference in risk attitudes on the part of entrepreneurs can lead to differences in the approach to granting finance between male and female firms.

Some authors (Marlow and Carter 2006) argue that women tend to ask for less funding because, on the one hand, they prefer to run smaller businesses (which allow for a better work-life balance through flexible or part-time work) and, on the other, they are more reluctant to take on the burden of debt (Carter and Show 2006). Just as the application of different conditions may be the result of past discrimination leading to discouragement on the part of enterprises run by women (Cavalluzzo and Cavalluzzo 1998).

Therefore, women continue to have an attitude of distrust and detachment toward banks and in particular bank debt. That is not good. It is well known that, especially in the early stages of entrepreneurial activity, the possibility of accessing adequate financing plays a fundamental role in the company's ability to survive. The credit gap could therefore be a factor that hinders the growth of women's businesses.

Turning to the supply side, the existing literature does not ascertain that female entrepreneurs actually have to face different credit conditions, there are no studies that actually ascertain their inequality (Cavalluzzo et al. 2002; Coleman 2000; Blanchflower et al. 2003, Stefani and Vacca 2013, Bellucci et al. 2010; Ongena and Popov 2016).

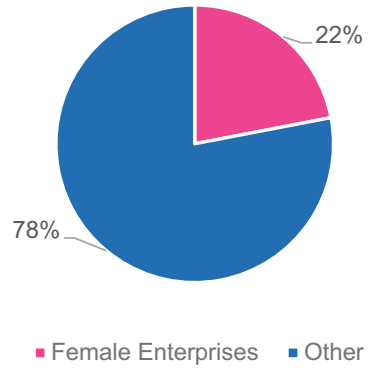
On the supply side, the issue therefore emerges that the gender of the applicant can be a conditioning element for banks in the choice of acceptance or rejection of the loan request, as well as the interest rate applied or the personal guarantees required (Beck et al. 2006) or even the attitude on the part of the bank's interlocutors toward women entrepreneurs that tends to penalize them in the event that the bank employee who decides on the assignment of credit is a man.

However, it must be said that for some time, entrepreneurship research has attributed gender differences in access to finance mainly to situations that highlight the differences between male and female supply-side enterprises (Carter and Show 2006). These causes of discrimination are mainly linked to the differences associated with the structural characteristics of the company led by women. In terms of supply-side factors, part of the literature attributes that traditional stereotyped gender roles discourage women from undertaking entrepreneurial ventures differently than their male counterparts and this would also result in a limitation in access to credit (Kwong et al. 2012).

The literature highlights two other themes on which gender counterparts stand out, first of all the dimensional aspect: women prefer to maintain and manage small businesses in order to ensure greater control and greater visibility over activities (Barton and Matthews 1989; Cressy 1995; Hamilton and Fox 1998; Gibb 2000; Watson 2003; Watson et al. 2009); secondly, economic activity (Loscocco et al. 1991; Carrington 2006; Coleman and Robb 2009): on the one hand, men work mainly in sectors related to production, construction, technology; on the other hand women opt mainly for sectors related to services or retail (Carrington 2006; Parker 2010; Brush et al. 2014).

However, the literature on this topic does not appear uniform and several studies believe that there are no differences in the probability of rejection between male and female entrepreneurs (Ongena and Popov 2016; Moro et al. 2017; Asiedu et al. 2012; Treichel and Scott 2006).

Fig. 1 Active companies 2020. *Source:* Data from the Women’s Entrepreneurship Observatory, Unioncamere—InfoCamere. Our processing



2 Research Approach

Access to credit and financial services is crucial if you want to open a business. As well as if you want to invest to expand it. But it is not always easy to get the necessary funds. And for women, complications often increase.

An inequality that still afflicts our society is certainly emerging. The gender gap is widespread throughout the world, albeit with huge differences between countries. Several measures have been taken to reduce the distance between women and men in health, education, the economy and politics, but to date no country has yet achieved full gender equality.

Among all the research fields that could be investigated to study the gender gap, we focus our attention on entrepreneurship and on access to and availability to credit.

In 2020, the concentration of female companies compared to the total number of companies active in our country is equal to about 22% compared to 78% of other companies, respectively, for a total of 1.3 million women’s companies active against 4.7 million for other active companies (Fig. 1).

The comparison on the territory is distributed as Fig. 2:

What emerges is that there is no particular difference in the different regions between the concentration of female enterprises and other enterprises (Table 1):

Undoubtedly, one of the biggest problems for the development of female entrepreneurship is that of access to credit, in addition to that of training. In recent years, even in those marked by pandemic, there have been several initiatives implemented to promote the financial support of female entrepreneurship, from non-repayable contributions, from the guarantee fund to the PNRR.

Normatively, female entrepreneurship means the set of activities and companies that are owned by women, or in which the corporate structure is mainly “pink.” A way of doing business, as also emerges from the graphic representations reported, still developing in Italy, a country traditionally reluctant to give space to women at work, but which plays a fundamental role for the industrial growth of the country.

Over the years, to ensure equal opportunities and to allow economic development in particular territories, rules have been issued to promote female entrepreneurship.

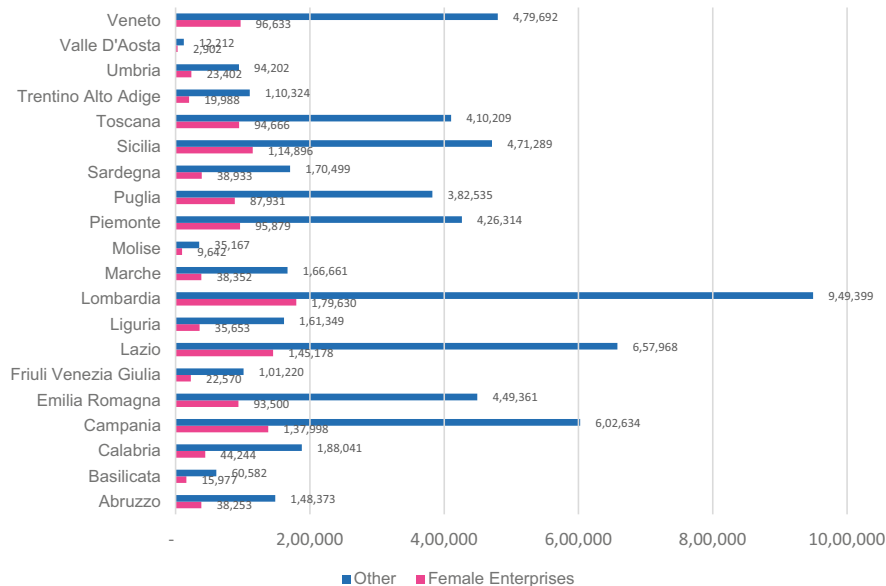


Fig. 2 Active companies 2020: distribution. *Source:* Data from the Women’s Entrepreneurship Observatory, Unioncamere—InfoCamere. Our processing

In Italy, the law governing the activities in “pink” is Law 215/92, which in addition to providing the definition of a female enterprise¹, provides for benefits in the form of capital grants, paid against investments to the most deserving projects.

The National Recovery and Resilience Plan, aims to improve women’s employment levels and to incentive and assist women-led entrepreneurial initiatives. And to do so, it puts in place, among other instruments, a leverage of 400 million euros to strengthen old and new incentives until 2026 through the establishment of a Women’s Enterprise Fund.

The aim of the research was to analyze in particular the trend of the Special Section of the Central Guarantee Fund established by agreement of 14 March 2013 between the Presidency of the Council of Ministers—Department for Equal Opportunities, Ministry of Economic Development, and Ministry of Economy and Finance, signed pursuant to the decree of the Minister of Economy and Finance in agreement with the Minister of Economic Development of 26 January 2012.

Why is the activity carried out by the Central Guarantee Fund so important²? The central guarantee fund is an instrument prepared by the Ministry of Economic Development in favor of small- and medium-sized Italian enterprises to facilitate their access to bank credit. These companies, in fact, by resorting to the guarantee fund, can count on the State as guarantor to obtain the granting of loans by the banks,

¹ Art. 2, c. 1, letter a), b), L. 215/92.

² Central Guarantee Fund (L. 662/96).

Table 1 Number of active companies 2020: concentration

	Female enterprises	Other	%
Abruzzo	38,253	1,48,373	25.8%
Basilicata	15,977	60,582	26.4%
Calabria	44,244	1,88,041	23.5%
Campania	1,37,998	6,02,634	22.9%
Emilia Romagna	93,500	4,49,361	20.8%
Friuli Venezia Giulia	22,570	1,01,220	22.3%
Lazio	1,45,178	6,57,968	22.1%
Liguria	35,653	1,61,349	22.1%
Lombardia	1,79,630	9,49,399	18.9%
Marche	38,352	1,66,661	23.0%
Molise	9,642	35,167	27.4%
Piemonte	95,879	4,26,314	22.5%
Puglia	87,931	3,82,535	23.0%
Sardegna	38,933	1,70,499	22.8%
Sicilia	1,14,896	4,71,289	24.4%
Toscana	94,666	4,10,209	23.1%
Trentino Alto Adige	19,988	1,10,324	18.1%
Umbria	23,402	94,202	24.8%
Valle D'Aosta	2,902	12,212	23.8%
Veneto	96,633	4,79,692	20.1%
<i>Totale</i>	<i>13,36,227</i>	<i>60,78,031</i>	<i>22.0%</i>

Source: Authors

even if they do not have their own guarantees. SMEs operating in various sectors and located in Italy are admitted to the Fund. The guarantee fund is an advantage not only for companies, but also for the banks that grant the loan. If, in fact, thanks to the fund and the fact of having the State as guarantor, companies are able to obtain loans more easily and on better terms, banks, on the other hand, can grant credit at zero risk: in the event that the debtor is insolvent, in fact, they will be able to refer directly to the guarantee fund or, if it is exhausted, on the State.

The analysis concerned the obtaining of the guarantee by female companies against a grant of financing by the banking system in the period before, during, and after the pandemic, as well as a comparison of the female companies that have accessed the fund compared to the rest of the companies admitted to the guarantee of the fund in the period 2000–2021.

Specifically, it emerges that the number of applications accepted by the Central Guarantee Fund in relation to the Specific Section of Women's Enterprises is structured for the period 2018–2021 as Fig. 3:

From the graph emerges a fundamental aspect, the period considered (2 years before pandemic and 2 years pandemic) illustrates how the total of applications accepted against loans obtained from women's companies is constant compared to

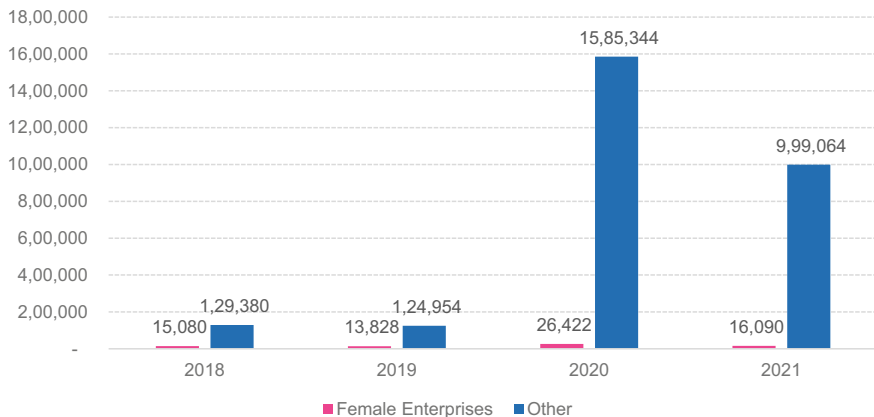


Fig. 3 Number of requests accepted. *Source:* Central Guarantee Fund data. Our processing

the number of applications accepted by other companies (approx. 11% in 2018 and 2019; ca. 1.6% in 2020 and 2021), but what must make us reflect is the exponential growth of applications accepted, as a result of the decrees law in support of the economy, of other companies compared to female companies. In fact, if we consider the increase in the two-year period 2019–2020, we note how, while the number of applications accepted against loans obtained from other companies grew by 1169%, the number of applications accepted in relation to loans requested and granted to female companies grew by only 91%.

The same consideration is also given to the amount of loans granted and the guarantees obtained.

The amount of funding accepted is quantified as Fig. 4:

The loans accepted are guaranteed for an amount equal to (Fig. 5):

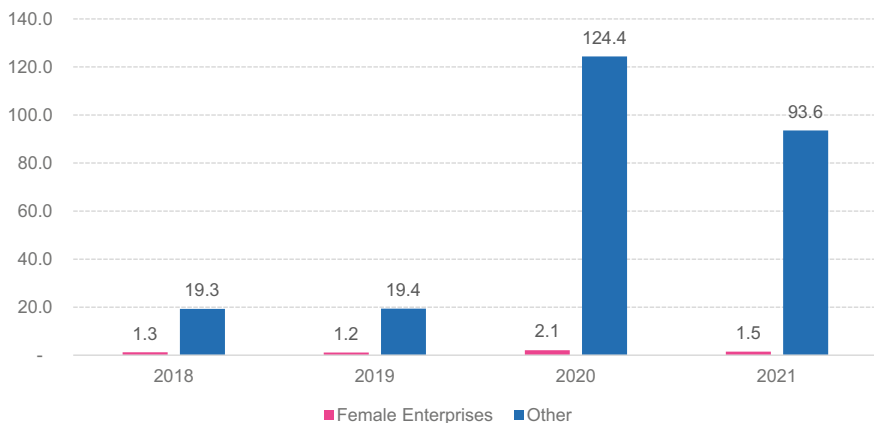


Fig. 4 Amount of funding Euro billion. *Source:* Central Guarantee Fund data. Our processing

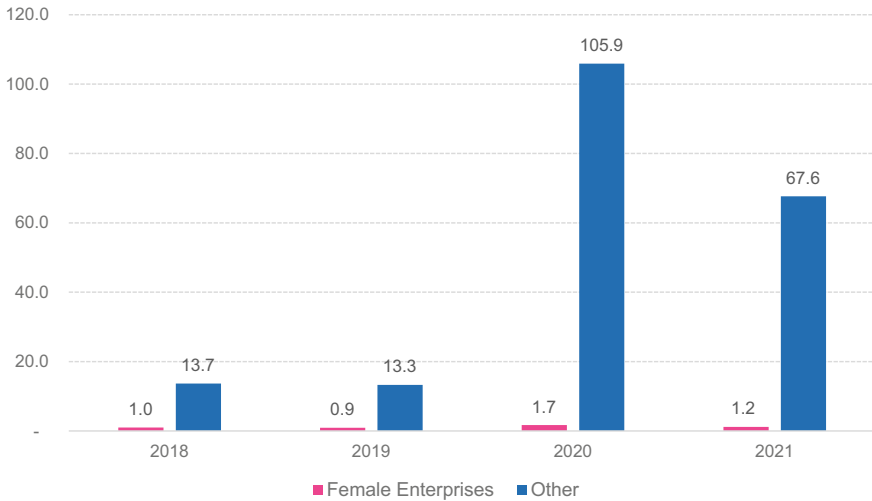
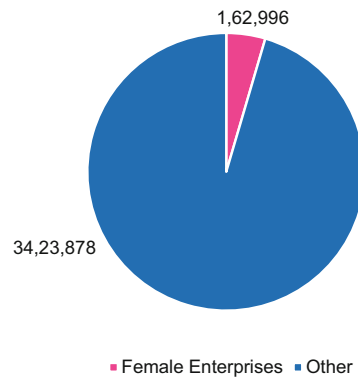


Fig. 5 Guaranteed Amount Euro billion. *Source:* Central Guarantee Fund data. Our processing

Fig. 6 Number of requests accepted 2000–2021. *Source:* Central Guarantee Fund data. Our processing



If we look at the phenomenon for a period ranging from 2000 to 2021, we find that (Fig. 6) the number of applications accepted in relation to female companies compared to the total of applications accepted, represents only 5% (applications accepted female companies 162,996 out of total applications accepted 3,586,874):

In terms of the amount of funding granted and accepted to cover the Guarantee of the Fund (Fig. 7):

Amount of the State guarantee admitted to cover the loans granted (Fig. 8):

Limitations of the research was at the moment the impossibility of accessing the detail of the information set underlying the determination of the amount in terms of numbers and values of the data relating to the Special Section of Women’s Enterprises, such as to be able to analyze in more detail the information, specifically on the territorial distribution, the sectors of activity, the size, and legal form. It could also be

Fig. 7 Amount of funding 2000–2021—Euro billion.
Source: Central Guarantee Fund data. Our processing

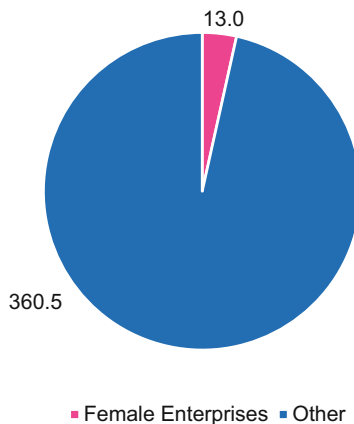
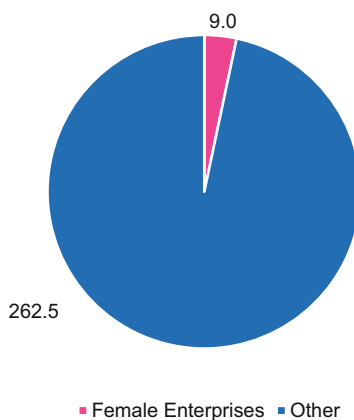


Fig. 8 Guaranteed Amount 2000–2021—Euro billion.
Source: Central Guarantee Fund data. Our processing



interesting to analyze the data relating to recovery actions and therefore the degree of survival of female companies in the period considered.

3 Conclusions

This work was intended to highlight how, despite the fact that different policies are implemented to support the female economy, what emerges is that the credit market does not appear to facilitate access to finance by women, either for reasons related to both the supply and demand side. In fact, the World Bank has issued a new category of social bonds, that of the Gender bond, bonds in support of entrepreneurial companies run by women. The first bond was placed by the World Bank, last November, through its financial institution, the International Finance Corporation

(Ifc), rated triple A. This bond could be an additional tool to support female businesses. This demonstrates the need to financially support female businesses.

But why do women's businesses represent an economic and generational opportunity? First of all, in order for female entrepreneurship to represent a generational turning point, it is necessary to intervene on training, encouraging to acquire STEM (Science, Technology, Engineering and Mathematics), knowledge and skills in science, technology, engineering, and mathematics, in order to be able to overcome gender stereotypes.

From an economic point of view, energy, empathy, and resilience are the characteristics that distinguish companies led by women, often women show a more prudent behavior not only in their financial decisions, but also in their entrepreneurial choices. Women have the talent to be able to transform disadvantages, such as prejudices and cultural heritage, into elements of competitiveness, managing to anticipate the factors of market novelty.

It is therefore necessary to intensify the regulations aimed at facilitating female entrepreneurship in Italy, as from what has been illustrated so far it seems to confirm the reluctance of women in applying for credit, despite the various incentives put in place to support the credit market for women. It is therefore necessary to strengthen specific measures to overcome this aversion to borrowing and increasing indebtedness.

According to the data presented, the strengthening of financing opportunities could represent an economic and generational opportunity especially for SMEs led by women.

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An Overview on Immigrant Female Entrepreneurship in Italy



Federico de Andreis and Francesco Antonio Rusciani

Abstract Analysing the number of companies led by foreigners can be a useful parameter to measure the labour integration of immigrants in the countries of destination and their participation in the production system.

In our country, non-Italian firms are a structurally significant reality. They appear to be characterized by a certain liveliness, often even greater than that of native companies, showing flexibility even during the pandemic, suffering its effects on a par with Italian enterprises but subsequently registering a new momentum.

A further fact to highlight is the female component in the number of foreign-owned companies, which confirms the above-mentioned vitality.

Thus, the aim of this paper is to carry out a literature review to investigate immigrant entrepreneurship with particular reference to female-owned activities, answering the following issues:

RQ1. Which is the quantitative dimension of immigrant entrepreneurship businesses in Italy?

RQ2. Which are the push factors of the phenomenon?

RQ3. How many women are among immigrant entrepreneurs, i.e. which is the quantitative dimension of immigrant enterprises led by women?

Specifically, the aim is to analyse the dimension and the reasons of the phenomenon in Italy and the presence of women in foreign entrepreneurship.

Literature searches have been conducted, using a set of selected keywords and selected papers have been analysed in an attempt to identify main topics and results.

This paper contributes to expand the literature on foreign entrepreneurship in Italy and immigrant female entrepreneurship, investigating the extent of the phenomenon, its motivations and possible implications and, furthermore, it aims to help the foreign

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entrepreneurship universe to become aware of the immigrant enterprise phenomenon.

Keywords Entrepreneurship · Immigrants · Social integration · Immigrant female entrepreneurship

1 Introduction

The topic of immigrant entrepreneurship is increasingly addressed in literature, particularly in Economics and Management due to the growing intensity of migration flows to the more developed, or strongly developing countries (Collins and Low 2010).

Investigating the phenomenon of immigrant enterprise offers important insights, since the presence and growth of companies led by foreign immigrants are elements that have profoundly changed the framework of entrepreneurship and do not seem destined to end in the short term (Kerr and Kerr 2016).

In the observation of the phenomenon and its evolution, we are witnessing a growth in business activities led by female immigrant as a probable consequence of the reduced difficulty in networking, but also the possible driving effect on the emergence of other women-owned businesses.

The role of the women in society, as well as in entrepreneurship, has deeply changed in the last 50 years, mainly in the north of the world, despite the fact that the gender gap is a relevant issue in every study area (Knight 2016).

Many studies provide evidence that the enterprises carried on by woman are increasing in all countries of the world, so the entrepreneurship is no longer a male-only business, and especially that the main features of women like resilience, imagination, and flexibility are what enterprises need to emerge from crisis periods, like the one due to the Covid-19 pandemic that we are living nowadays (Fairlie 2020).

Literature has often associated the entrepreneur with the archetype of the successful white man, almost elevated to a hero; without considering that there can be female entrepreneurs as well as immigrant women (Essers et al. 2010). Studies about female immigrant entrepreneurship come from two fields of research that provide answers on the topic incidentally, and not directly. The research focuses on female entrepreneurship or on immigrant entrepreneurship, there are not many surveys focused on the combination of these two conditions of obvious disadvantage, taking into consideration both conditions that immigrant women entrepreneurs face at different stages of their lives (Collins and Low 2010).

The topic of female immigrant entrepreneurship has been associated with the theory of intersectionality: in fact, this topic has often been addressed in the context of studies on feminism, rather on immigration; the theory of intersectionality has allowed the notion of ‘female ethnicity’ to be developed (Essers et al. 2010). Indeed, the topic of female immigrant entrepreneurship, in the context of business and

economic studies, is still little addressed in the literature, even though the phenomenon is rapidly growing (De Vita et al. 2014).

From here, the aim of this paper is to carry out a literature review to investigate the presence of immigrant enterprises in Italy, also by using empirical data, and the incidence of female enterprises.

To summarize, the aim is therefore to answer the following issues:

RQ1. Which is the quantitative dimension of immigrant entrepreneurship in Italy?

RQ2. Which are the push factors of the phenomenon?

RQ3. How many women are among immigrant entrepreneurs, i.e. which is the quantitative dimension of immigrant enterprises led by women?

The research is structured as follows. In the following Sect. 2, the method of the literature review is set out. Next, the findings of the literature analysis are shown in Sect. 3 and, in Sect. 4, a context analysis is presented. Furthermore conclusions and implications for future research are presented in Sect. 5.

This paper contributes to expand the literature on connection between gender studies and female entrepreneurship, emphasizing the topic analysed as emerging issue, which gives us the possibility to identify new trends and future directions for research.

The research therefore aims to help the foreign entrepreneurship universe to become aware of the immigrant enterprise phenomenon and wants to provide a mapping of the existing reality in Italy.

2 Research Approach and Methodology

In the present research, a qualitative analysis of the phenomenon of female immigrant entrepreneurship was used, using an exploratory descriptive qualitative (EDQ) analysis with reference to the Italian context-specific part and a literature analysis with reference to the general context.

EDQ is a qualitative methodology suitable for addressing research objectives that aim to provide a direct description of phenomena. In particular, this methodology allows scholars to get to know the subjects involved, their characteristics and the locations of the phenomenon of interest (Caelli et al. 2003).

The 12 papers taken into account in the research to outline the general international context are the result of a structured literature analysis, which provided for the subdivision of the papers extracted from Scopus according to the following classes.

The papers included in the analysis refer only to economic and business subjects.

Considering only research-related results, the 12 paper analysed papers belong to the article focus reported in point A1, Table 1 and in order to carry out an analysis of actual scientifically relevant material, just those papers with more than 20 citations. Then, in order to deepen the contextual analysis on the Italian area, articles were taken from Google Scholar, taking into consideration those having the article focus

Table 1 Classification system from Paoloni–Demartini framework

A. Article focus		G. Geographical area	
A1	Female entrepreneurship	G1	Africa
A2	Corporate governance	G2	Asia
A3	Gender equality	G3	Central and South America
A4	Other	G4	Comparative
M. Research method		G5	Europe
M1	Literature analysis	G6	Middle East
M2	Other	G7	No geographical focus or countries belong to different areas
M3	Qualitative research	G8	North America
M4	Quantitative research	G9	Oceania
M5	Research mix	G10	United Kingdom

Source: Paoloni and Demartini (2016)

on ‘Immigrant entrepreneurship’ and offering the broadest qualitative and descriptive approach.

2.1 *Scopus Results Selection of 12 Papers About Entrepreneurship*

The classification system deriving from Paoloni and Demartini (2016) framework is based on the identification of four categories of documents (point A, Table 1) in which are included specific sub-classifications of documents (point M and point G, Table 1). Female entrepreneurship seems to be not relevant for the study in the articles with a focus on points A2, A3, and A4.

3 Literature Analysis

The presence and growth of the enterprises led by foreign immigrant citizens are phenomena that have profoundly changed the framework of entrepreneurship in the EU and that do not seem destined to end in the short term.

Italy, as is well known, has been fully immersed since the 1990s in the centre of migratory flows that have made it a strongly settled country, with a process of growth of the foreign population with very accentuated trends. These flows have made the foreign presence an unavoidable component and a structural feature of Italian society.

Since the 1990s, foreign entrepreneurs have always increased, maintaining a positive trend even during the crisis years.

In order to understand the interpretative perspectives of the phenomenon, we need to refer to different scientific disciplines such as ethnic studies, sociology, economic and urban geography studies, business studies, economic policy, which in their breadth of investigation allow us to reach a complete level of analysis of a complex phenomenon.

The first important element to investigate are factors underlying the start-up of the entrepreneurial activity, which we can group into subjective and environmental (Giaccone 2014).

Subjective factors include those aspects related to the entrepreneur and his or her propensity towards entrepreneurial activity, such as the psychological, religious, socio-cultural background of certain ethnic groups, as well as the sharing of values such as the propensity to take risks, the desire for self-fulfilment, frugality, independence, and self-discipline (Chaganti and Greene 2002).

In the environmental factors we can group economic-institutional factors, such as existing legislation, the tax system, infrastructure, institutional barriers, government policies for entrepreneurship, and the tax system and economic-social factors, including business opportunities for foreigners' accessibility to employment, competitive barriers, the culture of welcoming immigrants, and culture of entrepreneurship. In particular, economic-institutional factors include the territories' ability to attract foreign entrepreneurs through appropriate policies (Clydesale 2008). In there is a marked link between immigrant entrepreneurship and the host territory deriving from factors such as aptitude for entrepreneurship, easy access to the acquisition of resources, perception of market opportunities, relative advantage in the labour market, and a role of influence towards entrepreneurship (Levie 2007).

More specifically, economic-social factors include business opportunities arising from belonging to a social network/network (strong immigrant community). The community of belonging, through internally developed relations, can in fact support the new enterprise by providing economic support or human resources and representing a first reference market. It, therefore, plays the role of a spontaneous business incubator as it can foster the start-up and development of entrepreneurial initiatives through the activation of informal relationships.

In summary, we can therefore state that the main theories constructed in relation to the study of immigrant or minority entrepreneurship generally refer to two basic starting points: the role, so to speak, of 'ethnic specificity' and cultural factors; and the importance of the supply side in defining a market for immigrant entrepreneurs (Barberis 2008).

Continuing with the main theories analysing the presence of immigrant businesses in our country, we can see three approaches that have tried to explain the origin of the phenomenon.

Firstly, we can consider the cultural approach that sees ethnicity as the central point, considering cultural particularities as facilitators of an ethnic group's specialization in particular market segments or entrepreneurial activities, tending to exclude non-members of the ethnic community and passing on, through relationships of trust, activities to members of the same community (Liebersson 1982). The approach evolution sees in the relations between social networks, which behaviour has

economic implications (social embeddedness: maximization of social resources available in a given social group) an element of lower economic risk of entrepreneurial activities, as they are characterized by a greater sharing of values and social capital.

In summary, the culturalist approach sees cultural factors as the main explanatory elements of the immigrant entrepreneurship phenomenon, lending itself to several criticisms. Among the main ones is the complete lack of attention to the changes and characteristics of the labour market (Engelen 2001), as well as to the dynamics related to the supply and demand of goods and services.

A second approach useful to analyse the phenomenon is the structuralist one, which focuses on the structural factors that influence the creation and stabilization of immigrant entrepreneurial activity. These factors include the institutional and legislative framework; access to capital; economic market conditions and related entry barriers to industrial sectors; the level of competition; elements of (racial) discrimination, and the situation of international markets.

This approach, based on social, political, and economic circumstances (Cole 1959), relates the possibility of undertaking entrepreneurial activity to the structure of opportunities available to the foreigner.

Finally, the immigrant enterprise can be described by taking a multidisciplinary approach, that of mixed embeddedness (i.e. incorporation). In order to propose an interpretation of immigrant entrepreneurship that goes beyond the differentiation between autochthonous structural elements and allochthonous relational and cultural aspects, this third analysis of the phenomenon pays attention to both group resources and the structure of opportunities present in the destination society, also taking into account the institutional dimension, immigration policies, laws on flows and permits, and the political-cultural project of integration.

This approach, which appears to be more comprehensive and clarifying, takes into account three elements as cultural and relational aspects that characterize the immigrant entrepreneur and his community and, at the same time, how these factors interact with the local reality and community; specific characteristics of the target market and, finally, structural factors and dimensions of the public policy system and in relation to both entrepreneurship and the regulation of migratory flows. For a better understanding, it should be noted that this approach is based on the assumption that structural and cultural components influence the strategies that immigrant entrepreneurs implement in order to establish an economic activity in the host country, where strategies are to be understood as the resultant between group characteristics and the structure of territorial opportunities (Aldrich and Waldinger 1990).

This theoretical model argues that the success of immigrant entrepreneurial activities depends on the complex interaction between the structure of opportunities, the resources that can be activated by the community of origin, the individual characteristics of the entrepreneur and the entrepreneurial activity and, finally, the regulatory and political system of reference concerning market organization and migration policies (Kloosterman and Rath 2001).

It follows, from the multidisciplinary perspective mentioned above, that the choice of location in which to start a business depends on the favourable conditions, structural and/or cultural that a geographical area offers.

In the phenomenon of immigrant enterprise, therefore, the territorial dimension can be seen as a structural element, i.e. the area most suited to the start of an entrepreneurial activity, as a culturalist element, i.e. the rootedness in the territory of ethnic communities of belonging (Barberis and Solano 2018).

Conceptualizing better the figure of the immigrant entrepreneur, it emerges that he/she is not simply the foreign national entirely influenced by his/her ethnic roots, or as a profit-oriented entrepreneur, but as the combination of both elements.

Moreover, another innovative aspect of the theories pertaining to the mixed embeddedness approach can be found in the inclusion of individual elements that influence the immigrant entrepreneur's determination to continue his enterprise in the host country. In other words, these elements identify those characteristics and capabilities of the entrepreneur outside the cultural dimension, which can influence the ability to do business.

These aspects include level of education, age, previous entrepreneurial experience, as well as the migration experience and level of integration in the host country.

4 Context Analysis

Moving to a more quantitative analysis of immigrant entrepreneurship shows that one out of 10 enterprises in Italy is foreign (Unioncamere 2021). Immigrant entrepreneurship, in fact, is a reality that drives more than 630,000 enterprises, of which 3 out of 4 are sole traders.

Entrepreneurs from Nigeria, Pakistan, and Albania in particular are on the rise, while those from China and Morocco are in more marked decline. Together with the Romanians, however, they remain in absolute terms the largest foreign business community in our country.

A classification can be made by dividing by sector, legal form, location, nationality, and size form/class.

Concerning the sector, it emerges that retail is the activity in which 1 in 4 foreign enterprises engage. But it is in the telecommunications and clothing sectors that immigrant entrepreneurs achieve the highest weight in the total number of enterprises in the various sectors (32.8% and 32.5%, respectively).

Non-EU entrepreneurs are mainly concentrated in wholesale and retail trade (42.2% of the total) and in construction (21.7%), while the remaining share is distributed among the other sectors and mainly in manufacturing activities (8.0%), in rental, travel agencies, business support services (6.3%) and in the accommodation and catering services sector (6.1%).

As legal form that of the sole proprietorship is the most widespread, with more than 480.000 enterprises or 15.4% of the total number of sole proprietorships

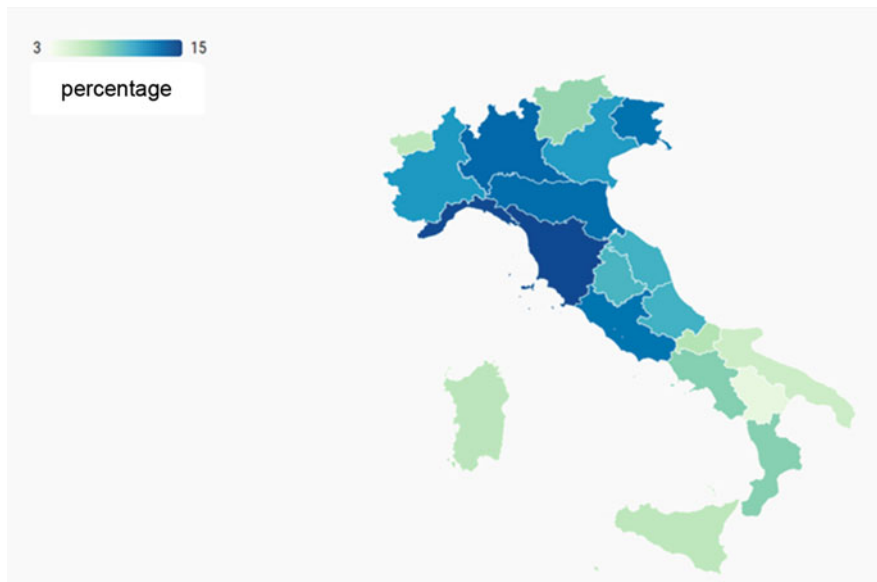


Fig. 1 The percentage of foreigners' enterprises out of total enterprises in Italian regions (2020).
Source: Openpolis

operating in Italy. While joint stock companies constitute a residual part and slightly exceed 100.000 units, followed by partnerships (39.000).

Proceeding in the analysis, the localization aspect also plays an important role. Tuscany (14.4%), Liguria (14%), Latium and Lombardy (12.8%), Emilia Romagna, and Friuli Venezia Giulia (12.5%) are the regions that have seen a greater penetration of foreign companies in their production base. However, in absolute terms, Lombardy, Lazio, and Campania top the list in terms of the number of enterprises led by immigrants (Fig. 1).

With reference to the nationality of business owners, in absolute values the largest number of companies is found in the case of Moroccans (63.813), Chinese (52.534), Albanians (34.730 units), and Bangladeshis (31.048).

Finally, with reference to size form/class, 70.0% of the enterprises with a non-EU foreign owner have 1 employee, 4.2% between 2 and 5 employees, 12.8% 0 employees, and 1.9% between 6 and 9 employees. These are, therefore, companies in which there is predominantly only one employee in addition to the entrepreneur who runs the business.

Returning, however, to the above-mentioned reasons, we cannot disregard the evaluation of the vocation for entrepreneurial activity through data. In fact, there are some countries that are characterized by a more pronounced 'vocation' for entrepreneurship. More than 40.0% of all foreign-born entrepreneurs, in fact, come from four countries: Morocco, China, Romania, and Albania.

Moroccans, Chinese, Romanians, and Albanians rank first in terms of number of business owners; Bangladeshis, Senegalese, Egyptians, Pakistanis, and Tunisians are also in the top positions.

While the option to open a business seems to be inherent to the migrant condition, the country of origin determines a selection of sectors in which to exercise one's entrepreneurial vitality and, consequently, produces a sort of 'ethnicisation' of businesses that is particularly evident in some sectors. It is no coincidence that three different countries appear at the top of the list of foreign-born business owners in sectors where foreigners are very present (such as trade, construction, and accommodation and catering).

In the construction sector, the most active are the Romanians, who own 29.845 companies, i.e. 26.1% of the total of 114.322 companies managed by foreigners; they are followed by the Albanians, who own 22.175 companies (19.4%) and, at a great distance, the Moroccans, among whom there are 9.192 (8.0%) construction entrepreneurs: 53.5% of foreign construction entrepreneurs come from these three countries.

The ranking of traders is led by the Moroccans, numbering 46.924 and representing 25.8% of the total number of wholesale or retail traders of foreign origin working in Italy; they are followed by the Bangladeshis, totalling 19.986, the Chinese, amounting to 19.280, and the Senegalese, who are 16.749: 56.6% of the total number of traders of foreign origin working in Italy belong to these four communities. Finally, in the accommodation and catering sector, Chinese entrepreneurs excel, who number 7.151 and represent 25.9% of the total number of foreign-born owners active in this sector; they are followed by 2.838 Egyptians (10.3%) and 2.185 Romanians (7.9%).

However, if instead of starting from the sectors of activity we consider the country of origin, we find that 68.1% of the 64.690 Moroccan entrepreneurs in Italy chose to start an activity in retail trade (fixed or itinerant location): for them all the other options are residual, with the only, partial exception of the owners of firms carrying out specialized construction work, who represent 12.8% of Moroccan citizens who own a business.

The business options of the 50.899 Chinese entrepreneurs are more distributed, among whom there are 14.324 retail traders (28.1% of the total), but also 11.643 owners of garment or leather goods manufacturing companies and 4.119 leather goods manufacturers), 7.001 restaurateurs an activity in which the Chinese have specialized, and 4.906 wholesale traders.

Among the Romanian business owners, entrepreneurs engaged in specialized construction work (26.182 owners, who count for 54.6% of the total) or building work (3.598) prevail, while traders (3.335 who represent the 7.0%) and restaurateurs are less numerous.

The entrepreneurial presence of Albanians is less articulated; in fact, about two thirds of the 31.425 owners have a business active in the building sector.

Finally, the 29.685 Bangladeshis are mainly present in retail trade (64.7% of the total) and in business service activities.

Fig. 2 Non-national born owners of active enterprises by gender (2020). *Source:* data Telemaco-Infocamere compiled by the authors

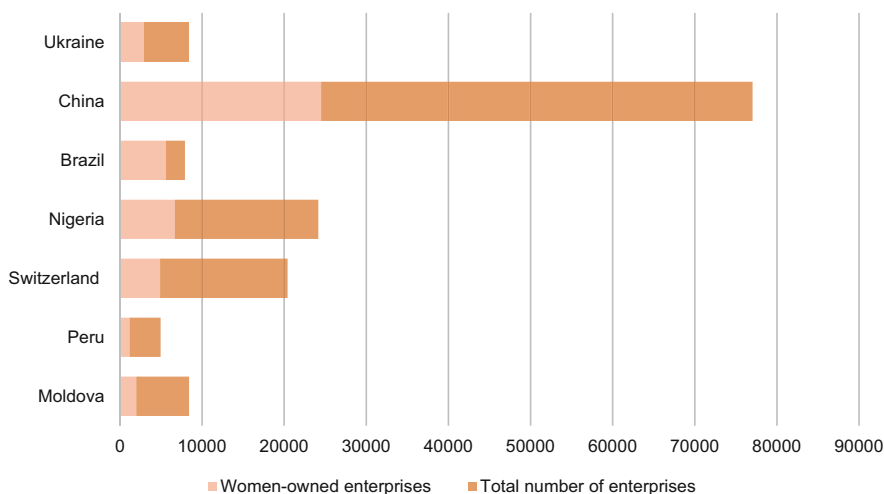
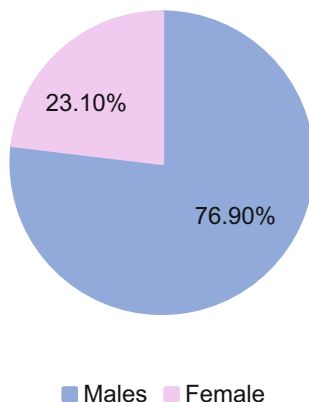


Fig. 3 Women’s enterprises on the total. Most representative countries of origin (2020). *Source:* data Unioncamere-Infocamere compiled by the authors

As part of immigrant entrepreneurship, the female component, although in the minority, has shown a steadily increasing trend over time. The same trend has been shown by foreign enterprises in Italy, where female foreign enterprises are constantly growing, and representing just over 23% of the total number (Fig. 2) (Censis 2019).

A gender reading of available data reveals a conspicuous presence of women in the case of some nationalities (Fig. 3).

For example, the female component is very high among citizens from Ukraine (54.0% of the total), China (46.6% of the total), Brazil (41.6%), Nigeria (38.1%), Switzerland (31.5%), Peru (31.1%), Moldova (30.7%).

Trying to understand what is behind the dynamics of migrants' enterprise formation, with particular attention to the gender perspective, the question arises as to how much the existing group of foreign enterprises constitutes an attractive factor for the formation of new 'similar' initiatives, i.e. with the same country of origin of the owner, or with the same province of destination or type of activity.

Despite these growing values, it appears that there is a less powerful network effect for women than for men. One explanation for this result could lie in the lower possibility of women to form useful networks of relationships.

This network effect is greatly influenced by the degree of gender inequality in migrants' countries of origin. Men and women who come from countries that tend to be egalitarian show no significant differences in the network effect, whereas women who come from countries with pronounced gender inequality have a much smaller network effect than men. Women's ability to network is thus crucially influenced by the gender culture ingrained in them (Colombelli et al. 2020).

Additionally, women immigrant entrepreneurs, from what emerges from the literature, are a particularly disadvantaged category due to the socio-economic context, having to deal with both the condition of women, in relation to the context of origin and that of arrival, and secondly, that of immigrants (Chreim et al. 2018).

The socio-economic context of the host country is also significantly relevant in order to identify and analyse the obstacles faced by female immigrant entrepreneurs: in fact, as two social aspects such as gender and immigration intersect, the context in which the phenomenon is observed conditions the evidence that emerges from observation.

A culturally open and evolved environment, which combines economic conditions and social values with favourable regulations, will facilitate access to the world of entrepreneurship even for a disadvantaged category such as immigrant women.

However, even in the most developed countries, the conditions of women and immigrants constitute barriers to entry (Munkejord 2016): access to credit is the main obstacle in starting a business, as the ethnic environment from which they struggle to break free. In fact, Munkejord (2016) points out that the religion to which a woman belongs also constitutes an impediment in starting a business and work activity in general: in some cultures, the female role is associated with domestic tasks and subordinated to male needs.

Women who emigrate to developed or developing countries often do so to follow their husbands and children, suffering the consequences of others' choices. Therefore, not being driven by their own self-interest, they face cultural, economic, and language barriers.

These barriers lead women to undertake business activities, particularly in the service sector, where the need for start-up capital is lower, by employing members of their own family or ethnic group. Therefore, the role of female entrepreneurs may not be accepted in the ethnic community they belong to, which, as Munkejord (2016) observed, is the context from which they draw resources and sell their product or provide services.

5 Conclusions and Implications for Future Research

From what has been observed, it emerges that this topic in the scientific literature, in the subject areas of ‘Business Management and Accounting’, and ‘Economics, Econometrics and Finance’ is still not a well-defined object of study.

However, research in this field leaves ample opportunities for studies on this topic because both intersecting themes are increasingly addressed.

The research shows that the number of immigrant enterprises is growing strongly, particularly in Italy where there are more than 630,000 immigrant entrepreneurs.

Within immigrant entrepreneurship, female entrepreneurship is of particular interest. In fact, the results showed a strong and consolidated growth over time, both in terms of the number of female entrepreneurs and the interest shown in the literature.

However, female immigrant entrepreneurs still face greater difficulties than men due to gender differences rooted in their culture of origin.

Furthermore, the Covid-19 pandemic has accentuated differences, including gender differences (Fairlie 2020). Therefore, it is to be expected that there will be a considerable increase in research addressing the impact of the economic crisis from the pandemic also in the field of immigrant female entrepreneurship.

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Access to Public Grants During the Covid-19 Pandemic: What Are the Differences Between Women and Men Entrepreneurs?



Annalisa Sentuti, Gail Denisse Chamochumbi Diaz,
and Francesca Maria Cesaroni

Abstract This study seeks to analyse whether and how Italian men and women entrepreneurs have accessed public grants to deal with the consequences of the Covid-19 pandemic. Namely, it aims to investigate whether there are significant differences among men and women entrepreneurs in terms of: (a) whether they applied for a grant; (b) the amount requested; (c) the type of grant requested. A sample of 239 (128 men and 111 women) sole-proprietors and owners of micro-enterprises located in the Marche region (Central Italy) was selected. Data about public grants requested, the amount and the type were collected by consulting Atoka, a Cerved database. Descriptive statistics have been used to analyse results and check whether statistically significant differences between men and women entrepreneurs emerge. A comparative analysis among men and women could be useful to better understand whether and how gender still influences access to finance and, consequently, the path of women entrepreneurs and the development of their businesses (especially during the economic crisis). Prior studies have suggested a positive impact of grants on small businesses' development, particularly those aimed at women entrepreneurs. We believe it is particularly important to understand whether women entrepreneurs have successfully applied for grants and whether their behaviours can be considered aligned with that of their male colleagues.

Keywords Women entrepreneurs · Public grants · Economic crisis · Covid-19 pandemic

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1 Introduction

The Covid-19 pandemic has dramatically affected global economic activity. In an attempt to slow the spread of the coronavirus pandemic, governments around the world have introduced strict limitations. The business activity of many companies has been severely disrupted due to the global business shutdown that caused a severe liquidity crunch and an unprecedented adverse impact on most economic industries, especially on small enterprises (Core and De Marco 2021; ECB 2020). Furthermore, women entrepreneurs have been more affected by the crisis than men (GEM 2021). Italy is one of the countries most severely affected by the negative consequences of the pandemic and the impact on small businesses and, in particular, women-led enterprises, which has been detrimental (Istat 2021; Unioncamere 2020a). To stem this adversity, grants for entrepreneurs were made available by governments to support companies and favour their survival.

Recent studies have shown that these measures, in the form of small public grants, can be beneficial, particularly for women entrepreneurs, as they increase bank lending and have a positive impact on turnover, value-added, capital, employment and productivity (Srhoj et al. 2021). However, prior research has underlined that women apply for fewer loans than men (Garwe and Fatoki 2012; Robb and Walken 2002), they are less likely than men to raise capital from external sources (Guzman and Kacperczyk 2019; Fairlie and Robb 2009), are more likely than men to use personal loans (Coleman and Robb 2009) and are more cautious than men in accessing finance during financial crises (Cesaroni and Sentuti 2016).

Starting from this scenario, this study aims to investigate what happened in Italy with regard to the demand for public grants to deal with the consequences of the Covid-19 pandemic. Namely, this research analyses whether and how Italian men and women entrepreneurs have accessed public grants. Moreover, it seeks to explore possible gender differences among men and women entrepreneurs in terms of: (a) whether they applied for a grant; (b) the amount requested; (c) the type of grant requested.

To accomplish the research's objective, a sample of 239 (128 men and 111 women) sole-proprietors, owners of micro-enterprises located in the Marche region (Central Italy) was selected. Data about public grants requested, the amount and the type were collected by consulting Atoka, a Cerved database. Descriptive statistics were used to analyse results and check whether statistically significant differences between men and women entrepreneurs emerge.

According to the findings, more than two out of three enterprises (67.4%) have made use of one or more support measures provided by the Italian Government. Women entrepreneurs have made greater use of these measures than their male colleagues, and some important differences between women and men entrepreneurs' access to public funds have emerged.

This paper contributes to the broad debate on access to finance by women entrepreneurs (Giglio 2021) by offering a preliminary investigation on women entrepreneurs' access to the public grants provided by the Italian government to

support small enterprises. It highlights some interesting differences between women-led and men-led enterprises, which can be the subject of further research.

The remainder of this paper is organised as follows. Section 2 presents the literature background. Section 3 describes the research methodology, while Sect. 4 illustrates the main findings of the research. The last section is devoted to presenting the discussion of the results and the main conclusions.

2 Literature Background

According to prior research, men and women entrepreneurs reveal significant differences in access to finance (Cesaroni and Sentuti 2016; Coleman and Robb 2009; Constantinidis et al. 2006; Fairlie and Robb 2009; Robb and Walken 2002). Namely, women entrepreneurs start their business with a lower level of funding than men entrepreneurs (Alsos et al. 2006), mainly due to their lower chance of raising capital from external sources (Constantinidis et al. 2006; Fairlie and Robb 2009; Robb and Walken 2002). Women are more likely than men to use personal loans—from family and friends—and this propensity persists even in the later stages of the business (Coleman and Robb 2009) to the extent that demand for debt finance is generally lower for women entrepreneurs than for their male counterparts (Croson and Gneezy 2009; Huang and Kisgen 2013).

Differences in demand for debt finance may result from a combination of supply-, demand- and structural-related factors (Cesaroni and Sentuti 2016; Singh and Dash 2021).

Supply-related factors refer to possible banks' discriminatory behaviours. Prior research has found that women entrepreneurs are less likely than their male counterparts to get bank loans (Heidrick and Nicol 2002; Muravyev et al. 2009), to have to pay higher interest rates (Muravyev et al. 2009; Alesina et al. 2013) and to provide higher collateral (Bellucci et al. 2010; Calcagnini et al. 2015). However, other research has not found any gender-based discrimination in accessing finance by women-led businesses (Borghans et al. 2009; Carter et al. 2007; Robb and Walken 2002) or even that they face lower discrimination than men-led businesses (Asiedu et al. 2012; Hansen and Rand 2014). Thus, results about supply-related factors are not unequivocal (Singh and Dash 2021), and, in any case, these factors are, in general, not under entrepreneurs' control (Bellucci et al. 2010; Carter et al. 2007; Foss et al. 2019).

Demand-related factors suggest that gender differences in accessing finance are the result of women entrepreneurs' personal choices, characteristics and motivations. Women entrepreneurs have a lower propensity towards debts (Cesaroni and Sentuti 2016; Morris et al. 2006) and are more likely to use individual funds, informal borrowings and family loans to finance their businesses (Coleman and Robb 2009; Treichel and Scott 2006). Several authors found an explanation for these differences in women entrepreneurs' greater risk aversion towards debts (Block et al. 2015; Byrnes et al. 1999; Croson and Gneezy 2009) or lack of financial literacy (Coleman

2002). Furthermore, men are more capable of negotiating than women (Babcock et al. 2003). Moreover, women entrepreneurs are, on average, younger with a shorter banking history and fewer business experiences than men, and these characteristics can also negatively affect access to credit (Shaw et al. 2001). Finally, according to some authors, women entrepreneurs suffer from ‘preventive fear’; they are discouraged from applying for funding because they expect their applications have little chance of being accepted (Ongena and Popov 2013; Robb and Walken 2002; Sena et al. 2012).

Structural-related factors explain women entrepreneurs’ lower access to finance by differences between women-led and men-led businesses, with particular regard to industry, size and age. Women-led businesses are, on average, typically younger and smaller than men-led firms and primarily operate in retail trade and service industries (GEM 2021). Consequently, they have less debt because, on average, they require lower financial resources with respect to older, bigger and industrial firms (Sabarwal and Terrell 2008).

These multiple perspectives have not produced unequivocal results and leave room for future research avenues (Cesaroni and Sentuti 2016; Giglio 2021). Moreover, the adverse impact triggered by the Covid-19 pandemic on industries and especially on small businesses has aroused new interest in this subject. Governments worldwide provided public funds to help the real economy through fiscal measures, direct grants and mainly public guarantees on private credit. Some authors have underlined that it is crucial to understand whether the existence of any ‘frictions’ can distort the allocation of public funds (Core and De Marco 2021: 2). Prior research and empirical evidence suggest that differences between men and women entrepreneurs may have occurred in access to public funds made available by governments to support businesses. The topic is particularly relevant, but there is still very little empirical research on the subject, especially with regard to the current economic situation.

Previous research has shown that such measures, even if small in amount, are particularly useful during recession times, especially for women entrepreneurs. Srhoj et al. (2021) investigated the effect of small public grants for women entrepreneurs provided by the government during the financial crisis in 2008. They proved that the consequences were not only positive but manifold. ‘Grants were used for childcare and business consultancy costs to alleviate time and information constraints of women entrepreneurs. Benefiting from these grants resulted in higher bank loans. The women entrepreneurs, on average, invested more money in capital and had better performance measures like turnover and value-added. The effect was particularly evident among more experienced women entrepreneurs’ (Srhoj et al. 2021: 1). Core and De Marco (2021) investigated whether banks can efficiently allocate public funds during a crisis. They analysed the Italian public guarantee scheme during Covid-19 and found two key bank characteristics that facilitated loan disbursement: size and information technology. These factors have been considered important because of the high volume of online applications and low-interest margins on guaranteed loans. ‘Pre-existing relationships matter for the allocation of guaranteed credit, as banks lend more in their core markets and where they have a larger share of

branches' (Core and De Marco 2021: 1). The gender of business owners has not been investigated. Nonetheless, Hewa-Wellalage et al. (2021) analysed the dynamics of debt and equity financing during the Covid-19 pandemic. By analysing a cross-country sample of 8921 private firms, they challenge the assumption of 'gender-based discrimination' in the debt market. According to their results, a slight gender bias in debt financing emerged, but only because creditors favoured women entrepreneurs when dealing with cash flow problems during the Covid-19 pandemic. Moreover, no evidence of gender bias in equity financing emerged. Consequently, in a highly uncertain context, women entrepreneurs seem to be considered more advantageous by financial institutions which seek to hedge their risk by favouring more conservative and risk-averse subjects.

In summary, gender matters in accessing finance and prior research has led us to suppose that access to public grants is not excluded. For that reason, this study seeks to analyse whether and how Italian men and women entrepreneurs have accessed public grants to deal with the consequences of the Covid-19 pandemic and to investigate whether there are any significant differences among men and women entrepreneurs exist in terms of applications, amount and type of grant requested.

3 Methodology

In order to achieve our research goals, a quantitative analysis was carried out through data collection from a sample of Italian sole-proprietors and owners of micro-enterprises located in the Marche Region (Central Italy) observed during the Covid-19 outbreak (2020 and 2021). The sample, composed of 300 local firms affiliated with the National Confederation of Craftsmanship and Small Medium Enterprises (CNA), was drawn from a prior study on the gender gap as regards access to credit during the financial crisis 2008–2012 (Cesaroni and Sentuti 2015). Recommendation 2003/361/EC has been used to define micro-enterprises.

We decided to focus on micro-enterprises because they represent the majority of companies in Italy and worldwide and have been the most affected by the crisis due to Covid-19 (Istat 2021; Core and De Marco 2021; Unioncamere 2020a). Moreover, 'Smaller firms are more likely to face liquidity restraints than larger firms. If these liquidity restraints are the result of a market breakdown [...] government assistance programs to small businesses could rectify these' (Evans and Leighton 1990: 328).

The Marche Region has one of the highest concentrations of micro and small enterprises in Italy, about 79% (Istat 2019). The impact of the Covid-19 crisis has been particularly harsh. In 2020, the regional GDP declined by 8.8% (OMRL 2021), the company mortality rate was higher than the national data (4.64% vs. 4.49%) and the same indicator for the artisan enterprises was 6.42% and 6.11% respectively (Infocamere Dashboard 2020). With respect to entrepreneur gender, the regional feminisation rate (23.0%) is slightly higher than the national percentage of women-owned businesses (21.9%). Moreover, even in this region, women-owned enterprises have been badly hit by the Covid-19 crisis: the balance of firms was negative

(−473 units), corresponding to a percentage variation of −1.22 compared to 2019, a figure markedly higher than the average national annual variation of −0.29% (Unioncamere 2020b). For all these reasons, the Marche Region appears particularly suited to such a study.

The data were collected from the Atoka database (Cerved database, which provides data on over six million Italian enterprises by leveraging Big Data and semantic web technologies). It served to verify whether the enterprises investigated in previous study were still active or otherwise, whether they applied for a grant during the Covid-19 crisis, the amount requested/obtained and the type of grant requested. Furthermore, we also gathered data about how many times firms were forced by government measures to stay closed. The Atoka data concerning public grants come from the National Register of State Aid. Data concerning industry and firm age were extracted from the CNA database made available during the prior study (Cesaroni and Sentuti 2015).

Starting with a sample of 300 enterprises (150 women and 150 men) analysed in 2013,¹ as a first step, we verified whether all these enterprises were still active or not; only 52% (156 out of 300, 82 women and 74 men) of them survived. Second, by drawing on the CNA local affiliates list previously analysed, we replaced the inactive firms (144 units) with active ones by following two criteria: the sector they belong to and the year they were established. This choice is justified by the need to recreate a representative sample of the local CNA context studied in the financial crisis. Both conditions allowed us to retrieve 93 firms; for the remaining 51 enterprises, it was not possible because they failed to meet the required conditions. The final sample was composed of 249 Italian sole-proprietors of micro-enterprises (115 women and 134 men) active in the Marche Region during the Covid-19 outbreak.

Descriptive statistics and independent T-test samples were used to analyse data and check whether statistically significant differences emerged between men and women entrepreneurs. From a methodological point of view, before running the t-test for independent samples, the outliers were identified and excluded in order to limit the potential bias in the results of the T-test; after discarding firms with outliers, the sample size was reduced to 239, 111 women and 128 men.

4 Findings

Table 1 shows the sample's characteristics, while Table 2 offers a more detailed description of the sample distribution by sector. The data display a slightly higher incidence of male-owned firms than women-owned ones. Regardless of gender,

¹In the prior study a non-proportional stratified sample with 300 sole-proprietors and the same number of men and women entrepreneurs (150 M and 150 W) was selected using the list of members from the local CNA, one of the main regional business associations. Starting from a list of 1627 sole-proprietors (429 W and 1198 M) a statistically representative sample of the population affiliated to the CNA was randomly extracted.

Table 1 Sample description

	All firms		Men-owned firms		Women-owned firms	
	N	%	N	%	N	%
Sample	239		128	53.6	111	46.4
Firm age	28.9		29.1		28.6	
Industry:						
Manufacturing	74	31.0	40	31.3	34	30.6
Trade and service	165	69.0	88	68.8	77	69.4

Source: Authors

Table 2 Distribution by sector

Sector	Men-owned firms		Women-owned firms	
	N	%	N	%
Arts	2	1.6	2	1.8
Community services	9	7.0	12	10.8
Communications	3	2.3	2	1.8
Constructions	41	32.0	0	0.0
Fashion	2	1.6	13	11.7
Food	8	6.3	16	14.4
Installation	17	13.3	0	0.0
Manufacturing	13	10.2	5	4.5
Transports	23	18.0	2	1.8
Wellness and health	8	6.3	56	50.5
Others	2	1.6	3	2.7
Total	128	100	111	100

Source: Authors

most enterprises operate in the trade and service sector, the rest belonging to the manufacturing industry and the average age of the firm is about 29 years.

By analysing the data obtained from the Atoka database, three types of state aid were identified, classifiable as support measures provided by the Italian Government to enable firms to contain and overcome the damage caused by the health emergency:

- *Public credit guarantees* announced in the decree-law (d.l.) n.18, 17 March 2020, and the d.l. n. 23, 8 April 2020 (the so-called *DL Liquidità*), regarding the urgent measures affecting credit access, granted by the Mezzogiorno MedioCredito Central Bank.
- *Tax benefits and exemptions* introduced by the d.l. n. 34/2020 (converted into law, 17 July 2020, n. 77) regarding the provisions for the regional tax on productive activities (IRAP) granted by the Agenzia delle Entrate (Revenue Agency). This measure is not a real financing, but it is nevertheless a measure taken to defend business liquidity; therefore, we have decided to maintain the analysis of this form of grant as well.

Table 3 Frequency of use of public grants (2020–2021)

	Full sample		Men-owned firms		Women-owned firms	
	N	%	N	%	N	%
Any type	78	32.6	54	42.2	24	21.7
One type	99	41.5	44	34.4	55	49.5
More than one	62	25.9	30	23.4	32	28.8
Total	239	100	128	100	111	100

Source: Authors

Table 4 Commercial activity closure frequency (2020–2021)

	Year 2020						Year 2021					
	Full sample		Men-owned firms		Women-owned firms		Full sample		Men-owned firms		Women-owned firms	
	N	%	N	%	N	%	N	%	N	%	N	%
Never	67	28.3	54	42.9	13	11.7	204	86.1	118	93.7	86	77.5
Once	6	2.5	4	3.2	2	1.8	0	0.0	0	0.0	0	0
More than once	164	69.2	68	54.0	96	86.5	33	13.9	8	6.3	25	22.5
Total	237	100	126	100	111	100	237	100	126	100	111	100

Source: Authors

- *Subsidies* provided by the d.l. n. 34, 19 May 2020, and d.l. n. 104, 14 August 2020, given by the Marche Region.

During the pandemic crisis, women-owned firms made greater use of the various support measures made available by the Italian Government (Table 3). 41.5% of the firms analysed resorted to at least ‘one type’ of public grants—49.5% of the women-owned enterprises and 34.4% of their male counterparts. Similar differences emerged among firms that used ‘more than one’ measure—28.8% and 23.4%, respectively. In keeping with these findings, only 21.7% of women-owned enterprises failed to benefit from ‘any type’ of support, compared to 42.2% of men-owned ones.

Table 4 shows how many times firms were forced by government intervention to stay closed. Overall, there were 25 decrees issued by the President of the Council of Ministers (DPCM), between 2020 and 2021, suspending all commercial activities nationwide in a bid to curb the spread of the pandemic. In the first year of Covid (2020), 69.2% of the firms examined had to close up shop as a result of these decrees, and this ruling appears to have hit women-owned firms (86.5%) harder than their male counterparts (54%). Government intervention eased off during 2021 to the point that only 14% of the overall sample were affected by closures more than once. However, it was always the women entrepreneurs who bore the brunt of the constraints (22.5% compared to 6.3% of male-owned firms).

The results of the t-test (Table 5) show the statistical significance of differences between men- and women-owned enterprises concerning access to public grants

Table 5 Public grants: women-owned vs. men-owned firms (values in euro)

Variables		All firms	Men-owned firms	Women-owned firms	Means differences
		€	€	€	€
Total amount	Mean	10,350.40	12,658.55	8,364.31	4,294.24 ^a
	<i>SD</i>	12,264.29	13,658.14	10,607.66	
	<i>N</i>	161	74 (45.9%)	87 (54%)	
Tax benefits and exemptions	Mean	728.06	937.08	397.13	539.95
	<i>SD</i>	1,457.50	1,797.42	500.34	
	<i>N</i>	62	38 (61.3%)	24 (38.7%)	
Subsidies	Mean	1,351.73	1,201.93	1,418.03	-216.1 ^a
	<i>SD</i>	382.02	489.606	305.237	
	<i>N</i>	88	27 (30.7%)	61 (69.3%)	
Public credit guarantees	Mean	18,194.78	19,742.55	16,402.63	3,339.92
	<i>SD</i>	11,868.23	12,830.15	10,531.07	
	<i>N</i>	82	44 (53.7%)	38 (46.3%)	

Source: Authors

^a Indicates significance at the 5% level

made available by the Central Government. Taking into account the ‘Total amount’ of benefits obtained (calculated as the sum of three types of grants), women-owned enterprises obtained—on average—a smaller volume of economic support (€8,364) than their male counterparts (€12,658), and this difference is statistically significant. Nonetheless, it was the women entrepreneurs who made greater use of the support measures provided during the pandemic period (54%).

Looking at single kinds of public grants, interesting differences emerged. Regarding ‘Tax benefits and exemptions’, women-owned firms obtained a smaller amount of resources (€397.13) than men-owned ones (€937.08), but this difference is not statistically significant. The same evidence emerged in terms of ‘Public credit guarantees’: women entrepreneurs received less support in obtaining credit access (€16,402) than their male counterparts (€19,742), but also in this case the difference is not statistically significant. However, an opposite trend appeared as regards ‘Subsidies’: women-owned firms benefited more (€1,418) than their colleagues (€1,201), and the difference is statistically significant.

5 Discussion and Conclusions

This paper has investigated entrepreneurs' access to public grants provided by the Italian Government in response to the Covid-19 pandemic. Specifically, it has explored possible gender differences among a sample of Italian men and women micro-entrepreneurs in terms of: (a) whether they applied for a grant; (b) the amount requested; (c) the type of grant requested.

The findings show that more than two out of three companies (67.4%) have made use of one or more support measures provided by the Italian Government. Women entrepreneurs have made greater use of these measures than their male colleagues; 78.3% of women entrepreneurs resorted to one or more types of public grants compared to 57.8% of men. However, taking into account the 'Total amount' of benefits obtained, women-owned enterprises have obtained—on average—a smaller volume of economic support than their male counterparts, and this difference is statistically significant. At first glance, it would seem possible to conclude that women asked for more and got less. Nonetheless, looking at single kinds of public grants, the issue becomes more complex. Women-owned firms obtained, on average, a smaller amount of resources than men-owned ones regarding 'Tax benefits and exemptions' and 'Public credit guarantees', but these differences are not statistically significant. Conversely, as regards 'Subsidies', on average, women-owned firms benefited more than their colleagues, and the difference is statistically significant. Therefore, while the data seems to confirm the presence of a gender gap in accessing public grants, in some ways, women entrepreneurs seem to have benefited more than men from some measures.

Having verified the existence of these differences, the real question is to understand the reasons why. Which factors between supply-, demand- and structural-related (Cesaroni and Sentuti 2016; Giglio 2021) influenced these differences most? Is it really a gender issue, or can other factors explain them? Naturally, the type of analysis carried out did not allow us to verify these aspects in depth. Investigating the determining factors will be the second step of the research. However, in light of the literature, some considerations can be advanced.

With regard to supply-related factors, the role of banks, in this case, is partially bound by the regulations. However, it is true that—as previous studies have shown (Core and De Marco 2021)—some factors may influence how banks efficiently allocate public funds during a crisis. Therefore, it would be appropriate to investigate this further. Concerning demand-related factors, our results seem to contradict previous research regarding women entrepreneurs' 'preventive fear', which discourages them from applying for funding because they expect their applications have little chance of being accepted (Ongena and Popov 2013; Robb and Walken 2002; Sena et al. 2012). Our study has shown that, on the contrary, women entrepreneurs applied for public grants more frequently than men. Last but not least, structural-related factors should be considered. We believe they could have a particularly strong role in explaining differences in access to public finance between women-led and men-led businesses. Apart from the size, which in our sample is the same for

all enterprises, and business age, which we believe could be less important in this context, belonging to a specific sector may certainly have influenced the need for or possibility to access or not specific measures. We should remember, for example, that not all activities were forced by government intervention to stay closed for the same period. As shown by the results, women-led businesses were forced to close up shop more often than men. Moreover, they suffered most from the pandemic (Unioncamere 2021), and this could explain, at least in part, their greater application for support measures and their greater benefit from ‘Subsidies’.

This paper contributes to the broad debate on women entrepreneurs’ access to finance. Many papers have focused on this topic (Giglio 2021) and also consider the role of public grants in helping women to overcome financial crises (Srhoj et al. 2021). Few have examined the current situation generated by Covid-19 (Bassani and Sentuti 2021) with regard to the Italian context (Core and De Marco 2021), and, to the best of our knowledge, no one has focused on the gender issue. We have proposed a preliminary analysis of women entrepreneurs’ access to the measures granted by the Italian Government to support small enterprises and highlight some interesting differences between women-led and men-led enterprises, which can be the subject of further research.

This study has some limitations. First, we considered only sole-proprietor and micro-enterprises located in a specific and restricted geographical area, the Marche Region, and this influenced our results and limited their generalisation. A wider national study would be desirable, including different legal forms and comparing men- and women-owned firms’ access to public grants during the pandemic crisis. Second, the differences between men and women entrepreneurs have been investigated while overlooking other relevant variables such as personal characteristics (entrepreneur’s age, education level, financial literacy, etc.), loan characteristics (costs, loan size, guarantees and collaterals) and firms’ characteristics (e.g. age and sector). Indeed, these variables could influence access to credit and/or public grants and, therefore, should be applied in future research. Third, our research was restricted merely to the differences between Italian men and women entrepreneurs in access to public grants. The next stage of this study will focus on analysing the reasons for this gender diversity, particularly during downturn periods. In fact, despite many studies and empirical investigations, reasons for gender differences within financial patterns are still unclear and require further investigation.

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The Resilience of Italian Social Enterprises Led by Women During Systemic Crises: Empirical Investigation at the Time of COVID-19



Antonietta Cosentino and Gaetano della Corte

Abstract The spread of COVID-19 and the consequent restrictive measures that became necessary in the first months of 2020 hit humanity hard. The profound crisis that ensued forced scholars to investigate various issues, including the resilience and recovery capacity of the companies. The meaning of resilience is much broader than simple adaptation; it encompasses resistance, elasticity, and flexibility, the ability to regain lost form, struggle and combat, fortitude and courage, will and determination, recovery and relaunch, and finally, readjustment. From this point of view, only a few studies focus on the resilience capacity of social enterprises (SEs). SEs are private organizations whose hybrid nature places them between profit-oriented enterprises and philanthropic bodies. Even less attention is paid to the impact that a women's management of SEs can have on their resilience capacity. This contribution aims to fill the gap and analyze the ability of Italian SEs to be anti-cyclical and resilient during times of crisis, focusing the analysis on those runs by women or in which women play an important managerial role. A qualitative methodology based on multiple case studies will be used to comply with the paper's aim. A homogeneous sample of companies will be analyzed by size (SMEs) and ATECO code (catering sector). The catering sector was chosen as it represents one of the most affected during the pandemic. The sample comprises profit-oriented companies and SEs (no-profit-oriented). The data will be taken from the Aida Bureau van Dijk™ database, relating to 2016–2020, but focus on 2019–2020 to discover crisis impact. The comparison between 51 profit enterprises and 20 SEs demonstrates the anti-cyclical nature of SEs and resilience to systemic crises. At this stage, no peculiar differences emerge between SEs led by women or men. The contribution of our research is twofold. On the one hand, it contributes to the resilience studies focusing on the role played by the SEs. On the other hand, this paper extends research on gender studies applied to non-profit management by increasing the analyses focusing

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on women's leadership and the impacts they achieve in terms of economic and social performance, including employment. Our results strive for new lines of research and may push scholars to analyze in depth the differences in male and female management in social enterprises.

Keywords Women entrepreneurs · Women manager · Women-owned small-medium enterprises · Gender studies

1 Introduction

The spread of COVID-19 and the consequent restrictive measures that became necessary in the first months of 2020 hit humanity hard. The profound crisis that ensued forced scholars to investigate various issues, including the resilience and recovery capacity of the companies. The meaning of resilience is much broader than simple adaptation; it encompasses resistance, elasticity, and flexibility, the ability to regain lost form, struggle and combat, fortitude and courage, will and determination, recovery and relaunch, and finally, readjustment. From this point of view, only a few studies focus on the resilience capacity of social enterprises. SEs are private organizations whose hybrid nature places them between profit-oriented enterprises and philanthropic bodies. Even less attention is paid to the impact that women's management of social enterprises can have on the resilience of the social enterprise (SE).

This contribution aims to analyze the ability of Italian SEs to be anti-cyclical and resilient during times of crisis, focusing the analysis on those runs by women or in which women play an important managerial role.

In its *social* and *community* declination typical of SEs, resilience refers to the search for a new balance between socio-economic functions, social bonds, and the environment following widespread and progressive impacts (Prati and Pietrantoni 2009). In this sense, the crisis of socio-economic and environmental systems manifests itself through a significant alteration of the traditional balances on which the stability of communities was based. From this point of view, social resilience can act, more than as a solution, like a working methodology aimed at addressing the impacts of change in a proactive and not a mere adaptation key.

The concept of resilience contributes to designing a semantic field within which to place community subjectivities of various origins but characterized by the common need to cope with systemic changes (Colucci 2012). In addition, the economic, social, and technological transformations prompt the emergence of new community aggregation forms distinguished in both generative processes and organizational and governance structures, such as those found in SEs.

Various studies (Campagnaro and D'Urzo 2021; Pansera and Rizzi 2020; Ammirato 2018) have confirmed the persistence of a growth in cooperation that has proceeded continuously since the 1990s, which concerns the number of companies, turnover, and employees. Conversely, although SEs have demonstrated anti-cyclical and resilient capabilities over time, they have nevertheless suffered the negative impact caused by the recent pandemic spread from Covid-19. Recent

studies have shown that at least half of the SEs had short-term liquidity shortages. The repercussions on employment were also heavy, and almost 60% of SEs had great difficulty paying their employees' salaries, while 15% had to lay off at least one employee by May 2021 (Legacoop 2020). Furthermore, growing interest is assuming the role that women play in SEs, but the contributions in the literature on the subject are scarce. This study intends to bridge the gap by answering the following research questions:

RQ1: Were SEs' anti-cyclical nature and resilience confirmed during the COVID-19 pandemic?

RQ2: If SEs were anti-cyclical and resilient during the pandemic crisis, did those with strong female leadership perform better/worse than male ones?

A qualitative methodology based on multiple case studies is used to answer the research questions (Yin 2014). In particular, a homogeneous sample by size (small-medium) and ATECO code (catering sector) of companies is analyzed. The catering sector was chosen as it represents one of the most affected during the pandemic. The sample comprises companies profit-oriented and SEs (no-profit oriented). The data will be taken from the Aida Bureau van Dijk™ database, relating to the 5 years 2016–2020.

The comparison between 51 profit enterprises and 20 SEs demonstrates the anti-cyclical nature of SEs and their resilience to systemic crises. At this stage, no distinct differences emerge between SEs led by women or men.

Our research contributes to the resilience studies focusing on the role played by the SEs and supporting recent literature that argues that social entrepreneurship is a critical tool for addressing issues both created and exacerbated by the COVID-19. Additionally, this paper extends research on gender studies applied to non-profit management by increasing the analyses focusing on women's leadership and the impacts they achieve in terms of economic and social performance, including employment. Our results strive for new lines of research and may push scholars to analyze in depth the differences in male and female management in social enterprises.

The contribution is developed in the following paragraphs. Paragraph 2 analyzes the relevant literature on resilience and focuses on SEs. Paragraph 3 describes the research methodology while paragraph 4 presents the results and related discussion. Paragraphs 5 is devoted to the conclusions.

2 Literature Review

Despite a widely accepted acknowledgment of cooperatives as resilient organizations, a consolidate body of literature on the subject is still lacking (Wulandhari et al. 2022).

Resilience is a multidimensional and multidisciplinary concept, explored with different theoretical approaches and perspectives of analysis (Gunderson 2000; Holling 1973, 2001; Ponomarov and Holcomb 2009; Walker et al. 2002; Burnard

and Bhamra 2011; Duchek 2014, 2019; Linnenluecke 2017; Williams et al. 2017), relating to material sciences, psychology (Ponomarov and Holcomb 2009; Walker et al. 2002), and ecology (Williams et al. 2017), becoming, only recently, an integrant part of company organization and management studies (Duchek et al. 2020).

Different authors have tried to provide an exhaustive definition of resilience, but the utilized notions and definitions of resilience vary greatly depending on the particular research context (Bhamra et al. 2011; Sawalha 2015; Linnenluecke 2017; Williams et al. 2017).

For instance, Gunderson and Holling (2001) define resilience as “the magnitude of disturbance the system can tolerate and still persist.” Cumming et al. (2005) state the concept of resilience is linked to the ability of a system to return to a stable state after a disruptive condition. Still, McCann et al. (2009) define resilience as an essential key factor for organizations in unstable and uncertain times that allows them to cope with various kinds of disturbances from adverse developments to major crises. Johnson et al. (2013) argue that the concept of resilience is representative of the “ability of an organization to resist to shocks and extreme events through its ability to adapt to new circumstances,” while other authors, referring to the concept of system, describe that a resilient system is the one capable of responding adequately to any adverse event, drawing opportunities for growth (Linnenluecke 2017).

Some schools of thought interpret the concept of resilience as a passive phenomenon, i.e., limited to the ability to return to the equilibrium situation before the “bouncing-back” rupture without seeking a new equilibrium (Pimm 1984; Mayer 1982; Home and Orr 1997). According to this approach, resilience is also defined as the ability to be rebound-oriented or recover from unforeseen, stressful, adverse situations and return to the status quo before the crisis (Lengnick-Hall et al. 2011).

According to others, however, the return to previous stable conditions is intended as an intense vulnerability and a potential element of fragility that can quickly determine the recurrence of a critical event (Hollnagel et al. 2007; Weichselgartner and Kelman 2015). In this sense, it is preferred to refer to resilience as a “bouncing-forward” process, capable of developing recovery actions, preventing and reducing risk factors, and seizing the opportunity to recombine and renew structures and processes. Business systems need to continuously evolve, employing new knowledge to respond to critical events by reaching new equilibriums (Lengnick-Hall et al. 2011; Vogus and Sutcliff 2007; Weick and Sutcliffe 2007).

According to this perspective, resilience is a process (Börekeçi et al. 2021). It consists of a set of adaptive capacities, in the constant assimilation of skills to be able to face a critical event and face the risk, in the organizational capacity that transforms internal and external threats into opportunities for growth and learning (Flier et al. 2003; Folke 2006).

More recently, the term resilience has been used at the organizational level to describe a characteristic of those organizations that are able to respond quickly, recover fast, or develop unusual ways of doing business under pressure (Akgün and

Keskin 2014), while Santoro et al. (2020) have defined resilience a multidimensional concept relates to a variety of fields.

From the examined definitions, the concept of resilience can be summarized in the ability of an organization to resist adverse and unexpected events and its inherent tender to transform them into an opportunity for development and rebirth.

This concept has been applied by many scholars also to SEs.

Before delving into this aspect, it is necessary to briefly define what social enterprise does mean.

Social enterprise in Italy is regulated by Legislative Decree 112/2017. The social enterprise is a qualification recognized for private organizations that carry out business activity of general interest, non-profit and for civic, solidarity and social utility purposes on a stable and primary basis. The law requires that they adopt responsible and transparent management methods and foster the broader involvement of workers, users, and other interested parties in their activities. The Italian social enterprises to which this research is dedicated can assume any legal form, but the one that sees them as protagonists is that of a cooperative company. Thus, in Italy, the SEs is positioned at the crossroads between the traditional cooperative forms and the non-profit form of business (Tortia and Troisi 2021; Battilana and Dorado 2010; Doherty et al. 2014), taking a unique position between non-profit and for-profit enterprises (Billiet et al. 2021).

According to the most up-to-date data accessible, there are 16,557 ex lege social enterprises in Italy (Carini and Lori 2020). This number increases to 22,516 if we consider de facto ones, i.e., non-profit enterprises with at least one employee, of which at least 50% of their revenue comes from selling goods and services in the market (Borzaga and Tallarini 2021). Predominant enterprises' form is represented by social cooperatives, which, as established by Legislative Decree 112/2017, acquire the social enterprise status. However, the social enterprise universe is also comprised of organizations that operate under other legal forms, such as associations and foundations. The SEs mainly supply social, educational, and health services, but they also operate in the work integration sector and many others, all of the general interest and social relevance.

SEs are member-owned, member controlled, and member benefitting enterprises (Battilana 2018; Levi and Davis 2008). SEs usually are founded by persons sharing a common need and a collective identity of a community of destiny (Defourny and Develtere 1999) to ensure the provision of products or services which the market, and/or the State, fail to provide them with (Mushonga et al. 2019; Battilana 2018; Levi and Davis 2008; Shantz et al. 2020).

More in detail, SEs are mission-driven organizations, characterized by human-capital intensive processes (Bontis et al. 2018), where the main aim is to create social and economic well-being to promote the integration and development of people (Madill et al. 2010; Meadows and Pike 2010; Onyeiwu 2003; Kong 2010). Thus, they incorporate both a business logic and a community logic (Battilana and Dorado 2010; Doherty et al. 2014), taking a unique position between non-profit and for-profit enterprises (Billiet et al. 2021).

Anyhow, the very definition of social enterprise resilience is still absent (Wulandhari et al. 2022).

In its “social” and “community” declination typical of SEs, especially in the form of social cooperatives, resilience refers to the search for a new balance between socio-economic functions, social bonds, and the environment following widespread and progressive impacts (shocks) (Prati and Pietrantoni 2009).

As history reveals, SEs often emerge during times of crises (Billiet et al. 2021). Gorgievski and Stephan (2016), state that entrepreneurs with resilient capabilities can act in times of adversity and have a higher propensity to act than non-resilient individuals, who are easily discouraged by challenges and dangerous environments. Consequently, SEs are often founded by persons sharing a common need and a collective identity of a community of destiny (Defourny and Develtere 1999) to ensure the provision of products or services which the market, and/or the state, fail to provide them with (Mushonga et al. 2019). Many authors argue that cooperatives resist better in times of crisis than their capitalist counterparts (Birchall and Ketilson 2009; Roelants et al. 2012).

In detail, Duchek et al. (2020) state that diversity can play a central role for enhancing organizational resilience if it is well managed.

In particular, what differentiates SEs from classic business models in times of crisis are the following three characteristics:

- (a) first, the central place of its members; SEs are owned by their members, which implies that members jointly possess the enterprise. Additionally, if SEs assumes the cooperative form, its typology of ownership differs significantly from the capitalist logic in that shares in cooperatives are not transferable and cannot be traded on the market (Mikami 2016);
- (b) second, SEs have a democratic decision-making governance structure. In addition, if the SE is a cooperative each member usually has one vote, regardless of the number of shares they own (Novkovic 2008);
- (c) third, SEs aim to benefit their members through their economic production activity (Peredo et al. 2018).

Various studies have already shown that the purpose of SEs, other than profit, allows them to adopt a behavior in contrast with the market and maintain high employment levels (Billiet et al. 2021; Euricse 2013).

Of particular interest is the role that women exercise in SEs. Nevertheless, studies that explore the role of SEs in empowering their women members are limited. Few studies focused only on the cooperatives (differing by SEs), but the conclusions can be extended to the social cooperatives as a kind of SEs. We refer mainly to a gripping study by Martinez-Leon et al. (2020) where the authors state that as cooperatives offer a non-traditional context to do business, being value-based organizations, it becomes necessary to analyze the effect of value systems on leadership styles. The scholars argue that few investigations have focused on leadership styles in cooperatives. Previous studies have not investigated gender differences in leadership behavior in SEs, including the influence of management team composition on this behavior. Furthermore, the absence of empirical studies that analyze gender

differences in transformational and transactional leadership styles in the cooperative context does not aid in identifying their existence and importance.

As far as we know, few studies have focused on how female leaders have fostered sustainable organizations through prioritizing social, over economic and governance investments (Jeong and Compion 2021). Thus, this study aims to bridge the gap in the literature regarding the role played by women within social cooperatives, especially during the crisis. Notably, we focus on gender diversity's impact on the economic and social performance of social cooperatives to investigate the SEs ability to be resilient even in a condition of crisis generated by the COVID-19 pandemic.

3 Research Design and Methodology

A qualitative methodology based on multiple case studies has been used to answer the research questions (Yin 2014). A sample of companies operating in the catering sector was analyzed, as it represents one of the sectors most affected by the pandemic. The selected sample was homogeneous in terms of size, sector, and ATECO code (catering), and it included profit enterprises and SEs. The data was taken from the Aida Bureau van Dijk™ database for an observation period ranging from 2016 to 2020, but focusing on the last 2 years available.

For the construction of a homogeneous sample, we proceeded following this research protocol (Dewey 1938; Yin 2014):

- Sample identification: the data relating to all profit and non-profit enterprises active at the date of the survey belonging to the catering sector were extracted (ATECO CODE 56101—"Catering services with dining area"). The initial sample was made up of 189 profit enterprises, 29 social cooperatives, and 14 social enterprises different from cooperative. The analysis of the dispersion was subsequently carried out, which made it possible to identify the numerically most significant sample, considering only SMEs (i.e., those with revenues of less than 10 million euros and less than 50 employees). The sample resulting from the dispersion analysis was made up of 71 companies (51 profit, 20 social enterprises). The sample was homogeneous and allowed us to respond to RQ1.
- Focus on SEs and female management: the RQ2 required to focus attention on the comparison between the performances achieved by SEs with a purely female leadership versus those run by men. The second phase saw the following logical moments:
 - (a) the initial sample was reduced considering only SEs
 - (b) the top management composition was observed on the basis of the following variables: President, Vice President, Board of Directors' composition.

Table 1 Research protocol

Research protocol	
First phase (RQ1)	<ul style="list-style-type: none"> – Extraction of data relating to profit and social enterprises belonging to the catering sector (ATECO code 56101—“Catering”) – Dispersion analysis to identify the numerically most significant sample – In-depth analysis of the selected sample (only small-medium businesses)
Second phase (RQ2)	<ul style="list-style-type: none"> – Analysis focused on SEs – Focus on female management (coding with SE F1 and SE F2) – Composition of top management (President; Vice President; Board of Directors) – Comparison between the performance of the male and female SEs

Source: Authors

The final sample of this second phase was made up of 20 SEs of which 2 with exclusively female governance, with female President, Vice President, and Board of Directors. The two SEs will be indicated with social enterprise F1 (coding with SE F1) and social enterprise F2 (coding with SE F2). The economic and social performances of the SEs were also analyzed, comparing the average results of the male ones with the exact results of the two SEs with entirely female leadership.

Table 1 summarizes the research protocol.

4 Results and Discussion

4.1 Sampling Procedure and Data Analysis

The development of the analysis started from the collection of information from the Aida Bureau van Dijk database, applying the ATECO code (“catering”) as a first selection criterion to obtain relevant information relating to limited, profit and non-profit oriented companies that operate exclusively in this sector. Table 2 summarizes the above.

Through the analysis of the dispersion, we have extracted the most representative sample which turned out to be that of SMEs (10 million euros in revenues and number of employees below 50). Figure 1 shows the dispersion analysis limited to the last 3 years available.

Table 2 ATECO codes selected for identification of the sample

ATECO code	Corresponding activity
56	Catering services
561	Restaurants and mobile catering
562	Events catering
5629	Others catering services

Source: Authors

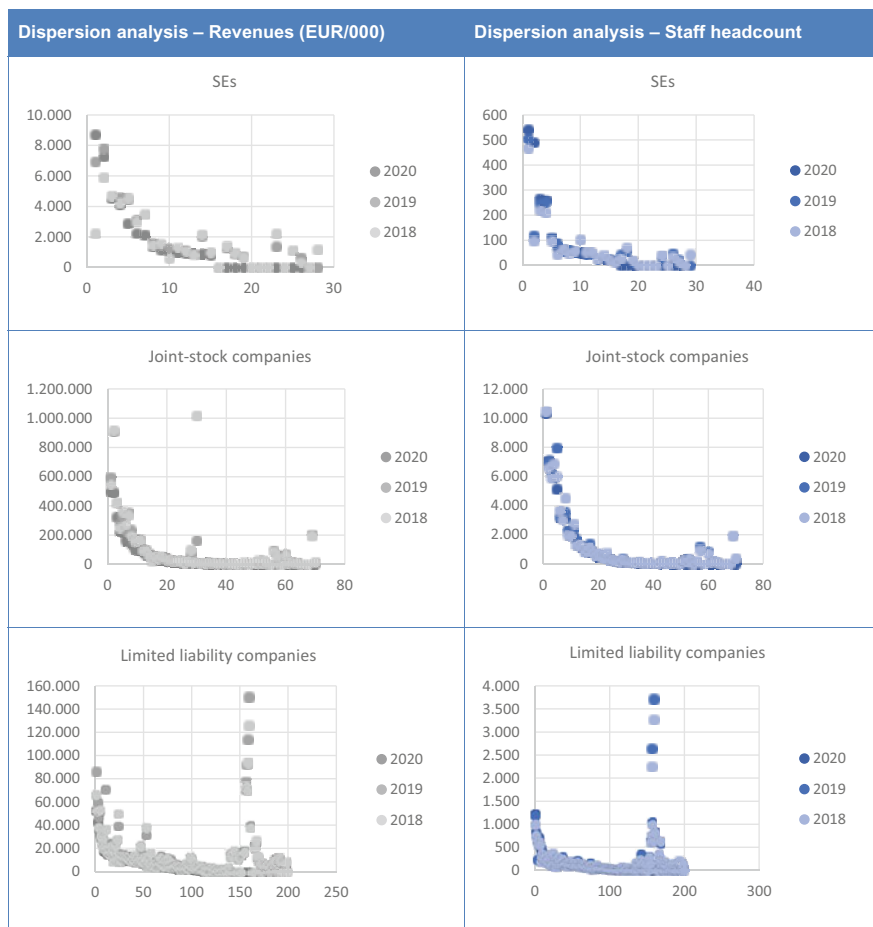


Fig. 1 Results of dispersion analysis. Source: Authors

Table 3 Results of the first extracted sample

Number	Legal form
70	Joint-stock company (JSC)
119	Limited liability company (LLC)
43	Social enterprises (SEs) (mainly social cooperatives)

Source: Authors

The initial sample was obtained using the dimensional variables “revenues” and “employees,” as objective quantities, as opposed to the item “assets” notoriously subject to estimates and valuations. The dimensional parameters were observed for three consecutive years (2018–2020). The results of the subsequent extraction are reported in Table 3.

Table 4 Final sample

Number	Legal form
6	Joint-stock company
45	Limited liability company
20	Social enterprises (social cooperatives)

Source: Authors

So, the final sample resulting from the dispersion analysis was made up of 71 companies (51 profit, 20 non-profit) (Table 4).

4.2 Performance Analysis

Our analysis shows that SEs have proven to be resilient and adaptive. The positive results see them as the main protagonists, while the negative ones occur both in profit-oriented enterprises and in SEs, albeit to a lesser extent.

In 2020, SEs recorded a 75% increase in value added, while LLCs and JSCs recorded a reduction of 23% and 69% respectively. All other economic indicators are negative, but the SEs react better than the JSCs. Figure 2 shows the economic performance in the period 2019–2020.

Another important result concerns the reduction in the number of employees which is more contained in the SEs than that recorded in the LLCs and JSCs, confirming the attention of the SEs for maintaining employment even in the face of an increase in the cost per employee and of the reduction in revenues. Figure 3 shows the employees performance during the period 2019–2020.

Conversely, the analysis of the equity situation shows a significant reduction (−13.48% of equity), as opposed to what happens in profit-oriented companies. This last aspect highlights a certain fragility of the SEs in the observation period; in particular, the merit of having maintained the growth of added value and having contributed to alleviating the employment and social effects of the crisis must be acknowledged, making use of social safety nets as little as possible. This result is

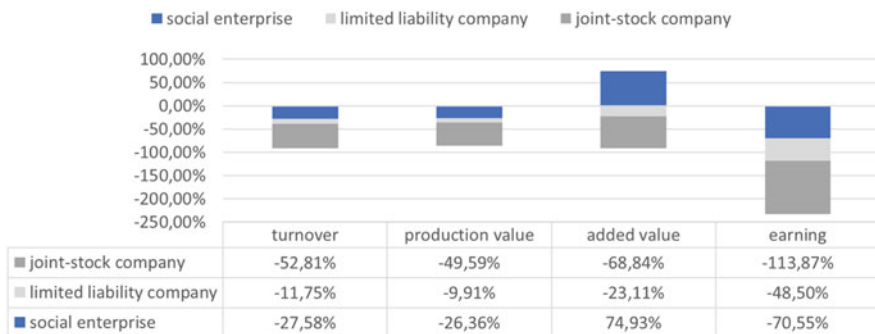


Fig. 2 Economic performance: focus on 2019–2020. Source: Authors

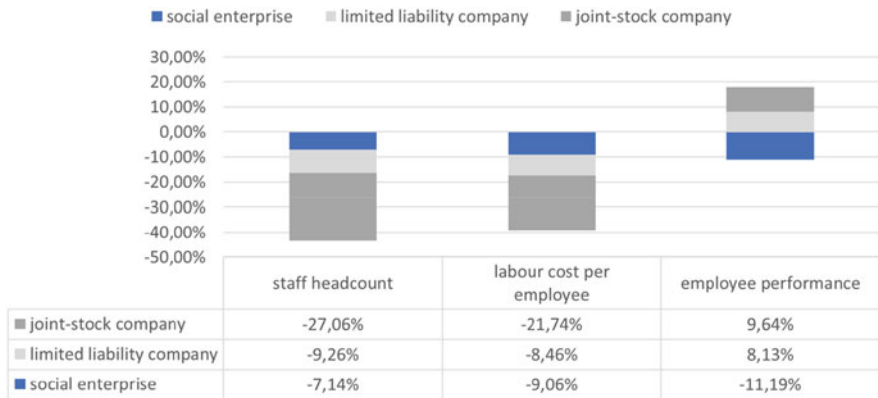


Fig. 3 Employees performance: focus on 2019–2020. Source: Authors

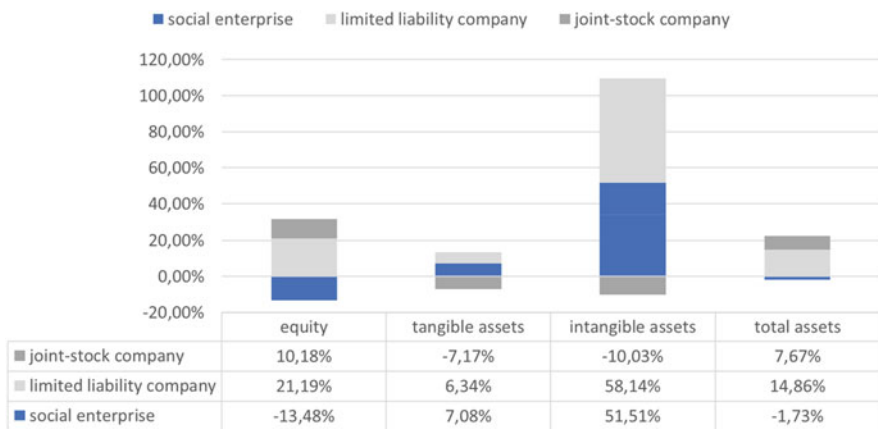


Fig. 4 Financial position: focus on 2019–2020. Source: Authors

consistent with what appears in the relevant literature (Hynes 2009; Battilana et al. 2012; Weaver 2020).

Figure 4 shows the financial position during the period 2019–2020.

4.3 Performance Analysis: Male and Female Enterprise Comparison

The composition of the top management was analyzed through the following variables: (1) President, (2) Vice President, (3) Board of Directors.

From the available data it emerged that in some SEs the Vice President was a woman, but the President and the composition of the Board of Directors were solely

or predominantly male. These cases, hence, were removed from the sample. Therefore, definitively, there were only two SEs that could be defined as female, as they had an entirely female composition of governance.

From the comparison between the SEs managed and directed by women and the total number of SEs in the sample, it is interesting to observe the different reactions following the crisis triggered by the COVID-19 pandemic.

The first aspect analyzed were revenues. Comparing the data for the 2-year period 2019–2020, the results are not surprising since, having chosen one of the sectors most affected by the pandemic, it was physiological to find downward trends. In particular, the two women’s SEs recorded greater decreases (−20% and −14%) compared to the rest of the SEs which, on average, suffered an 11% reduction in revenues.

It is also interesting to analyze the net income, a key factor of the entire analysis to be compared, subsequently, with the data relating to employment. From Fig. 5, an inflection point in the year 2019 is evident. The decrease was much more impacting for SE F1. Less drastic were the losses recorded by the other SEs in the sample but, in any case, the results were not positive.

As for the financial position, the assets had different growth rates. The male SEs recorded a 10% growth in assets; the average values referred to male SEs reveal the element that grew the most in 2020 were intangible assets (41%) compared to only 8% of tangible assets.

SE F1 and SE F2 recorded a 25% and 1% decrease in total assets, respectively; the most reduction is due to intangible assets decreasing by 68% and 42%.

Tangible assets remain roughly constant, increasing by 8% for SE F1 while decreasing slightly for SE F2 (−3%).

As for the shareholders’ equity, the results were mixed. If for male SEs in general and for SE F2 the growth rates were positive, respectively, +6%, +5%, for SE F1 it was not the same, with a drastic reduction. SE F1 had, in fact, a net worth definitely below the average of the male SEs and the female SE of the champion.

This capital weakness did not make it possible to absorb the significant losses recorded in 2020, the year of the pandemic.

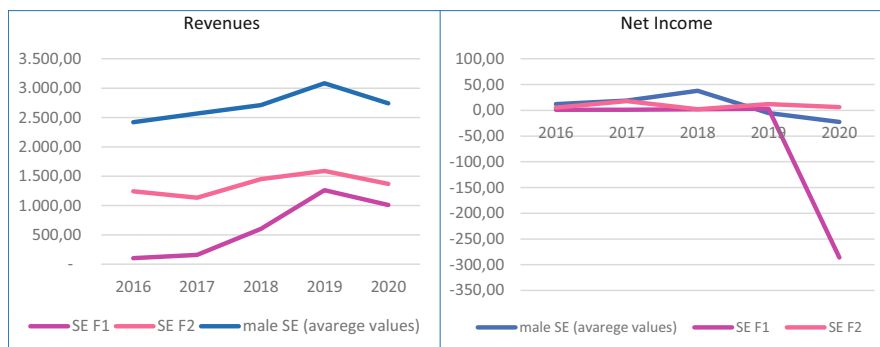


Fig. 5 Economic performance. Source: Authors

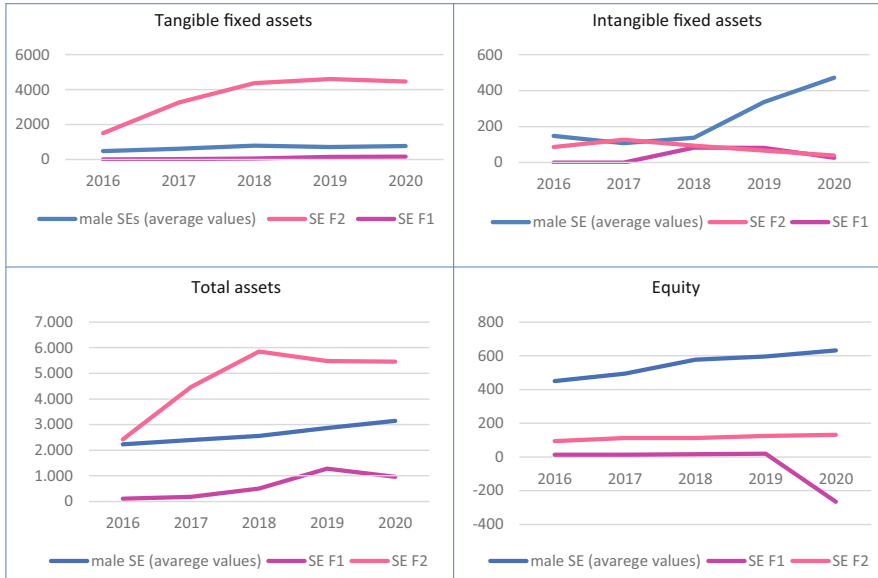


Fig. 6 Financial position. Source: Authors

Figure 6 shows the above comments.

Although with low profit margins, it is well known how SEs are able to face crises without weighing on public finances, always striving to satisfy the needs of their members, workers, and the community; in this regard, Fig. 7 shows the trends in employment factors: employees, labor costs per employee, and employee performance.

With regard to the first factor analyzed, it is possible to note that on average all the male SEs recorded a growth of 20% in employees in 2020, despite being in full pandemic with the blocking of activities; the same result was achieved by SE F2, with a slight growth of 7%; the performance of SE F1 was different, which probably, presenting greater difficulties, reduced the number of its employees by 18%.

On the other hand, the results referred to the cost of labor per employee were different, probably due to the adoption of different competitive strategies. In detail, SE F1 showed a growth of 17%, unlike other SEs, and cut labor costs by 17%, as did SE F2.

The results reveal the different strategies adopted by the SEs examined. SE F1 chose to reduce the number of employees but to increase the cost of labor per employee (+17%). Thus, most likely, this strategy led to the heavy operating losses recorded in 2020 (286,000€). Figure 7 summarizes the direct comparisons between the observed variables.

Finally, the last element of analysis was the performance of employees, which remained constant on average for SEs, as well as for SE F2, while SE F1, in contrast to the trend, recorded a reduction of 14%. In any case, it does not seem possible to

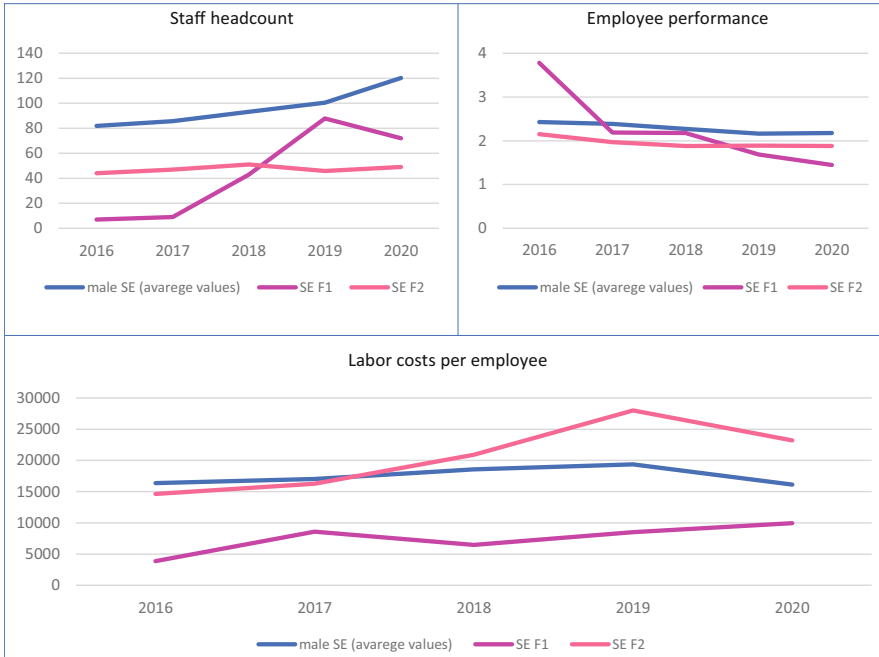


Fig. 7 Employee performance. Source: Authors

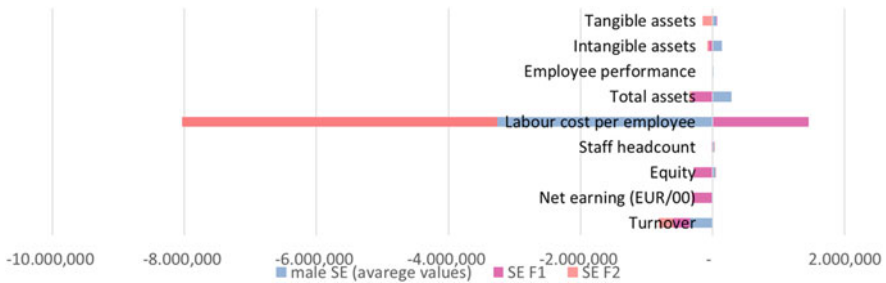


Fig. 8 Male and female SEs: comparative analysis. Source: Authors

detect significant differences between the two female SEs and the male SEs, except for earning and equity.

The performance indicators show generally better results for SE F1 than for SE F2 and the average of the male SEs, but since the sample is too small, no definitive conclusions can be drawn. Figures 8 and 9 summarize these results.



Fig. 9 Performance indicators. Source: Authors

5 Conclusions, Value, and Future Step of the Research

The COVID-19 pandemic has generated a real breaking point for the world economy, hitting most of the industrial sectors and posing new challenges to business. The catering sector is undoubtedly one of the most affected, following the closures imposed by the measures of governments around the world to contain the spread of the virus. Italy has adopted measures aimed at closing all non-essential activities during the year 2020, including the catering sector, which has been strongly affected by these closures.

In the light of what has been highlighted, based on a qualitative methodology on multiple case studies, this contribution aimed to analyze the ability of SEs to be

anti-cyclical and resilient during times of crisis, focusing the analysis on those runs by women during the spread of the pandemic triggered by COVID-19.

In response to RQ1 and RQ2, we have first proceeded to identify the sample of SEs to be analyzed. In particular, we collected the data relating to profit and non-profit enterprises belonging to the catering sector (ATECO CODE 56101—“-Catering services with dining area”).

The statistically most significant sample was that of small and medium-sized enterprises. The final sample analyzed comprises 51 profit-oriented companies and 20 SEs. We then examined the main resilience indicators identified by relevant literature.

Next, we narrowed down the sample to focus attention on the comparison between the performances achieved by SEs with a purely female leadership versus those run by men. From the final sample, we extracted only two exclusively female-run SEs, which we denoted “SE F1” and “SE F2.” The economic and social performance of the SEs were analyzed, comparing the average results of the male ones with the exact results of the two SEs with entirely female leadership.

Our analysis allowed us to respond to RQ1 (Were SEs’ anti-cyclical nature and resilience confirmed during the COVID-19 pandemic?).

The findings show that SEs have proven to be resilient and adaptive (Börekeçi et al. 2021). The positive results see them as the main protagonists while the negative ones occur both in non-profit and profit-oriented enterprises, albeit to a lesser extent in the latter.

The results also highlighted that SEs are a necessary resource for economic recovery, as entities capable of managing the crisis internally, without resorting to aid from outside (the State in particular).

In 2020, SEs recorded a significant increase in value added, while profit enterprises recorded a reduction equally considerable. All other economic indicators (turnover, production value, earning) are negative, but the SEs react better than the profit ones (Lengnick-Hall et al. 2011; Vogus and Sutcliffe 2007; Weick and Sutcliffe 2007).

Furthermore, our analysis shows that SEs are able to reduce the employment and social effects of the crisis more than any other profit or a non-profit company. Particularly, the reduction in the number of employees is more contained in the SEs than that recorded in the profit enterprises, confirming the attention of the SEs for maintaining employment even in the face of an increase in the cost per employee and the reduction in income.

Conversely, the analysis of the equity situation shows a significant reduction, as opposed to what happens in profit-oriented companies. This last aspect highlights a certain fragility of the SEs in the observation period; in particular, the merit of having maintained the growth of added value and having contributed to alleviating the employment and social effects of the crisis must be acknowledged, making use of social safety nets as little as possible. This result is consistent with what appears in the relevant literature (Hynes 2009; Battilana et al. 2012; Weaver 2020; Borzaga and Tallarini 2021).

Regarding the RQ2 (If SEs were anti-cyclical and resilient during the pandemic crisis, did those with strong female leadership perform better/worse than male ones?), the results are less definitively.

An interesting finding is that female SEs seem more sensitive to the employment issue. In the face of unexpected shocks, such as those caused by the pandemic, they preferred to reduce margins by minimizing the impact on employment by containing layoffs or increasing wages.

It was impossible to identify other elements that significantly distinguish the performances achieved by the two female SEs in the sample and the remaining male-led SEs. Thus, it will be necessary to deepen the analysis through in-depth interviews that allow researchers to investigate the company's systemic complexity and the dynamism of its management.

This research contributes to the resilience studies focusing on the role played by the SEs and supporting recent literature that argues that social entrepreneurship is a critical tool for addressing issues both created and exacerbated by the COVID-19. Additionally, this paper extends research on gender studies applied to non-profit management by increasing the analyses focusing on women's leadership and the impacts they achieve in terms of economic and social performance, including employment. This conclusion strengthens the literature that diversity can play a central role in improving organizational resilience if it is well managed (Duchek et al. 2020).

We are aware that this research is not without limitations. The main ones are attributable to a limited extension of the analysis sample (sector and dimension), but above all, the choice to analyze only the SEs that women exclusively manage aimed at answering RQ2.

The usefulness of this choice was that it allowed us to conduct a pilot survey and deepen in future research steps the analysis of a larger sample of SEs, operating in various sectors, of different sizes, with leadership mainly but not exclusively female. Thus, our results strive for new lines of research and may push scholars to analyze in depth the differences in male and female management in social enterprises.

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Pandemic Crisis and Remote Working: Another Step Towards Gender Equal Pay and Bigenitoriality



Enrica De Marco

Abstract The aim of the paper is to investigate the ways in which in the post-pandemic normality public and private organisations, workers and trade unions will resort to smart working to combat the marginalisation of women's work. Remote working, in fact, could represent, with a few adjustments, an opportunity to promote in our legal system the values of inclusion and gender equality pursued by the United Nations Generation Equality campaign, the European Strategy for Gender Equality 2020/2025 and the National Plan for Resilience and Resistance. On the other hand, if it is true that the most recent ISTAT surveys show that in Italy in 2020, the drop in employment was concentrated almost exclusively on women, with a decrease of 101,000 jobs, of which 99,000 were held by women, it is equally true that in the last year a trend has emerged in the legislature to recognise in favour of both parents a real right to agile work, as well as a specific leave to meet the needs of family care imposed by the epidemiological emergency. These are the first important experiences that inevitably require an organic rethink, first and foremost through collective bargaining, to ensure that smart working creates a new culture of gender equality, including in terms of pay, and the sharing of family roles, which in Italy, much more than in other countries, is still struggling to take hold.

Keywords Gender equality · Remote working · Work-life balance · Inclusion · Bigenitoriality · Gender pay gap · Company welfare · Gender studies

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1 Introduction

One of the most interesting challenges in years to come is to investigate the ways in which public and private organisations, workers and trade unions will learn from the experience gained during the Covid-19 lockdown and how they will resort to remote working to fight the marginalisation of women's work (Martone 2020a).

In the post-pandemic normality, remote working could indeed represent an opportunity to promote in our legal system the values of inclusion and gender equality pursued by the United Nations Generation Equality campaign as well as the European Strategy for Gender Equality 2020/2025 and the National Plan for Resilience and Resistance (so-called PNRR).

If it is true that the most recent ISTAT surveys show that in Italy in 2020, the drop in employment was concentrated almost exclusively on women, with a decrease of 101,000 jobs, of which 99,000 were held by women (<https://www.istat.it>), it is equally true that in the last year a trend has emerged in the legislature in order to recognise to both parents a real right to remote working, as well as a specific leave to meet the needs of family care imposed by the epidemiological emergency.

These important steps inevitably require an organic rethink, first and foremost through collective bargaining, to ensure that remote working can spread the new culture of sharing of family roles and gender equality that in Italy is still struggling to take hold (Martone 2019, 2017).

2 The Context. Legislation and Gender Policies in Italy

Even before the Covid-19 crisis, particular attention had started to be recognised to the steps that aim to promote fundamental rights and freedoms, especially those supporting the principle of gender equality in all its forms.

At the global level, achieving gender equality and empowering all women and girls is one of the United Nations 17 Sustainable Development Goals committed to achieve by 2030 and, at the European level, as emphasised by the European Commission in its communication on the Strategy 2020–2025, no Member State has achieved gender equality to date.

For decades in Italy, the rules protecting working parents were aimed almost exclusively at women, in line with the patriarchal view that only women were responsible for the care and upbringing of their children, as evidenced by Article 37 of the Constitution, which aims to “ensure the mother and child” “special adequate protection” (Persiani, 1968; Ballestrero, 1979; Treu 1979).

Then Law No. 860 of 1950, which was the first to introduce a ban on dismissal, was addressed only to working mothers to ensure them protection from the first day of pregnancy until the child was 1 year old.

Even the prohibition of dismissal laid down in Article 1 of Law No. 7 of 1963 on the grounds of marriage was addressed to women, who were granted protection to

curb the employer's practice of withdrawing from the work relationship because of the marriage, that was traditionally considered to be the prelude to future maternity-related absences (Pera 1962).

Not even the Statute of Workers was exempt from this view and did not feel the need to protect women against discrimination on the grounds of sex in the first wording of Article 15.

The positive actions then introduced for the first time in our legal system by Law No. 125 of 1991 have not been sufficient, because they are still inspired by the logic of preferential treatment of women only.

Nor did the "Testo unico delle disposizioni legislative in materia di tutela e sostegno della maternità e della paternità", issued by legislative decree no. 151 of 2001, have the desired effects because it merely extended to the father rights and prerogatives recognised only to the mother, without identifying any instrument capable of ensuring their effectiveness.

And it is clear that, in a social context—such as the Italian one—strongly conditioned by the logic of abstention from work as a female prerogative, a real redistribution of care loads cannot disregard the adoption of instruments that require men to take time off work to devote themselves to the family.

This is confirmed by the fact that not even the "Codice delle pari opportunità", issued with Legislative Decree no. 198 of 2006, has succeeded in reducing the gender gap in employment in our country, because the legislator, rather than promoting policies to share family roles, has continued to pursue the ambitious goal of achieving real equality between men and women through anti-discriminatory policies as well as the adoption of instruments of unequal law against women only.

The last decade of legislation has instead marked the transition from a conception of parenthood focused on the working mother to a more modern vision, which recognises rights and protections also for working fathers who take care of their families' needs.

It is not by chance that the centrality of issues related to overcoming gender inequalities has recently been reiterated in the PNRR which, in order to boost national development in the aftermath of the pandemic, identifies gender equality as one of the three cross-cutting priorities pursued in all the missions that make up the Plan.

And while it is true that, especially in terms of labour law, the Italian legislator has historically considered the tasks of assistance and care of the family to be the exclusive responsibility of the working woman, it is also true that a more modern and equal vision of the family is gradually emerging, in which the father plays a leading role and both parents are entitled to care and protection (De Marco 2021).

After the enactment of important laws such as the one on shared custody, which has finally recognised at legislative level the principle of bigenitoriality, provisions that without a specific reason provide for different protections on the basis of sex only end up being discriminatory because they represent the cultural heritage of a macho conception according to which the father has the task of bringing bread home (the breadwinner in the Anglo-Saxon tradition) while the care of the family and

children is the responsibility of the woman, who is therefore the sole recipient of a series of rights and protections (Pera 1962; Ghera 1995).

3 From Maternity to Parenthood Protection

The inevitable change in the conception of the family and the rediscovery of the central role of the working father in the Italian labour system has led, in recent times, to the need to introduce by law an autonomous right of the father, additional and independent to that of the mother, to enjoy a compulsory period of abstention from work.

It was not until Law no. 92 of 2012 that a compulsory paternity leave was introduced into our labour legislation.

On the basis of the principles of parental equality in the care of the family and children established in previous years (article 28 of the “Testo Unico delle disposizioni legislative in materia di tutela e sostegno della maternità e della paternità” granted working fathers only a non-compulsory paternity leave, subject to the existence of certain conditions), Law No. 92 of 2012 aims at promoting a culture of greater sharing of parental duties. In particular, with reference to the 3-year period 2013–2015, it provides for 1 day of compulsory leave and 2 days of optional leave for working fathers, to be taken within 5 months of the birth of the child (According to Article 4, par. 24, lett. a) of Law n. 92 of 2012 within 5 months of the birth, fostering and/or adoption of the child, the working father has the right to take a further 2 days of leave, in addition to the compulsory one, in agreement with the mother and in substitution for her in relation to the latter’s period of compulsory leave).

The provision, although initially introduced on an experimental basis, is partially supported a few years later by Legislative Decree No. 80 of 2015, aimed at fostering opportunities for the reconciliation of work and life times for the generality of workers.

The reference to workers, and therefore no longer only to women, further broadens the scope of the existing rules to persons hitherto excluded, such as self-employed and para-subordinate workers, and extends the period of use of parental leave up to the 12th year of the child’s life, where the previous rule envisaged the threshold of the 8th year (Article 32, par. 2 of Legislative Decree No 80 of 2015). However, the legislative intervention omits some fundamental issues indicated by the delegated law, such as the one concerning the compulsory paternity leave, but even if it is a timid attempt to intervene, it is still a further demonstration of the will of the legislator to promote a more modern vision of parenthood, which recognises to the father the same rights and duties as the mother.

The measure of compulsory paternity leave is instead experimentally extended, on an almost annual basis, for the year 2016 by the 2016 Stability Law, which increases the original provision to 2 days of compulsory abstention (Article 1, par. 205 of Law No 208 of 2015); for the 2-year period 2017–2018 by the 2017 Budget

Law, which further extended the number of days of compulsory abstention to 4 for 2018 (Article 1, par. 354 of Law No 232 of 2016); for the year 2019 by the 2019 Budget Law, during which the duration was set at 5 days of compulsory abstention (Article 1, par. 278 of Law No. 145 of 2018); for the year 2020 by the 2020 Budget Law, which further increased the duration of compulsory leave to 7 days (Article 1, par. 342 of Law No. 160 of 2019). Eventually the Budget Law 2021 provides for 10 days of compulsory leave, to be taken also in the event of the death of the child at birth (Article 1, par. 363 of Law No. 178 of 2020).

From 2022, and this is particularly relevant news in the Budget Law, the allowance for the paternity leave for employees becomes a structural measure, so it will no longer need annual renewal, and is confirmed at 10 days with the recognition of an allowance of 100% of salary (Article 1, par. 134 and par. 239 of Law No 234 of 2021).

The compulsory leave must be taken, even if not continuously, within 5 months of the child's birth or entry into the family or Italy, and during the leave, the father is entitled to receive 100% of his full salary in his pay packet.)

If the father wishes to take an additional day of leave, he can take optional paternity leave, which was initially granted for the year 2018 and then confirmed for the years 2019, 2020 and 2021.

These are important measures promoting a more modern interpretation of the rules on maternity and paternity protection, with a view to making the concept of parenthood a reality even though it is clear that these interventions are still not sufficient to encourage a redistribution of care duties between mother and father, considering that the woman is entitled to 5 months of compulsory leave to be taken in a flexible manner.

4 Remote Working and Bigenitorality

In this context, almost unexpectedly, the Covid-19 health emergency has significantly contributed to enhancing the principle of parental equality that is increasingly asserting itself in the Italian legal system.

It is undeniable that emergency legislation on remote working has been extremely innovative in terms of the social sensitivity of its provisions, which recognised the centrality of the principle of bigenitorality in the protection, through remote working, of both the needs of production and those of family care (Martone 2020b).

Suffice it to say that during the Covid-19 lockdown, Article 23 of Decree Law no. 18 of 2020 provided for the possibility for parents, and not only mothers, who were employees of public and private companies or enrolled in the separate INPS management scheme or self-employed, to have a specific leave of absence for which an allowance equal to 50% of the salary received was recognised. The leave was provided with reference to children up to 12 years of age, and for a continuous or fractionated period not exceeding 15 days, on the condition that there was no other

parent in the family household who is a beneficiary of income support instruments, or who was unemployed or not working.

In this perspective, then Article 90 of Decree Law no. 34 of 2020 recognised the right of mothers and fathers working in the private sector with at least one child under 14 years of age to work remotely, if this was compatible with the characteristics of the work. The right could also be exercised in the absence of individual agreements, provided that there is no non-working parent in the family, or no other parent benefiting from income support instruments.

In addition to these provisions, there are further measures, such as the one relating to the hypothesis of compulsory quarantine of a cohabitating child under 14 years of age following contact in a school, which have continued to recognise, even in the following waves of the pandemic, the possibility for one of the employed parents, and therefore not only for the woman, to carry out the service in agile mode or, in the event of impossibility, to abstain from work for all or part of the period corresponding to the duration of the quarantine of the child, benefiting from an indemnity equal to 50% of the salary (Article 5 of Decree-Law No 111 of 2020).

In the past year, therefore, a clear tendency of our legislator has emerged to recognise in favour of both parents a real right to remote working as well as a specific leave aimed at meeting the needs of family care imposed by the epidemiological emergency (Brollo 2020).

5 Remote Working and Equal Pay

The massive use of remote working that has been globally experienced over the last 2 years inevitably calls for a rethink of the remuneration rights and work rewards associated with remote work, also and above all in the perspective of enhancing gender equality.

It is clear that remote working has indeed reshaped our work and our time (Persiani, 2020), our right to disconnection (Maio 2020), our way of working (Tiraboschi, 2017; Treu, 2020; Del Conte, 2021; Biasi, 2021; Spinelli, 2021), our salary (De Marco 2020), our privacy at work (Fiata 2020), our union activity and the strike (Ferrari, 2020), our inclusiveness (Fiata, 2021), and our lives. For this reason, in the pursuit of sustainability, especially the social one, of companies, remote working could be used as a tool to free women's career paths from those mechanisms that delay or hinder their development in organisations.

This is an issue that, although it emerged even before the health emergency, has recently gained a prominent role in rethinking the remuneration systems of all those workers who, forced by the Covid-19 emergency, suddenly found themselves working from home (Martone 2018).

The challenge of remote working has in fact raised many new issues related to the economic treatment of the employee, with particular reference to the issue of the necessary valorisation of the individual result, which must now be imposed as a reference point for the employer in encouraging individual and corporate

productivity and in the pursuit of effective equality of pay between genders (Italian Chamber of Deputies Report “Parità di genere”, 10 February 2022).

In fact, remote working, used in a structural and shared manner, and therefore outside the logic of emergencies or as an easy welfare solution, acts as a pay equalizer because time—in the office or at work—is no longer a determining factor for pay: it is no longer the time worked that counts, but the objectives (De Marco 2020).

Remote working would thus become a tool for creating a fairer system, especially on the remuneration front.

The right to equal pay for women and men for equal work or work of equal value is one of the fundamental principles enshrined in the Treaty of Rome. The need to ensure equal pay is expressed in Directive 2006/54/EC, supplemented in 2014 by a Commission Recommendation on pay transparency.

Despite this legal framework, the effective implementation and application of this principle in practice continues to be a challenge in the EU. The lack of pay transparency has been identified as one of the main obstacles.

Nowadays the gender pay gap in the EU continues to be around 14%. The pay gap has long-term repercussions on women’s quality of life, puts them at greater risk of poverty and perpetuates the pension pay gap, which stands at 33% in the EU. The Covid-19 pandemic and its economic and social consequences make it even more urgent to address this problem, as the crisis has hit female workers particularly hard.

The European Parliament has in recent years repeatedly called for further action at EU level to improve the implementation of equal pay provisions and on 4 March 2021 a proposal for a Directive of the European Parliament and of the Council has been presented to enhance the application of the principle of equal pay for men and women for equal work or work of equal value through pay transparency and enforcement mechanisms.

In this context, it is not by chance that Italian latest legislative action on gender has recently focused on the world of work, which has been the subject of numerous legislative interventions aimed at achieving gender equality by recognising equal rights and greater protection for working women.

In particular the issue of pay equity is extremely relevant in the current Italian legal context, as evidenced by the recent law on pay equity No. 162 of 2021.

The Law considerably broadens the notion of direct and indirect discrimination (referred to in Article 25 of the “Codice delle Pari Opportunità”), no longer consisting only in “treatment” but also in “any change in the organisation or conditions and times of work” motivated not only by “state of pregnancy, maternity or paternity” but also simply by “sex, age, or the needs of personal or family care” that is in any case likely to put the worker at a disadvantage compared to other workers or that may limit the opportunities for participation in the life or choices of the company or access to the mechanisms of progression or career advancement.

Of particular impact is the extension by Article 46 of Law No. 162 of 2021 of the obligation for public and private companies with more than 50 employees (previously the threshold was 100) to draw up a report at least every 2 years on the situation of male and female staff: the Ministry of Labour will publish on its

institutional website the list of companies that have submitted the report and those that have not. The ministerial decree will also regulate the methods of access to the report by employees and trade union representatives of the company concerned, in compliance with the protection of personal data, in order to benefit from judicial protection.

The possibility for stakeholders such as employees and trade union representatives to access the data of the staff situation report makes it possible to strengthen the protection against discrimination for the purposes of the so-called statistical proof aimed at the judicial ascertainment of discrimination and the mitigation of the burden of proof on the employee who claims to have suffered discrimination pursuant to Article 40 of the “Codice delle Pari Opportunità”.

Without claiming to examine every provision of the Law here, it can be then said that the recent Law no. 162 of 2021 constitutes a further important step, addressing a number of issues related both to the fight against the gender pay gap and to the relevance of “care work” in the configuration of the prohibition of discrimination, without forgetting the promotion of the presence of women in the bodies of public companies, including unlisted ones.

6 Conclusions

In conclusion, despite the fact that giving fathers the same rights and duties as mothers would mean greater freedom for women in the workplace, the concept of shared parental responsibility is struggling to take off in our country, partly because of the reluctance shown by men, who are unable to give up their careers to devote themselves to their children, but also by women themselves, who are all too often ready to conform to a male-dominated culture rather than aspire to the same career opportunities that are now granted only to men.

It cannot but be considered that the key issue for a more gender inclusive future of work is that of equal pay and that of bigenitoriality—i.e. equal sharing of the parental role—and its balance through the implementation of the use of remote working.

The experience of the pandemic and the resulting widespread use of remote working have brought to light new problems linked to isolation and the recurrence of domestic violence, especially against women workers, and have made it necessary to adopt new and more modern measures to support family and bigenitoriality.

In this sense, all those collective agreements recently signed by companies with trade unions for the protection and inclusion of diversity are particularly important because they promote a new company culture, based on fighting violence and discrimination, enhancing gender equality, supporting bigenitoriality and protecting the vulnerable.

For this reason the path towards achieving effective gender equality in the workplace should be more encouraged not only by the legislature but also by the social partners themselves, who are now aware that positive actions, although they

have undoubtedly favoured a rebalancing of the existing gender gap in the Italian labour market, are not sufficient on their own.

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The Issue of Gender Inequalities in the Non-financial Statements. An Empirical Analysis



Antonietta Cosentino and Marco Venuti

Abstract Scholars and practitioners have extensively argued the issue of gender inequalities and the contribution of women in companies. Contrariwise, there are few contributions on the topic of how relevant is the information on gender issues, particularly regarding women's perspectives. This research is grounded on the theoretical framework of the legitimacy theory to analyse the extent of the information disclosed by Italian public companies about women and gender issues before and after European Directive 2014/95 is transposed into the national legislation. Notably, we aim to verify if the companies adopted a substantive or a symbolic approach in disclosing the information connected with gender issues.

A qualitative research methodology based on multiple case studies was used to comply with the paper's aim. The authors conducted a content analysis on the non-financial statement—or similar documents—produced by Italian non-financial companies listed on the FTSE-MIB before and after the first application in Italy of the national legislation implementing the European Directive. The 20 industrial listed companies form the sample and a scoring model based on key disclosure parameters is used in the research.

The findings detect that there is a growing interest in the topic. Thus, the directive impact on the quality and quantity of information businesses produce is mainly positive. However, Italian listed companies have adopted a symbolic approach to gender disclosure at first. Later, they seem to have developed a more substantial approach. Nevertheless, no empirical evidence was found regarding specific information on the effect that COVID-19 has had on female work in the undertakings.

This study fills a gap in the existing literature and can impact the behaviour followed by companies. The significance of the results is proved because even today, the disclosure of gender issues is considered of primary importance since only a relatively small number of companies are required to analyse gender issues and give

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relevance to the topic. The study's conclusions propose insights to policymakers to measure the effectiveness of the rules on non-financial disclosure and can contribute to the current consideration about updating the mentioned directive by the EU and European and international accounting bodies.

Keywords Gender issue · Non-financial disclosure · Public company · Accountability

1 Introduction

Over the last decade, there has been a growing interest by international organizations, national authorities, businesses and practitioners in non-financial information reports. Moreover, there has been a shift from voluntary to mandatory disclosure in several circumstances. For instance, this obligation was introduced by the European Directive 2014/95, which yields that from 2017, for large undertakings belonging to the Member States, which are public-interest entities exceeding on their balance sheet dates the average number of 500 employees during the financial year. Those undertaking shall include in the management report a non-financial statement containing information relating to, at least, environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters (Directive 2014/95/EU). Italy has implemented the provisions of the EU Directive with Legislative Decree 254/2016.

Interest in this issue is also growing in terms of regulation. Just recently, in Italy the Presidency of the Council of Ministers, Equal Opportunities Department, issued the Decree of 29 April 2022, which indicated, among other things, the KPIs referred to in the Reference Practice UNI/PdR 125: 2022 as parameters for achieving the Certification of gender equality for companies.

The new provisions have led to an acceleration in the scientific production of studies and research relating to examining the general and specific issues of non-financial information reports (Gulenko 2018; Helfaya et al. 2019; Khlif and Achek 2017; Leopizzi et al. 2020; Liao et al. 2015; Mazzotta et al. 2020; Michelon et al. 2015; Paoloni et al. 2016).

The EU Directive gave member states broad freedom in the choice of standards to refer to and how non-financial information is represented. This freedom has generated increasing attention on the part of accounting scholars about the impact that the legislation was developing on the behaviour and choices of companies (La Torre et al. 2018; Lombardi et al. 2021).

However, little interest seems to have covered the topic of the qualitative and quantitative information businesses provide in the context of non-financial disclosure. This gap in the literature allows us to address the issue by focusing on the profiles strictly related to gender issues in the context of non-financial reporting.

The issue of gender inequalities and the contribution of women in companies is extensively debated in the literature. Instead, there are few contributions to the information's relevance to gender issues, particularly women's issues. The gender

concerns have been examined by the literature with regards to the correlation between the presence of women, especially on boards, and companies' performance, but not on the quality and quantity of information, provided by companies regarding the subject of gender (Cucari et al. 2018; Furlotti et al. 2019; Harjoto et al. 2015; Setó-Pamies 2015; Purwa et al. 2020). The present investigation is situated in the conceptual framework of the legitimacy theory to verify the extent of the information provided by large companies about women working in these before and after the national legislation application on non-financial disclosure. More precisely, this is a study that fills a gap in the existing literature and can impact not only the behaviour followed by companies but also by European and international policymakers.

This paper aims to analyse the changes that the entry into force of the European Directive 2014/95 produced on the disclosure of large Italian publicly listed companies concerning the gender inequality issue and the contribution of female presence in businesses. Notably, this study examines the quality, the quantity and the modalities of information presentation related to women. We aim to verify to what extent the issue linked to the condition of women is considered relevant by companies in the context of information relating to personnel and what impact the Directive's transposition in adopted standards has produced on the disclosure.

In addition, this research strives to verify whether the COVID-19 information reporting focused on the effects that COVID-19 could have on women working in companies and, therefore, whether there was a specific report about the impact that COVID-19 had on gender inequalities.

In this vein, we can formulate our research questions:

- RQ1: Has the introduction of the non-financial information produced an improvement in the gender quality information of the Italian listed companies in the mid-term as a result of the entry in force of the non-financial information? Has it been continuing producing effect in the short time?
- RQ2: Grounded on the findings of RQ1, have the Italian listed companies adopted a substantive or symbolic approach?
- RQ3: Was there a specific disclosure on the possible impact of the COVID-19 on gender inequalities?

A qualitative research methodology based on multiple case studies was used to comply with the paper's aim. The authors conducted a content analysis on the non-financial statement—or similar documents—produced by Italian non-financial companies listed on the FTSE-MIB before and after the first application in Italy of the national legislation implementing the European Directive. The 20 industrial listed companies form the sample. Our analysis was also developed over two different time intervals: (1) the medium term, by observing the changes that occurred in gender disclosure in the years 2016 and 2019; (2) the short term, by analysing the same topic in the non-financial declarations of the years 2019 and 2020.

Notably, the NFSs are examined to observe the changes in the information reporting on gender over time (e.g., gender inequalities, the contribution of the female presence in companies, etc.). A scoring model based on key disclosure parameters is used in the research.

The findings detect that there is a growing interest in the topic. Thus, the directive impact on the quality and quantity of information businesses produce is mainly positive.

More specifically, companies have adopted a symbolic approach to gender disclosure at first, after the entry into force of the EU Directive, favouring narrative information and providing many descriptions and few data. Later, they seem to have developed a more substantial approach. We found a modest improvement in the quality and quantity of information provided, and the companies provided more data and compared the trend on various topics related to the gender issue.

Nevertheless, no empirical evidence was found regarding specific information on the effect that COVID-19 has had on female work in the undertakings.

This study fills a gap in the existing literature and can impact not only the behaviour followed by companies but also by European and international policymakers. Even today, it is impossible to assert that the disclosure of gender issues is considered of primary importance since only a relatively small number of companies are required to analyse gender issues and give relevance to the topic. The study's conclusions propose insights to policymakers to measure the effectiveness of the rules on non-financial disclosure, given the absence of a precise framework that requires companies to adopt uniform and universally accepted accounting standards or principles. This paper can also contribute to the current consideration about updating the mentioned directive by the EU and European and international accounting bodies.

The paper is structured as follows. In the following Sect. 2, the theoretical background is set out. Next, the research design is shown in Sect. 3. Section 4 presents findings and discussion, distinguishing the gender disclosure evolution in the mid and short-term. Conclusion, value and implications for future research are exposed in Sect. 5.

2 Theoretical Background

According to accounting researchers, disclosure helps to handle some of the problems of organizational legitimacy (Neu et al. 1998), because the reporting of environmental and social information permits to maintain and improve good relationships with the social context to which companies relate.

Legitimacy is defined by Suchman (1995) as “*a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within the same socially constructed system of norms, values, beliefs and definitions*” (page 574).

Legitimacy theory is based on the idea that there is an implicit social contract with the society in which the companies operate.

Legitimacy is considered as, on the one hand, a precondition for the ongoing flow of resources and a steady support of stakeholders (Deephouse et al. 2017; Pfeffer and

Salancik 1978) and, on the other hand, a critical resource for corporate survival and growth (Zimmerman and Zeitz 2002).

In other words, the corporates' survival and success depend on their ability to meet society's expectations and thus stakeholders' expectations by implementing adequate structures and processes that permit to fulfil this implicit contract (Cho et al. 2015).

If a legitimacy gap arises or is detected, a company will adopt legitimating strategies, included corporate disclosure strategies, so that its actions are viewed as right and proper in the social context (Deegan et al. 2002; Fernando and Lawrence 2014; Tyler 2006).

Corporate disclosure is to be considered a legitimating strategy because it is useful to increase the stakeholders' knowledge about corporate activities and results achieved making more effective the actions taken (Cormier and Gordon 2001). The disclosure, included the non-financial information, is an instrument for communicating company's performances to stakeholders and also a tool for legitimization towards them (Safari and Areeb 2020).

Companies may adopt different strategies to influence the perceived legitimacy by their stakeholders (that is, inter alia, shareholders, creditors, customers, suppliers, workers, NPOs and authorities).

From this point of view, the literature distinguishes between symbolic and substantive approaches (Pfeffer and Salancik 2003; Palazzo and Scherer 2006).

The substantive approach is an attempt to obtain legitimacy by an effective commitment to change aligning corporate's strategies and policies to social norms. Stakeholders are interested in knowing whether the changes in corporate strategies are also changed in actions (Hopwood 2009). A substantive approach applied to non-financial information implies that the company publishes reports capable of improving the quality of the information provided with regard to the conduct held and the actions undertaken.

The symbolic approach is only an attempt to positively influence stakeholders' perceptions of the company, engaging in apparent initiatives that lead the stakeholders to believe that the company is committed to meet the societal requirements (Ashforth and Gibbs 1990) and, thus, to build a new, more legitimate positive image reducing the number of questions asked and maintaining a level of secrecy in its real actions (Hopwood 2009). Non-financial information becomes a means of communication that is exploited as an opportunity to hide organization's activities, obscuring negative performances (Cho et al. 2015) and create a corporate image detached from reality (Boiral 2013).

Even though, legitimacy theory has been widely employed by the non-financial literature (Mazzotta et al. 2020; Owen 2008; Parker 2005; Velte and Stawinoga 2017), few studies applied it with regards to the disclosure provided by companies on the issue of gender inequalities consequently to the scarce information available in the companies' annual reports (Adams et al. 1995; Adams and Harte 1998; Benschop and Meihuizen 2002). In the past the non-financial information was not compulsory in large part of the world and also in European Union (EU).

In the case of the EU, this situation changed as a result of the adoption of the European directive 2014/95 on non-financial information: there was a shift from an optional to a mandatory disclosure nature.

According to some studies, this changing produced a positive impact on the quality and quantity of non-financial information provided by the companies.

Leopizzi et al. (2020) state that this legislation has brought an improvement with a positive increase in the level of non-financial information reporting in all sectors and for all types of risks whilst Venturelli et al. (2017) find that an information gap remains, although the implementation of the directive should help to reduce it the subsequent years. Examining the Italian case, these studies obtained results in line with that part of the literature that recognises the role of regulation in improving the quality of disclosure of non-financial information (Beets and Souther 1999; Deegan 2007). The potential contribution of the EU directive to non-financial disclosure appears thus positive.

However, not all researchers are consistent with this standpoint.

Some empirical research show that regulation is not always associated with improvement in the quality of non-financial information (Lock and Seele 2016). Brown (2009) underlines that the quantitative increase in the disclosure would not be accompanied by a similar qualitative increase since the adoption of a standardized framework would penalize the use of company and sector-specific indicators and information, or at least the only regulation is not be sufficient to ensure a better level of information (Costa and Agostini 2016; Luque-Vilchez and Larrinaga 2016).

Another study, focused on the Chinese and South African contexts, achieved controversial results (Ioannou and Serafeim 2014)

Based on the theory of legitimacy, this paper is focused on the differences that the entry into force of the European Directive 2014/95, transposed in Italy by Legislative Decree 254/2016, has produced on the Italian companies listed on FTSE-MIB40 over the time with the aim to verify whether:

- There has been an effective engagement that has led to a better quantitative and qualitative disclosure on the gender issue (substantial approach), or
- There has been only an attempt to create a positive image with the goal to lead the most relevant stakeholders to believe that the company is committed to meet the societal requirements (symbolic approach).

In this prospective, the analysis of the non-financial information trend on gender disclosure in the recent years (2019/2020) provides additional elements useful to consider the kind of approach really adopted on this topic by the Italian listed companies.

3 Research Design

We used a qualitative research methodology based on multiple case studies (Yin 2014).

Table 1 Research sample

Industrial Italian companies listed on FTSE MIB	
Atlantia	Leonardo
Buzzi Unicem	Moncler
Campari	Prysmian
Cnh Industrial	Recordati
Enel	Saipem
Eni	Snam
Exor	Stmicroelectronics
Ferrari	Tenaris
Fiat Chrysler Automobiles/Stellantis	Terna - Rete Elettrica Nazionale
Italgas	Tim Italia

Source: Authors' elaboration

In particular, we carried out a qualitative content analysis (Duriiau et al. 2007; Mayring 2015) on the data extracted from the non-financial statements (NFSs)—or on similar documents—published by Italian non-financial companies listed on the FTSE-MIB.

The FTSE-MIB index represents the most important Italian stock index, including the 40 companies with the greatest capitalization on the Italian capital market. We selected only the non-financial companies, not also the financial companies, for homogeneity reasons considered the difference of business and regulation. Financial companies are subject to additional non-financial requirements by sectorial supervisory bodies.

In answering to the first two research questions, we selected the non-financial companies that were listed in the years examined and published non-financial information in those years.

More precisely, we analysed gender information published by the companies present in that index in all of the following years:

- On 31/12/2016
- On 31/12/2019
- On 31/12/2020

We selected the year 2016 because it was the year before the first application in Italy of the national regulation implementing the European directive and the years 2019 and 2020 because they were the last 2 years on which the NFSs of these companies are available, at the time of the research took place. Indeed, the data extraction took place in January 2022.

The comparison between the year 2016 and the years 2019 and 2020, with a special focus on 2019, permits to analyse the changes relevance of the gender information provided by the companies as a result of the specific regulation. This also permits to exam the trend of the gender disclosure in the mid-term.

The comparison between the years 2019 and 2020 permits to analyse the trend of the gender disclosure in the short term and thus verify if the regulation introduced has been continuing producing effect in the recent years.

Table 2 Selected information

Variable detected	Code number	Variable description	Theoretical background
Reference to the topic	V1	Number of times certain specific terms occur (women, gender, gender equality, inequality, diversity, equal opportunities, discrimination)	Symbolic approach (Hopwood 2009; Ashforth and Gibbs 1990)
Compliance with the GRI standards	V2	Comprehensiveness of the information on gender produced with respect to what is specifically required by the GRI	
Qualitative Gender Disclosure	V3	Information type: qualitative/narrative	Substantive approach (Hopwood 2009; Ashforth and Gibbs 1990)
Quantitative Gender Disclosure	V4	Information type: quantitative/table form	
Trend	V5	Presence of comparative data that allow obtaining indications on the trend of the information provided	

Source: Authors' elaboration

In Table 1, we reported the sample selected, on the basis of the criteria mentioned above.

All companies observed adopted the GRI standards in each year analysed. Thus, they produced homogenous non-financial information making possible a comparison among them.

Moving from this evidence, we built a scoring model focused on selected aspects of meaning related to our research questions (Schreier 2012).

The selected variables used to assign the score are showed in the Table 2.

Regarding the first variable reported, focused on the number of times certain specific terms occur, we chose the words to search by referring to the description contained in the gender indicators of the GRI. In this case, the content analysis applied is a meaning-oriented type (Smith and Taffler 2000; Helfaya and Whittington 2019). It was not only based on the mere calculation of words selected, but it also focused on the reading of the related sentences nature and the appropriateness respect to the analysed theme.

The researchers selected five variables that capture the quality and quantity of the gender disclosure produce by the companies.

Quantitative nature variables are based above all on the volume of the disclosure. A company may increase the volume of the information provided replicating boilerplate information, in a way that offers little to enhance stakeholders' knowledge about the gender issues. Such disclosures may serve to protect the organization from external pressure (Hopwood 2009; Michelon et al. 2015) instead to provide, directly or indirectly, useful information to the stakeholders.

These practices are symbolic, rather than substantive.

Table 3 Research scoring scheme

Parameters	Score	
V1	$x \geq 80$	= 1
	$x < 80$	= 0
V2	Yes	= 1
	No	= 0
V3	$x \geq 8$	= 1
	$x < 8$	= 0
V4	$x \geq 6$	= 1
	$x < 6$	= 0
V5	$x \geq 5$	= 1
	$x < 5$	= 0
Maximum total score	5	

Source: Authors' elaboration

Variables 1 and 2 provide a quantitative nature information. Thus, we consider them as indicators of the use of a symbolic approach. The rationale of this choice is that both may be used to improve the company's image rather than the inform the stakeholders on the results the effective company's commitment.

If the use of oriented words or narrative information give to the companies an opportunity to camouflage corporate activities, obfuscate negative performances (Cho et al. 2015) and to construct corporate images detached from reality (Boiral 2013), the same result it is difficult to achieve with the use of tables, numbers and ratios. They provide a concrete information of the corporate performances and give to the stakeholders the opportunity to use them for comparison over the time and among the companies, as well as for further elaborations and analysis.

Variables 3, 4 and 5 provide qualitative nature information, so we chose to use them as an expression of a substantive approach.

We analysed in detail every variable. For each variable, the value range ranked from 0 to 1.

The value is 0 when the parameter is below a value representing an average level of compliance with GRI's requests or the number of times that terms referring to gender are reported. The value is 1 when this threshold value is exceeded. The threshold value is equal to the average value of the degree of compliance, obtained taking into consideration the results achieved in 2016, that is before the entry in force of the non-financial directive. For example, if the GRI provides that 12 key performance indicators (KPIs) on gender are provided and of these, on average, in 2006 the companies provided 4, the companies that provided at least 4 of these indicators scored 1, the other 0.

At the end, a company can have a minimum score of 0 and a maximum score of 5.

Table 3 summarises the variables investigated and the score assigned them.

To reduce the discretionary margin and thus to ensure the reliability of the score, the two Authors underwent a short training period to share the keywords and decision rules. The researchers were also exposed to several examples of the various types of risk information.

Table 4 Remarkable improvement of qualitative gender information

Variable code	Additional score		Theoretical background
V1	– Increase in quality information $\geq 50\%$	Yes	Symbolic approach
	– Worsening or increase in quality information $< 50\%$	No	
V2	– Increase in quality information $\geq 50\%$	Yes	
	– Worsening or increase in quality information $< 50\%$	No	
V3	– Increase in quality information $\geq 50\%$	Yes	Substantive approach
	– Worsening or increase in quality information $< 50\%$	No	
V4	– Increase in quality information $\geq 50\%$	Yes	
	– Worsening or increase in quality information $< 50\%$	No	
V5	– Increase in quality information $\geq 50\%$	Yes	
	– Worsening or increase in quality information $< 50\%$	No	

Source: Authors' elaboration

After this step, the understanding and skill of the Authors were tested using the inter-rater or inter-observer method (Linsley and Shrivs 2006), where each coder is involved in analysing the same set of material. In this case, 3 DFNs were analysed separately. The results of content analysis carried out by the researchers were then correlated to determine the extent of the agreement. The result showed that there were no significant diversities among the scores obtained. The positive result of this procedure confirms the consistency of the method applied (Leopizzi et al. 2020; Michelon et al. 2015).

With the aim at answering to the RQ3, we also carried out a content analysis.

The same sample analysed for answering to RQ1 and RQ2 was used.

The DFNs and the consolidated financial statements of the companies were examined to verify whether these documents included information on any eventual impact deriving from the COVID-19 crisis, regarding the gender issues within the company.

A complete reading of the documents was carried out to verify the existence of any reference.

In this case, the conducted analysis was objective and was independent of any discretionary assessment regarding the nature or relevance of the impact reported

For this study, we built a scoring model based on the key disclosure parameters reported in Table 4.

A score of 1 was assigned if the gender disclosure had substantially improved following the mandatory divulgence, that is if the observed variables increased by at least 50%. If, on the contrary, the improvement did not occur or there was an improvement in the observed variable of less than 50%, we assigned a score equal to zero.

We analysed the non-financial statements (NFSs) and the consolidated financial statements related to the years 2019 and 2020 since those documents normally provide disclosure on the COVID-19 pandemic impact.

4 Findings and Discussion

4.1 The Evolution of the Gender Disclosure in Mid-Term

Figure 1 provide an overview of the scoring obtained for each company analysed in the entire period of observation (years 2016, 2019 and 2020).

Regarding these evidences, it is to be observed that:

- Eight companies obtained the minimum score (zero) in 2016 equivalent to the 40% of the total
- Three companies obtained the minimum score (zero) in 2019 equivalent to the 15% of the total
- Two companies obtained the minimum score (zero) in 2020 equivalent to the 10% of the total
- One company obtained the minimum score (zero) in each year equivalent to the 5% of the total

In our analysis, we assume that when the value of the score is zero, there is a lack of information since the disclosure provided is lower to the average gender disclosure provided by the Italian-listed companies before the entry in force of the non-financial information regulation. In other words, it provides evidence that the

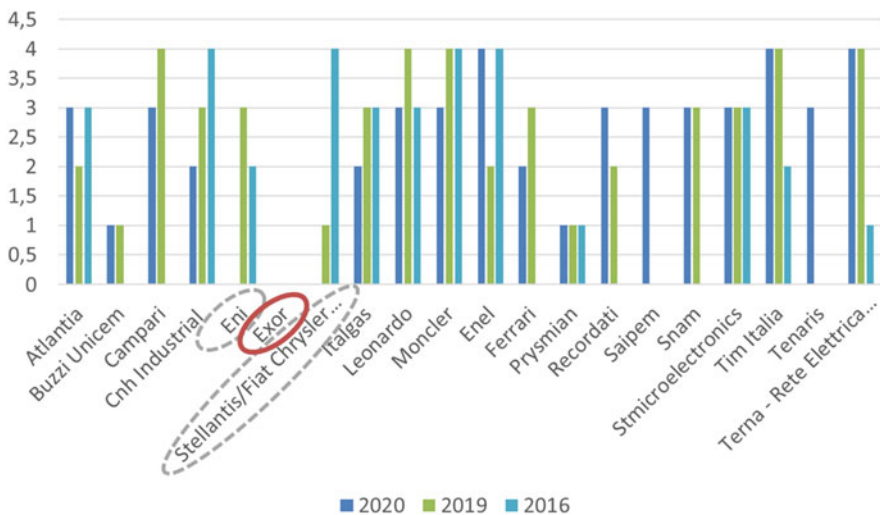


Fig. 1 Results comparison. Source: Authors' elaboration

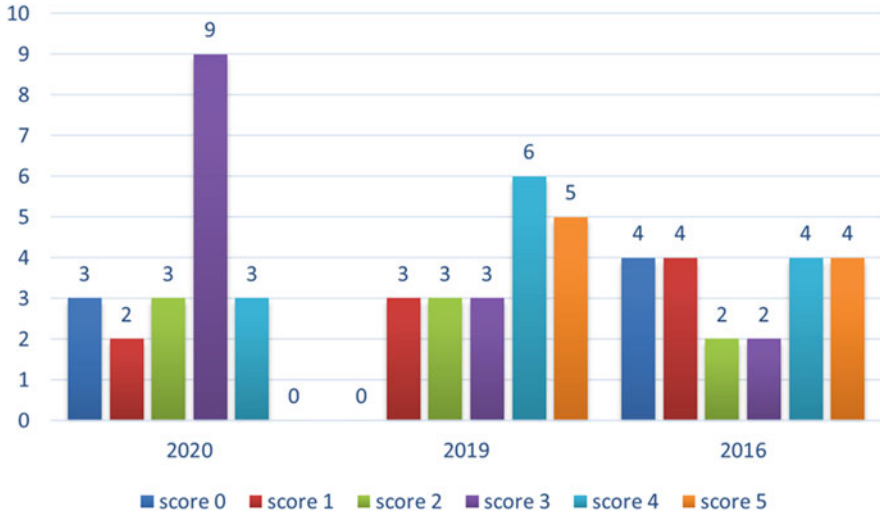


Fig. 2 Companies’ score distribution. Source: Authors’ elaboration

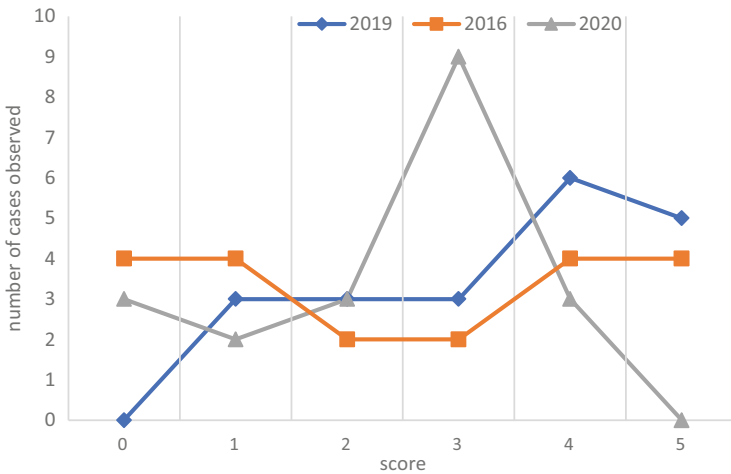


Fig. 3 Companies’ score trend. Source: Authors’ elaboration

company underperformed in producing that disclosure in comparison to the other listed companies using as a benchmark a period in which the non-financial information was not compulsory and there was assent to the current strong public attention on ESG topics (Moratis and Brandt 2017).

We note that the results show that there is a meaningful reduction of the cases in which the gender disclosure is equal to 0. However, there are still companies lacking sufficient information in 2019 and 2020, even though the time spent from the introduction of the law requirements.

Fig. 4 The changes in parameters (comparison between years 2016 and 2019). Source: Authors' elaboration

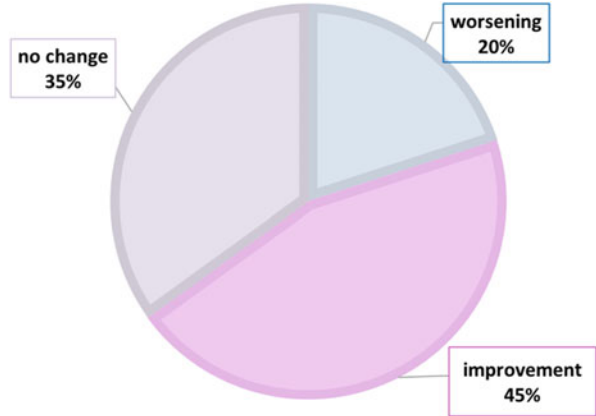


Figure 2 highlights the companies' score distribution in the different years so that to provide a brief representation of the changes occurred in the mid-term whilst Fig. 3 summaries the results of the changes in the company's scores between years 2016, 2019 and 2020

About these data, it is to be observed that:

- No company obtained the maximum score in one of the years observed.
- There is not an increase in the number of the companies that achieved a top scorer, meant as value amounting to 4, comparing the results obtained previously and subsequently the introduction of the non-financial information directive.

In particular, the findings show that:

- The companies that obtained a top score gathered (4) in 2016 were 4.
- The companies that obtained a maximum score measured (4) in 2019 were 5.
- The companies that obtained a top score detected (4) in 2020 were 3.

These results show the substantially absent impact of the new regulation on the best practices, as shown in Fig. 3.

Focusing on the mid-term (2016–2019), we detected that the introduction of the non-financial directive resulted in an improvement on gender disclosure for 45% of the companies in the analysed sample. This result reveals an overall relevant impact of the regulation in the mid-term, even if not on best practices. However, the introduction of the directive did not produce any effect on gender disclosure for 35% of the sampled, while for 20% of them a worsening was observed, as showed in Fig. 4.

Summing the evidences provided by Figs. 2, 3 and 4, it is reasonable to state that the improvement on disclosure concerns the companies that produced a low or medium level of gender information, not the companies that already had a good sensitivity on the topic.

Table 5 shows the variation in the average score by the comparison of the years 2016 and 2019. It also indicates the number of companies with a high score, meant as

Table 5 Comparison of the results over the years

Results	2016	2019	Variation detected
Average score	1.7	2.35	+38.23%
Number of companies with a score ≥ 2.5	8 (40%)	11 (55%)	+37.50%

Source: Authors' elaboration

a score equal to or greater than 2.5 (that is, equal to or more than the half of the maximum score).

The results detect that in the 2 years of reference reveals, there is a significant improvement in corporate disclosure on the gender issues. The improvement regards both the overall average score (+38.23%) and the number of companies that obtain a high score (+37.50%). These data confirm the overall relevant impact of the regulation in the mid-term.

The first three figures and Table 5 provide evidence that the introduction of the non-financial directive had a significant impact on the gender disclosure communicate with a relevant improvement of that. The new regulation associate to the connected stakeholders' expectation has prompted the Italian-listed companies to improve their disclosure. This change is in line with the legitimacy theory because an increase of disclosure on a specific topic permit not only to be compliant with law requirement but also helps maintain good relationships with relevant publics.

In a context of a regulation, companies provide disclosure because they must and the State plays a role in supporting the ideology for legitimizing the gender issue requirements, in the light of legitimacy theory (Archel et al. 2009). In accordance with this approach, the Directive represents a policy action to provide material legitimacy to companies' non-financial information. Material legitimacy is a "*form of legitimacy that enables organizations to blend what is important to the organization (strategic legitimacy) with the primary concerns of its major stakeholders (institutional legitimacy)*" (Dumay et al. 2015). From this prospective, the formal application of the rules is consistent with a symbolic practise whilst an effective application of the law requirements is consistent with a substantial practise.

If the actions undertaken by the companies are consistent with the legitimization theory framework, these results do not provide clear evidences about the kind of approach followed.

The fact that no company obtained the maximum score and the absence of a relevant increase in the number of the companies achieved a top score is just a clue of a possible symbolic practise.

To this purpose, we conducted a specific analysis on the single parameters. By this analysis, we highlight the degree of completeness of the information provided and the changes occurred in the specific quantitative and qualitative nature indicators. We focus this research on the years 2016 and 2019.

While Fig. 5 summarises the variation in the score of each parameter used comparing the years 2016 and 2019, Table 6 highlights the average scores for each indicator in the 2 years examined and their percentage variation. The description of the variables was in Table 3 above reported.

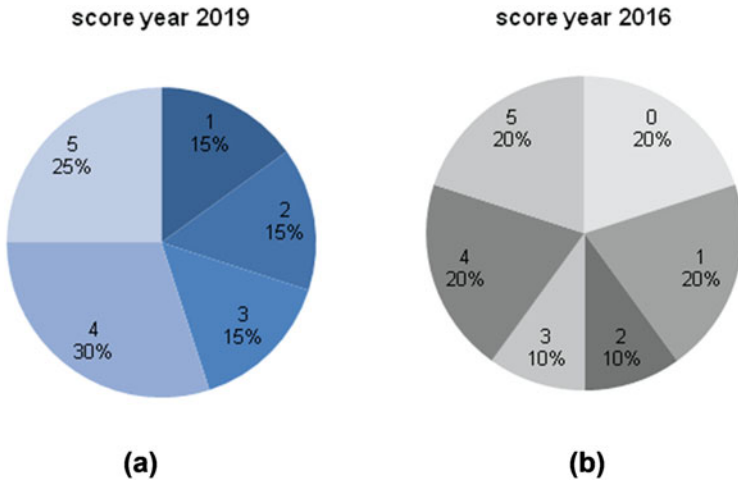


Fig. 5 Changes in the score of each variable in the mid-term. (a) Score year 2019, (b) score year 2016. Source: Authors’ elaboration

Table 6 Comparison of specific indicators

Average score 2016	Average score 2019	Variation % 2016–19
<i>V1—relevance of the topic (max 1)</i>		
0.35	0.60	+71.43%
<i>V2—information methods: qualitative/narrative (max 1)</i>		
0.35	0.60	+71.43%
<i>V3—information methods: quantitative/tables (max 1)</i>		
0.59	0.60	+2.00%
<i>Variable 4—comparison with previous year (max 1)</i>		
0.59	0.55	-7.27%
<i>V5—completeness with respect to the GRI (max 1)</i>		
0.59	0.60	+2.00%

Source: Authors’ elaboration

The additional analysis carried out on the gender topic provides useful information to understand the evolution of the single variables over the time. This information is particularly relevant since each variable represents an indicator of the change of the qualitative and quantitative nature information.

It is to be observed that the table provides evidence that the first and second variables have a meaningful increase whilst the remaining variables have an uneven trend, without relevant positive or negative changes.

This analysis reveals a different trend between the qualitative nature variables and the quantitative nature variables. As a matter of fact, we observed:

- The qualitative nature variables (variables 1 and 2) increased significantly.
- The quantitative nature variables (variables 3, 4 and 5) did not have a relevant and uniform changes.

Taken into consideration that

- The qualitative nature variables represent indicators of a symbolic approach.
- The quantitative nature variables represent indicators of a substantial approach.

The results achieved suggest that the Italian listed companies have mainly adopted a symbolic approach.

This evidence is consistent with the fact previously reported that no company obtained the maximum score and no relevant increase in the top score companies is detected.

4.2 The Evolution of the Gender Disclosure in Short-Term

Focusing on comparing the changes in the company’s scores between years 2019 and 2020, we detected that in 35% of the cases observed, there was no improvement in gender information, while in 45% of the companies, there was even a worsening. An improvement occurred in only 25% of the cases observed (Fig. 6).

Fig. 6 The changes in parameters (comparison between years 2019 and 2020). Source: Authors’ elaboration

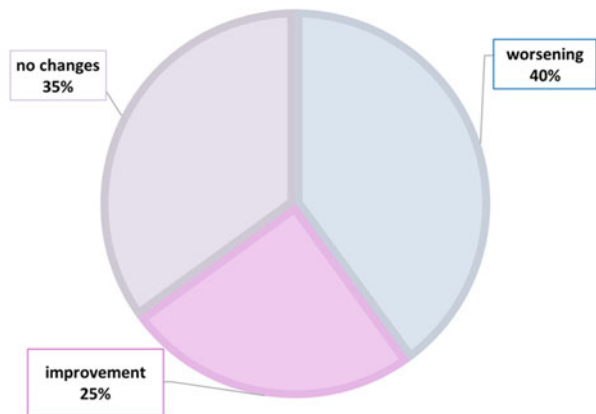


Table 7 Comparison of the results over the years

Results	2019	2020	Variation detected
Average score	2.35	2.35	0%
Number of companies with a score ≥ 2.5	11 (55%)	12 (60%)	+0.83%

Source: Authors’ elaboration

Table 8 Comparison of specific indicators

Average score 2019	Average score 2020	Variation % 2019–2020
<i>Variable 1—relevance of the topic (max 1)</i>		
0.60	0.65	+8.33%
<i>Variable 2—information methods: qualitative/narrative (max 1)</i>		
0.60	0.20	–200%
<i>Variable 3—information methods: quantitative/tables (max 1)</i>		
0.60	0.70	+16.67%
<i>Variable 4—comparison with previous year (max 1)</i>		
0.55	0.70	+27.27%
<i>Variable 5—completeness with respect to the GRI (max 1)</i>		
0.60	0.75	+25%

Source: Authors' elaboration

Table 7 shows the variation in the average score by the comparison of the years 2019 and 2020. It also indicates the number of companies with a high score, meant as a score equal to or greater than 2.5.

The analysis carried out show an increase in the number of companies with a high score (+0.83%) balanced by a worsening in the overall score achieved by a relevant number of companies, so that the overall average companies score is the same in the 2 years examined. In sum, although the introduction of new regulation produced a relevant impact on the disclosure provided by the companies, the situation is different in the recent years. The data provide evidence of a stable situation without relevant positive or negative changes in the companies scores.

Table 8 summaries the average scores for each indicator in the 2 years examined and their percentage.

Differently from the results obtained analysing the mid-term impact of the introduction of the directive, the table shows a different trend of the variable scores in 2019 and 2020. In particular:

- Variable 1 increases slightly
- Variable 2 decreases remarkably
- Variables 3, 4 and 5 increase in a range between about +17% and +27%

The weight of the variables that contribute to maintain constant the companies score of the companies in the 2 years changes. The quantitative nature variables (variables 3, 4 and 5) assume more importance than the qualitative nature variables (variables 1 and 2). The meaning may be that the companies are moving from a symbolic approach towards a substantial approach.

A possible explanation of that result is the rising importance that the non-financial information is assuming for the community (CDP et al. 2021), associate with the particular attention to the topic by the European Institution. Recently, EU took many initiatives on the sustainability issue, especially in 2019 and 2020. In this context, the EU made a commitment to review the Non-Financial Reporting Directive in 2019

(EC 2019) issuing a proposal for a new directive on sustainability disclosures in the first part of the year 2021 (EC 2021).

The validity of this supposition ought to be confirmed analysing at least the documents related to the year subsequent, i.e. the 2021.

4.3 *The Impact of the COVID-19 on the Gender Issue*

Table 9 presents the results of the content analysis about the effect of the recent pandemic on the gender disclosure.

From the examination of the published documents (financial and non-financial documents), the analysis reveals that no specific attention was paid by the non-financial companies listed on the FTSE-MIB40 to the impact of COVID-19 on the gender issue. The results are 0 in each year examined.

5 Conclusion

Although the issue of gender inequality is extensively treated in the literature, only few contributions deal with the topic of the disclosure on the gender issue provided by the companies. The papers that faced this topic are mainly focused on specific aspects of the gender issue considered the scarcity of the information available at the time in which they were published (Adams et al. 1995; Adams and Harte 1998; Benschop and Meihuizen 2002).

This research investigates the gender information produced in the new public documents addressed to the non-financial information and thus also to the gender issues.

This study explores the content of the disclosure provided using the conceptual framework of the legitimacy theory (Suchman 1995; Tyler 2006; Chen and Roberts 2010) to verify the extent of the information provided by large companies on gender issue before and after the application of the national regulation on non-financial information (Guthrie and Parker 2012; Gray et al. 1995).

This paper has analyzed the changes that the entry into force of Directive 2014/95/EU, transposed in Italy by Legislative Decree 254/2016, has produced on the disclosure of large Italian listed companies, with regard to the issue of gender

Table 9 Impact of the COVID-19 on the gender issue

Results	2019	2020	In percentage
Information on the impact produced: qualitative/narrative	0	0	–
Information on the impact produced: quantitative/table form	0	0	–

Source: Authors' elaboration

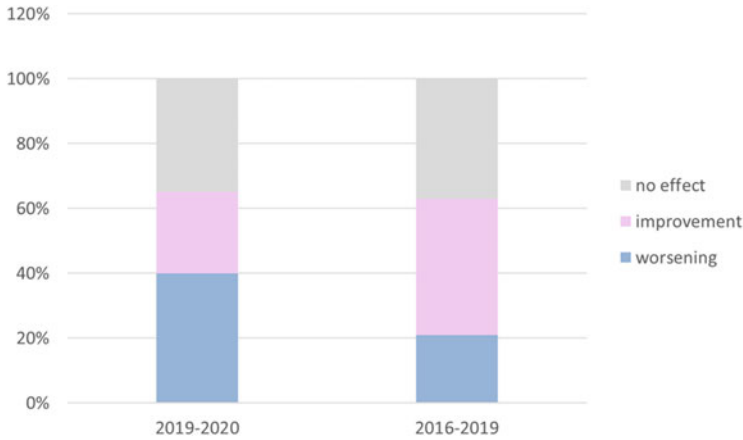


Fig. 7 Changes in parameters (comparison between years 2016–2019 and 2019–2020). Source: Authors’ elaboration

inequalities. Specifically, the quality, quantity and methods of presentation of information relating to gender issue in these companies were examined, in order

- (i) To verify how much the introduction of the non-financial information produced an improvement in the gender quality information of the Italian listed companies in the mid-term and what is the current evolution in that kind of information.
- (ii) To analyze the type of response (symbolic or substantive) adopted by Italian listed companies in the implementation of the new regulation.

About the impact produced by the new regulation in the mid-term, the analysis indicates the existence of a relevant impact. The study reveals that there is a growing interest in the topic. We find an improvement on gender disclosure mainly concerns the companies that provided a low or medium level of gender information, not the companies that already paid attention to the topic before the introduction of the regulation. Figure 7 summaries the changes in parameters putting in comparison respectively the years 2016–2019 (med-term) and 2019–2020 (short term).

These results appear consistent with previous studies such as DiMaggio and Powell (1983), according to with organizations always try to operate within the limits of their social spheres by striving to be perceived as legitimate. Thus, the greater the likelihood of an adverse change in society’s expectations of how an organization operates, the greater the organization’s desire to change these adverse views to ensure their legitimacy (Branco and Rodrigues 2006) and achieve social acceptance (Deegan et al. 2002).

However, our findings suggest that the Italian listed companies adopted mainly a symbolic approach and thus more a “ceremonial conformity” to the law requirements (Meyer and Rowan 1977), adopting certain highly visible and salient practices that are consistent with social expectations without making meaningful changes in

their activities and in the effectiveness of the disclosure provided (Ashforth and Gibbs 1990)

Regarding the recent evolution in the gender disclosure, the results suggest the absence of apparent changes in the 2 years analysed (2019 and 2020). Although the overall companies scores are approximately the same in the 2 years, the study suggests that is ongoing a change in the companies' approach. The information seems becoming more substantially with reduction of some parameters that indicate the existence of a symbolic practice.

The paper also investigated any information provided by the companies examined in the financial and non-financial disclosure 2019 and 2020 on the eventual impacts that COVID-19 produced on gender inequalities. In other words, the question was if the companies provided a specific information on the COVID-9 effects on gender inequalities. No empirical evidence was found on this aspect because the companies produced no specific information.

This paper makes several contributions to the gender literature.

First of all, this paper fills the gap in the literature by highlighting an unexplored area of literature related to the quantity and quality of gender disclosure drawing upon the regulatory framework of non-financial reporting.

Second, the study sheds light on effect of the introduction of a non-financial regulation on the gender issues not only in mid-term but also in the recent years and thus in short-term.

Third, our analysis uses the legitimation theory to explain the association of the changes in mid-term and short-term providing with symbolic or substantive practices. From this point of view, the conclusions of the research offer insights to policy makers to measure the effectiveness of the rules on gender disclosure so to contribute to the ongoing reflection on the updating of the directive on non-financial information by the EU and on the standards that European and international accounting bodies will issue on this topic.

Finally, as far as we know, this is the first research that explores the issue of quality-quantity of information on gender. Thus, it is ideally in line with the pressures of the institutions to call on companies to provide minimum indications on gender equality in companies, including the involvement of company trade union representatives and territorial and regional equality councilors.

Like all studies, ours is not without limitations. It is, indeed, a preliminary research that offers some indications of the status quo and current trends. To reach conclusions of general validity, it is necessary to extend the sample, including other companies that prepare the NFSs in accordance with the law. Furthermore, it is necessary to extend the reference time horizon, including at least the 2021 NFSs.

Another limit of the research is described by the reduced articulation of the scores assigned to the parameters (zero or one), helpful for a first screening but not suitable for grasping the different sensitivities of companies to the issue of gender.

Our results strive for new lines of research and may push scholars to analyze in-depth the quality information rendered by the public companies.

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The Right to Disconnect, the EU Strategy and Gender Equality



Emanuela Fiata

Abstract Disconnection has undoubtedly taken on a central role in the debate on remote work and the need to rethink the regulations dictated for “work in the enterprise,” which are inadequate for remote work because of the absence of space-time constraints on performance.

It is well known that digitization has brought economic advantages to employers and allowed workers greater autonomy and a better work-life balance. On the other hand, the widespread use of digital tools in the workplace has given rise to the culture of “working anytime, anywhere,” which has reduced the advantages related to the use of new technologies, leading people to remain constantly connected.

At the same time, the constant connection coupled with the high stresses at work and the growing expectation that workers be reachable at all times can negatively affect workers’ fundamental rights, work-life balance, and physical and mental health and well-being.

This phenomenon, as highlighted by the European Parliament’s Resolution of January 21, 2021, on “Recommendations to the Commission on the right to disconnect (2019/2181(INL),” has affected fundamental workers’ rights and gender equality, given the disproportionate impact of these tools on workers with care responsibilities, who are generally women.

Therefore, the right to disconnect should be considered an important social policy tool at the Union level to protect workers’ rights, particularly for the most vulnerable and those with care and nursing responsibilities.

This paper analyzes the European initiatives on disconnection. Mainly it focuses on the Resolution of the European Parliament of January 21, 2021, that affirms the need to consider disconnection as a fundamental right of the workers in the digital era. Thus, the Resolution calls for the adoption of the proposed directive.

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The paper, starting from the opportunity to introduce minimum levels of protection at the EU level, argues that, even though the Italian law appears “over-compliant” with the EU provisions in the matter, under other aspects, the proposed directive brings about applicable provisions to protect and force the right to disconnection. In particular, according to the author, disconnection should be guaranteed beyond the boundaries of remote work and represents a helpful tool for achieving gender equality.

In this vein, we can formulate our research questions:

RQ1: How relevant is the right of disconnection for gender equality?

RQ2: How will adopt the proposed Right to Disconnect Directive impact gender equality?

Keywords Right to disconnect · Gender equality · Remote work · Technostress · Work-life · Interface · Workaholism

1 Introduction

Disconnection has undoubtedly taken on a central role in the debate on remote work and the need to rethink the regulations dictated for “work in the company,” which are inadequate for agile work in view of the absence of spatial and temporal constraints on performance (On the debate regarding the interpretative problems posed by the emergency legislation, see Martone 2020; Persiani 2020, according to which “when the work, while continuing to be, or to be considered, subordinate does not take place within the company, but in the worker’s own home or in the place chosen by this, it is inevitable that the discipline dictated for” work in the company“ proves inadequate. Inadequate because, on the one hand, the traditional powers of the employer and, on the other hand, the rights and obligations of the worker cannot have the same content and the same limits that they have when the work is performed within the company”; Brollo 2020; Caruso 2020; Albi 2020; Biasi 2021; Romei 2020; Del Conte 2021. On the regulation of remote work contained in Law no. 81 of 2017 see Martone 2018; Ricci 2018; Spinelli 2018. On the right to disconnection in agile work, see Maio 2020, p. 85 e ss.; Altimari 2019; Dagnino 2017; Di Meo 2017; Fenoglio 2018; Russo 2020; Preteroti 2021).

It is well known that digitization has brought economic benefits to employers and allowed workers greater autonomy and a better work-life balance. On the other hand, the widespread use of digital tools in the workplace has given rise to a culture of “working anytime, anywhere,” which has reduced the benefits of using new technologies, leading people to remain constantly connected.

At the same time, constant connectivity coupled with high stress at work and the growing expectation that workers are reachable at all times can negatively affect workers’ fundamental rights, work-life balance, physical and mental health and well-being (On the risks related to “time porosity” see Dagnino 2017; Fenoglio 2018) .

This phenomenon, as highlighted by the European Parliament Resolution of January 21, 2021, on “Recommendations to the Commission on the Right to Disconnect (2019/2181(INL),” has affected fundamental workers’ rights and gender equality, given the disproportionate impact of these tools on workers with care responsibilities, who are generally women.

Therefore, according to the Resolution, the right to disconnect should be considered an important social policy tool at the Union level to protect workers’ rights, particularly for the most vulnerable and those with caregiving responsibilities.

The following pages will focus on the Resolution of January 21, 2021, entitled “Recommendations to the Commission on the right to disconnect (2019/2181 (INL),” in which the European Parliament affirmed the need to consider the right to disconnect as a fundamental right of the individual in the work of the digital age and called for the adoption of the proposal for a directive.

As regards, the Italian legal system, art. 19, paragraph 1, of Law no. 81 of 2017 establishes that the individual agreement, which regulates the performance of work carried out outside the company premises, “also identifies the rest times of the worker as well as the technical and organizational measures necessary to ensure the disconnection of the worker from the technological instruments of work”

2 The Resolution of January 21, 2021, and the Proposed Directive: Purpose and Definition of Disconnection

The European Parliament with Resolution of January 21, 2021, calls on the Commission to submit a proposal for a Union Directive on minimum standards and conditions to ensure that workers can effectively exercise their right to disconnect.

The Resolution starts from the premise that the “always connected” culture can come at the expense of “fundamental workers’ rights and fair working conditions, including fair pay, working time limitation and work-life balance, physical and mental health, occupational safety and well-being, and gender equality, given the disproportionate impact of these tools on workers with caregiving responsibilities” (Recital C of the Resolution).

The Resolution defines the right to disconnection as “a fundamental right that is an inseparable part of the new work patterns of the new digital age,” and considers it “an important tool of social policy at the Union level to ensure the protection of the rights of all workers,” particularly those who are “most vulnerable” and have “caring responsibilities” (See recital H of the Resolution).

Exercising this right “allows employees to refrain from performing electronic work tasks, activities, and communications, such as phone calls, emails, and other messages, outside of their working hours, including rest periods, official and annual holidays, maternity, paternity, and parental leave, as well as other types of leave, without adverse consequences” (See n. 16 of the Resolution).

Therefore, the European Parliament calls on Member States to ensure protection from “negative repercussions for workers who invoke the right to disconnect” and the establishment of “mechanisms for dealing with complaints or violations of the right to disconnect” and asks the Commission to include the right to disconnect “in its new strategy on health and safety at work and to explicitly develop new psychosocial measures and actions in the framework of health and safety at work.” (See n. 16 of the Resolution).

Turning to the examination of the proposed directive, after the reference in the recitals to the principles of protection affirmed in the Nice Charter, the European Pillar and international conventions, Article 1 defines the object and scope of the directive.

The measure, which aims to “establish minimum requirements for workers to use digital tools for work purposes and to exercise their right to disconnect, which must be guaranteed by employers,” applies “to all sectors, both public and private, and to all workers, regardless of their status and working arrangements.”

Thus, the proposal applies not only to workers who perform remotely, but also to “onsite” workers in both the private and public sectors, demonstrating that the risk of hyperconnectivity is now general in scope (Fenoglio 2018).

From the point of view of definition, art. 2 of the proposal identifies the discussion to the “non-exercise of work activities or communications by means of digital tools, directly or indirectly, outside working hours,” referring, as regards the definition of working time to art. 2, point 1, of Directive 2003/88/EC, that is, “any period during which the worker is at work, at the disposal of the employer and in the exercise of his or her activity or duties, in accordance with national legislation and/or practice.”

Recital 16 of the proposal also emphasizes that the right to disconnect allows workers “to refrain from performing work-related electronic tasks, activities and communications, such as telephone calls, emails and other messages, outside of their working hours, including rest periods, official and annual holidays, maternity, paternity and parental leave as well as other types of leave, without adverse consequences.”

Of note is the expanded scope of the right to disconnect, which covers all periods of non-work, outside of work hours, and not just minimum consecutive rest periods.

It should be pointed out that the opposite is not true. The connection, in fact, is not sufficient to qualify a given period of time as “working time,” since it is necessary to verify the existence of all three elements that, pursuant to art. 2, point 1, of Directive 2003/88/EC, as interpreted by the Court of Justice, and implemented by art. 1, paragraph 2, of Legislative Decree no. 66 of 2003, constitute this notion: being at work, at the disposal of the employer and in the exercise of the activity or duties. In this regard, see ECJ. EU September 9, 2003, Jaeger, cited above, paragraph 70.

Article 3 of the proposal requires Member States to ensure that employers “take the necessary measures to provide workers with the means to exercise their right to disconnect,” including through the establishment of an “objective, reliable and accessible system for measuring the duration of each worker’s daily working time, while respecting workers’ right to privacy and data protection.”

3 The Implementation and Regulatory Arrangements

The implementation measures for the right to disconnect are contained in Article 4 of the proposal, which requires Member States to ensure that the detailed arrangements for the exercise of this right are established, after consultation with the social partners, and that employers “implement this right in a fair and transparent manner.”

In particular, a number of working conditions will need to be guaranteed, some of which echo the wording used by the European Framework Agreement on Digitization for measures to exercise this right.

These include practical ways to disconnect from digital tools, a system for measuring working time, health and safety assessments, including psychosocial risk assessments, and awareness-raising measures, including on-the-job training, that employers are required to take regarding working conditions.

There will also have to be “criteria for granting a waiver to employers from the obligation to implement workers’ right to disconnect,” which will only be possible in exceptional circumstances, such as “force majeure or other emergencies, provided that the employer provides in writing to each affected worker the reasons demonstrating the need for a waiver whenever one is used” (See Art. 4 of the proposed directive).

Article 4(2) of the proposal further provides that Member States may, “in accordance with national times national, regional, sectoral or employer level which establish or complement the terms and conditions of employment referred to in paragraph 1.”

See also Recital 21 of the proposed Directive which states that “the practical arrangements for the exercise of the right to disconnect by the worker and for the implementation of that right by the employer should be agreed by the social partners by means of a collective agreement or at the level of the employer.” See also point 21 of the Resolution which “stresses the importance of the social partners in ensuring effective implementation and enforcement of the right to disconnection, in accordance with national practices, and emphasises that it will therefore be important to take into account the work they have already done in this area; considers that Member States should ensure that workers can effectively exercise their right to disconnection, including through collective agreement.”

4 The Protection of the Right to Disconnect

Important is the provision on the burden of proof contained in art. 5 of the proposed Directive (See also recital no. 29) , aimed at discouraging retaliatory acts of the employer against workers for exercising the right to disconnect.

According to this provision, in fact, if workers believe that they have been dismissed or have been subjected to other adverse treatment, for having exercised or attempted to exercise the right to disconnect (art. 5, paragraph 1) or for having

made a complaint to the employer or initiated a procedure to ensure the respect of the rights (art. 5(2)), and allege in court facts that give rise to a presumption that they were dismissed or otherwise treated unfavorably for that reason, the burden of proof is on the employer to show that the dismissal or unfavorable treatment was based on different reasons.

This is an important mitigation of the burden of proof along the lines of what is observed in equal opportunity (See art. 40 of Legislative Decree no. 198/2006, according to which the plaintiff “provides factual evidence, also taken from statistical data relating to recruitment, remuneration schemes, assignment of duties and qualifications, transfers, career progression and dismissals, which are capable of establishing, in precise and concordant terms, the presumption of the existence of acts, agreements or conduct that are discriminatory on the grounds of sex”; the defendant is required to demonstrate the “non-existence of discrimination”) and whistleblower protection (See art. 54-bis, paragraph 7, of Legislative Decree no. 165 of 2001 provides that “it is the responsibility of the public administration or the body referred to in paragraph 2 to demonstrate that the discriminatory or retaliatory measures taken against the reporter are motivated by reasons unrelated to the report itself”, providing that “the discriminatory or retaliatory acts adopted by the administration or the body are null and void.” On the subject be allowed to refer to Fiata 2018).

In the same vein, Article 6 of the proposal, in order to make the protection of the right to disconnect effective, requires Member States to ensure that workers “whose right to disconnect has been infringed have access to a prompt, effective and impartial dispute resolution mechanism and have a right of recourse” in the event of a breach of their rights under the Directive.

In addition to identifying how the right to disconnect is to be exercised, Art. 7 of the proposal states that this right should be the subject of adequate and timely information, either in writing or in a digital format that is easily accessible to workers, indicating, specifically, the practicalities of disconnecting from digital tools for work purposes, including any monitoring tools; the employer’s system of recording working time Of the employer’s health and safety assessment related to the right to disconnect, including psychosocial risk assessments; of the criteria for granting employers a waiver from the obligation to implement the right to disconnect and the criteria for establishing compensation for work performed outside of working hours; of measures to protect workers from adverse treatment; and of measures to implement workers’ right to appeal.

5 Sanctions

Article 8 of the proposal introduces a system of sanctions for breaches of the right to disconnect. According to this provision, Member States “shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive or of the relevant provisions already in force concerning the rights

falling within the scope of this Directive, and shall take all measures necessary to ensure that they are implemented. Those penalties shall be effective, proportionate and dissuasive.”

The important provision, *de jure condito*, is not foreseen in our legal system and which could assume some relevance in terms of the effectiveness of the protection of the right to disconnection.

A sanctioning mechanism that recalls the one provided for by the abovementioned delegated bill no. 1883 which, among the principles and directive criteria, at art. 2, letter c) identifies “the application in case of violation of the right to disconnection of art. 615 bis cod. penal, unless the fact constitutes a more serious crime.”

In this way, the desired increase in effectiveness would be entrusted to the provision of an obligation of supervision by the employer combined with the criminal sanction in case of violations.

In this regard, it has been correctly pointed out that, in addition to the doubts regarding the applicability of the criminal hypothesis of the “crime of illicit interference in private life” (See art. 615 bis c.p. according to which “Whoever, through the use of visual or sound recording instruments, unduly obtains news or images pertaining to private life taking place in the places indicated in art.614, is punished with imprisonment from six months to four years”) to the case in question, what is not convincing about this approach is that, in the bill, the identification of the times and ways of exercising the right to disconnect remains entrusted to the individual agreement instead of the collective agreement.

From the point of view of sanctions, it would be more appropriate to include in art. 18 bis of Legislative Decree no. 66 of 2003 and subsequent amendments, specifically dedicated to offences for violations of working time regulations, a provision to sanction violation of the right to disconnection (Maio 2020).

6 Disconnection Tools for Gender Equality

Article 19, paragraph 1, of Law No. 81 of 2017 establishes that the individual agreement, which governs the performance of the work carried out outside the company premises, “also identifies the rest times of the worker as well as the technical and organizational measures necessary to ensure the disconnection of the worker from the technological instruments of work.”

One possible interpretation of this provision is that the rest periods coincide with the disconnection period, which, however, could be much wider than the rest period, coming to coincide with the entire period outside working hours, also by virtue of the provision contained in art. 18, paragraph 1, of the abovementioned law, according to which work is carried out “only within the limits of maximum daily and weekly working time, deriving from the law and collective bargaining.”

It follows that “there can be no ‘connection’—i.e. work activity—beyond these hours” (Del Conte 2021). It follows that “there can be no ‘connection’—i.e. work

activity—beyond these hours,” with the consequent centrality of the function of the time of disconnection, preordained not only to the recovery of psychophysical energies, but also to the recovery of private life and “free and dignified existence” of the worker (Luciani 1995, according to which “It should be emphasized that the constitutional norm [Art. 36, paragraph 1, Const, n.d.r.] imposes the limitation of the duration of the working day not so much to allow the reproduction of the labor force (and that is to ensure that the worker recovers their energy and then resume work), but in order to reserve workers the availability of sufficient time to devote to themselves, their families, leisure, cultural enrichment, etc. In a word: to live that “free and dignified existence” of which the first paragraph of the same art. 36 speaks, indicating to the interpreter the key to understanding this whole matter. Finally, the same logic inspires the third paragraph, which provides for the right to weekly rest and paid vacations”. See also Occhino (2010).

If this reading is accepted, the Italian legislation appears to be in line with the proposed directive which, as seen, embraces a notion of disconnection coinciding with the period outside working hours.

See Article 2 of the proposal, which identifies disconnection as the “failure to engage in work activities or communications by means of digital tools, directly or indirectly, outside of working hours.” See also recital 13 of the attached proposal for a directive Resolution of the European Parliament of January 21: “and periods of on-call time, during which the worker is obliged to spend on-call time in his or her home and to keep himself or herself at the disposal of the employer, must fall within the notion of working time.” The same Parliament in recital 20 of the proposal “emphasizes that employers should not require workers to be directly or indirectly available or reachable outside of working hours and that workers should refrain from contacting colleagues for work purposes outside of agreed-upon working hours; recalls that periods during which the worker is available or reachable to the employer are work periods.”

The disconnection, as formulated in art. 19, paragraph 1, of Law n. 81 of 2017, still appears to be lacking in terms of effectiveness and concreteness, lacking the provision of an implementation process or a sanctioning system, appropriately provided for in the proposed directive.

This is the most delicate profile and, for this reason, rather than leaving it to the parties to identify the measures to make the right to disconnection effective, a legislative intervention would be appropriate, preferably in support of collective autonomy (Biasi 2021, according to which “bargaining has the fundamental function of ensuring the effectiveness of the rights of agile workers, especially with regard to the new instances of protection of remote work”), as, moreover, advocated by the European Framework Agreement on Digitization of June 22, 2020, and the proposed Directive under comment.

It is also clear that the right to disconnect is not only relevant in remote work and another of the merits of the proposed Directive is its scope, extended to all public and private workers.

Recognition of the right to disconnect in the context of all employment relationships that are characterized by a constant use of technological tools would in fact

have the effect of discouraging the employer from contacting the employee outside the agreed time and strengthen the protection of workers' privacy.

Disconnection could also be the tool to achieve gender equality and avoid exacerbating the unequal burden sharing of unpaid care and domestic work between women and men.

This is in implementation of the Sustainable Development Goals (SDGs) set out in the United Nations 2030 Agenda aimed at "eliminating all forms of discrimination and eliminating all forms of violence against women and girls" and in recognizing and valuing "unpaid care and domestic work through public service provision, infrastructure and social protection policies, and the promotion of shared responsibility within the family and at the national level."

The annual EU Gender Equality Report for the year 2021 confirmed how during the pandemic women took on the bulk of unpaid care and household work, including the new task of supervising online education.

The same report cites data suggesting that the pandemic crisis may have exacerbated the pre-existing gender gap: on average, during the pandemic women devoted 62 h/week to childcare (compared with 36 h for men) and 23 h/week to housework (15 h for men).

In addition, surveys taken during the pandemic showed that 29% of women with young children had difficulty focusing on work because of family responsibilities. Only 16% of men in the same situation complained of similar difficulties (Marinelli 2021).

Against this backdrop, making the right to disconnect effective is also critical to overcoming gender inequality.

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Making Women Protagonist: How to Foster Participation in Gender Budgeting



Mauro Paoloni, Giorgia Mattei, Valentina Santolamazza, and Beatrice Elia

Abstract The participation of citizens (especially women) in the budgeting process could be crucial in promoting gender equality enhancing the female role in society (Steccolini. *Public Money and Management* 39(5):379–383, 2019; Pastore and Tommaso. *Gender-responsive budgeting processes in the Italian regional and local governments*, in Paoloni, Lombardi (Eds), *Gender studies, entrepreneurship and human capital*, Springer, Cham, 2020). People’s engagement in the budgeting process could privilege equality in accessing different capabilities, focusing on the needs and expectations rather than merely analysing how the resources have been allocated (Gunluk-Senesen. *Public Money & Management* 41(7):554–560, 2021; Rubin and Bartle. *Public Administration*, 2021), as in standard gender budgeting (Klatzer et al. *Developments in practice: Methodologies and approaches to gender budgeting*, in O’Hagan and Klatzer (Eds), *Gender Budgeting in Europe*, Palgrave Macmillan, Cham, 109–133, 2018). Furthermore, the inclusion of digital tools could enable women’s engagement in gender budgeting, as in the participatory budgeting experiences (Stortone and De Cindio. *Hybrid participatory budgeting: Local democratic practices in the digital era*, in Foth, Brynskov, and Ojala (Eds), *Citizen’s right to the digital city*, Springer, Berlin, 177–197, 2015; Sampaio and Peixoto. *Electronic participatory budgeting: false dilemmas and true complexities*, in Gastil and Knobloch (Eds), *Hope for democracy*, 413–426, 2014). Therefore, the present research investigates the integration of a participatory perspective in gender budgeting, highlighting the relevance of digital technologies in enhancing citizens’, specifically women’s, engagement (Stortone and De Cindio. *Hybrid participatory budgeting: Local democratic practices in the digital era*, in Foth, Brynskov, and Ojala (Eds), *Citizen’s right to the digital city*, Springer, Berlin, 177–197, 2015).

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This study is ascribable to a conceptual paper in that it led to the development of a new model, building on theories and concepts identified and tested through empirical research (Jaakkola. *AMS Review* 10(1):18–26, 2020). Therefore, reviewing the existing literature about participatory budgeting (Papadopoulos and Warin. *European Journal of Political Research* 46(4): 445–472, 2007; Sintomer et al. *Dialog Global* 25:1–93, 2013; Bartocci et al. *International Journal of Public Sector Management* 32(1):65–79, 2019), gender budgeting (Klatzer et al. *Developments in practice: Methodologies and approaches to gender budgeting*, in O’Hagan, Klatzer (Eds), *Gender Budgeting in Europe*, Palgrave Macmillan, Cham, 109–133, 2018; Gunluk-Senesen. *Public Money & Management* 41(7):554–560, 2021) and digital tools’ effect on citizens’ engagement (Stortone and De Cindio. *Hybrid participatory budgeting: Local democratic practices in the digital era*, in Foth, Brynskov, and Ojala (Eds), *Citizen’s right to the digital city*, Springer, Berlin, 177–197, 2015; Sampaio and Peixoto. *Electronic participatory budgeting: false dilemmas and true complexities*, in Gastil and Knobloch (Eds), *Hope for democracy*, 413–426, 2014), a new “participatory” gender budgeting framework is created.

The peculiarity of this research lies in its comprehensive approach in studying gender budgeting and its “participatory” view, in line with the paradigm of public management called New Public Governance (Osborne. *Public Management Review* 8(3):377–387, 2006), which calls for greater involvement of citizens. This is pursued through digital tools that can enhance the government’s capability to intercept citizens’ needs and perceptions (Grossi et al. *Meditari Accountancy Research* 29(7):75–93, 2021).

The most significant contribution consists of developing a comprehensive model that integrates gender budgeting, usually *a posteriori*, with citizens’ participation and engagement, typical of participatory budgeting. The nexus between gender budgeting and participatory budget has been already analysed in the past (Ng. *Gender-responsive and participatory budgeting: Imperatives for equitable public expenditure*. Springer, Cham, 2016). However, no work seems to integrate these processes with digitalisation, suggesting some practical measures, such as introducing a platform for collecting citizens’ proposals.

Keywords Gender equality · Participatory governance · Gender-responsive budgeting · Women’s empowerment

1 Introduction

In recent years, several routes have been entered to make the process of determining and reporting public expenditure more participatory to meet citizens’ needs more equitably and inclusively (Ebdon and Franklin 2006). In light of this, public administrations could adopt a wide range of tools, possibilities and methods in formulating and implementing their policies, aiming to increase the degree of citizens’ engagement (Sintomer et al. 2013). This search for widespread participation has allowed the contribution of new ideas and soft skills to determine a more effective allocation of

public resources from both financial and social points of view (Verba and Nie 1987). Overcoming the New Public Management ideals (Hood 1991), new policies must go beyond the achievement of the renowned three “Es” (Efficiency, Effectiveness and Economy) (Rhodes 1996), also allowing for the achievement of other objectives, such as equality, following the managerial trends deriving from New Public Governance paradigm (Osborne 2006).

Despite the efforts made by the public administrations, the consolidation of these participatory practices did not prove to be sufficient to achieve a goal that is nowadays fundamental: gender equality. This happens because participatory practices still present several limitations in achieving equal access and contribution by both genders, as women recorded lower inclusion scores in participatory processes (Allegretti and Falanga 2016). In addition, examining the existing literature on the public sector, gender issues are still not solved, and several discriminatory events are still present (Paoloni et al. 2021). This has led some public administrations, albeit in a fragmented and non-organic way, to adopt Gender Budgeting (GB), to incorporate the gender perspective within their budgeting, to hold governments accountable for their policies and actions in the field of gender equality. GB is considered one of the main tools to influence policymaking and deliver on gender equality in a way that might not otherwise be feasible (Downes and Nicol 2020; Jorge and Pimentel 2021).

In this light, although the use of GB is growing due to the benefits already mentioned, few studies have currently focused on gender budgeting in a more participatory format (Steccolini 2019). Therefore, further attention needs to be paid to it. Within this scenario, it is interesting to note that, also because of the Covid-19 pandemic, governments are increasing available resources for the adoption of recovery plans, in which digitisation is seen as one of the pivotal pillars and a driving force for the recovery itself. Thus, it seems helpful to investigate by identifying new application models, which could be the most significant contribution given by the digital transformation tools to the process of determining and reporting public spending to make public budgeting more gender-inclusive and participatory.

Therefore, after an illustration of what GB nowadays is (Polzer et al. 2021) and what are the features that can be improved (Steccolini 2019; Galizzi et al. 2021), the present research would focus on citizen engagement and digitalisation as elements that could increase GB results (Ng 2016).

To this end, Sect. 2 is dedicated to explaining the methodology used, namely the conceptual paper, highlighting the difference between conceptual paper and literature review. Subsequently, a proper exploration of the state of the art of gender budgeting is in-depth illustrated, also considering the existing gaps in the process (Sect. 3). Then, citizen engagement tools, especially participatory budgeting, is described, considering also the impact of digital tools on people participation (Sect. 4). Finally, given these elements, a proposal for a new digital participatory gender budgeting model is presented (Sect. 5), and conclusions are drawn (Sect. 6).

2 Research Design

The study is designed as a conceptual paper in that its main aim is to seek to bridge existing both theories and topics, approaching themes from a new point of view, not used in previous research (Gilson and Goldberg 2015). The idea behind this type of research is to link works across disciplines, provide multi-level insights, and broaden the scope of common thinking (Jaakkola 2020). Specifically, it aims at theorising and bringing together aspects of gender budgeting that prior studies have not covered.

Considering the methodological aspect of writing a conceptual paper, the first element that should be clarified is the selection of concepts to be addressed using a new lens (Gilson and Goldberg 2015).

Starting from the gender equality goal (United Nation 2015, the necessity to foster and deepen this ideal make researchers the custodians of the task of getting to the bottom of this concept to find solutions. Therefore, the main topic of this paper is gender budgeting, seen as the process able to incorporate gender mainstreaming (Sharp 2002, 2003). However, looking at existing literature, gender budgeting could be deepened, and some hidden elements could be deeper explored (Steccolini 2019). Specifically, in the nowadays GB, it is possible to observe a constant absence of civil society engagement (Galizzi et al. 2021). Therefore, after a brief overview about this gender budgeting issue, other concepts are taken into account.

Firstly, looking at the significant trends in public management in recent years, it is clear that a vision based on New Public Governance (Osborne 2006) rather than New Public Management (Hood 1991) is preferable. In this paradigm, as renowned, the role of citizens is more pro-active and central in the decision-making (Wiesel and Modell 2014). Hence, the first concept that is brought into play is the citizens' engagement and participation, which can also enhance the female role in society (Hajdarowicz 2018). Among all the possible processes that could emphasise citizen engagement, especially female ones, participatory budgeting is probably the most famous and relevant (Bartocci et al. 2019; Mattei et al. 2022; Bartocci et al. 2022).

Secondly, the next element that could contribute to building up the re-evaluation of the role of women in today's society is digitalisation. According to Sustainable Development Goal (SDG) no. 5, digital tools could be seen as an enabler for women (Roos et al. 2021), which is why this paper could not neglect the digital aspect.

Therefore, this conceptual paper is built as a "theory synthesis" type, in that authors summarise the concepts identified as relevant for the issue and then integrate them into a new higher-order perspective (Jaakkola 2020). This differs from a standard literature review since, in a conceptual paper, the literature review is a mean, not the end of the paper (e.g. Alolabi et al. 2021). In this type of paper, the added value is the integration of concepts, which is the primary distinction with literature review (Gilson and Goldberg 2015). This paper is also ascribable as a "model" type, in that the outcome of the study is the proposition of a new gender budgeting model, in which both citizens' engagement and digitalisation are integrated (Jaakkola 2020).

3 Gender Budgeting: State of the Art and Existing Gaps

Gender budgeting (GB) is a budgeting document that evaluates an administration's political, economic and financial choices with a gender mainstreaming view (United Nations 1995). Gender mainstreaming consists of "the reorganisation, improvement, development and evaluation of policy processes, aimed at incorporating a gender equity perspective in all policies at all levels and in all phases, by the actors normally involved in the policy-making process" (Council of Europe 1998). It is both a principle to be integrated within all the sectors of public intervention and a helpful process to understand the causes of the disparity between women and men in society, identifying the best strategies to counter this divergence (Rubin and Bartle 2021). GB is probably the most relevant tool in pursuing gender equity since it consists of a "gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process" (Council of Europe 2005: 10). In fact, the assumption of all gender budgeting practices is that public budgets are not gender-neutral, but normally ignore the different, socially determined roles, responsibilities and capabilities of men and women (Sharp 2002, 2003; Budlender et al. 1998; Jorge and Pimentel 2021). Furthermore, it fosters the concept of gender equality in rights and duties between females and males, also in terms of equal treatment in accessing resources and opportunities (Klatzer et al. 2018; Gunluk-Senesen 2021).

GB refers to a variety of processes and tools aimed at facilitating an assessment of the gendered impacts of government budgets, at any level, and it could be implemented in several ways and produce different results (Klatzer et al. 2018; Pastore and Tommaso 2020). Specifically, it could be set with different methodologies, namely *ex-ante*, concurrent and *ex-post* approaches (Rubin and Bartle 2005). *Ex-ante* approaches are less spread and relate to assessing gender needs through gender-sensitive surveys or thanks to ideas and projects collected, formulating the budget and determining the "binding budget" (Polzer et al. 2021). Therefore, in this approach, a gender equality needs assessment is usually performed, since it is able to highlight the main gender gaps across different policy areas (Downes and Nicol 2020). Concurrent tools are used by public administrations when they consider a gender perspective during their resource allocation through programme-based budgeting or tracking gender spending (Polzer et al. 2021). In this type of GB, it is necessary to define a gender dimension in performance setting, with the aim to measure different gender equality goals, and enable civil society to track progress (Downes and Nicol 2020). In this light, an important instrument that could help the stakeholder understanding is the gender allocations report. This report aims to show the quantity of financial flows allocated to policies promoting gender equality (Downes and Nicol 2020). Finally, when GB is set up with an *ex-post* approach, monitoring, evaluation and impact analysis activities are carried out, understanding possible deviations and determining the new objectives of the budget cycle. The *ex-post* approach is valuable because it helps ensure that any decisions to reallocate expenditures from one area to another is assumed considering the potential for these decisions to impact on gender inequality (Downes and Nicol 2020). This approach is

also called gender auditing and the adoption of a gender perspective in the spending review (Rubin and Bartle 2005). The comprehensive gender budgeting approach incorporates all three stages of the budgeting process (Polzer et al. 2021). The four different approaches are represented in Fig. 1.

However, despite the international commitment, gender equality does not prove to have been yet achieved in any country; progress is slow, and gender gaps still exist in work, wages, assistance and pensions (United Nations 2015). Therefore, more policies should be implemented in this view (Speeden 2012) and, among them, rethinking GB in a more participatory lens could be a solution (Steccolini 2019). This is what the international organisations require, as the various objectives and sub-objectives of the UN 2030 agenda suggest (United Nations 2015). Focusing on the SDG no. 5, it is stated that public administrations should implement processes aimed at “guaranteeing full participation of women and equal leadership opportunities at every political, economic and public level”. This could be done by “strengthening the use of enabling technologies to promote women’s emancipation” (Goal no. 5).

Therefore, in this scenario, the participatory gender budgeting sees citizens as protagonists in allocating resources to pursue gender equality, increasing transparency and knowledge and reducing gender discrimination. This would bring empowered citizens (especially women) closer to the local authority. A more participatory GB is realised by adopting various tools for bottom-up citizen involvement such as interviews, workshops, focus groups, debates (Ng 2016). However, despite its relevance, GB still takes place voluntarily, determining its limited adoption in qualitative and quantitative terms (Polzer et al. 2021; Downes and Nicol 2020). To stimulate the adoption of participatory gender budgeting and its effectiveness, it is necessary to identify more standardised procedures for different contexts, encouraging women and involving them from the early first step of the budgeting process (Allegretti and Falanga 2016). This could be especially done in the micro-perspective level of local governments, which could have a more significant impact on citizens’ life (Frey 2016).

4 Citizen Engagement Through Digital Tools

Contemporary governments face various problems related to their relationship with citizens (Fung and Wright 2003). Over the last decades, people have become sceptical about the effectiveness and fairness of the politicians’ activities (Swaner 2017); therefore, the trust in institutions has drastically dropped. Public administrations must overcome the New Public Management compulsive search for efficiency, coming back to citizens’ needs and accomplishing people’s expectations (Christensen and Lægreid 2011). In this line, as it is suggested by New Public Governance (Osborne 2006), it becomes strategic to undertake and fortify the population’s engagement and participation (Lodewijkx 2019), starting from local institutions, the government level closest to citizens. This led to the determination of

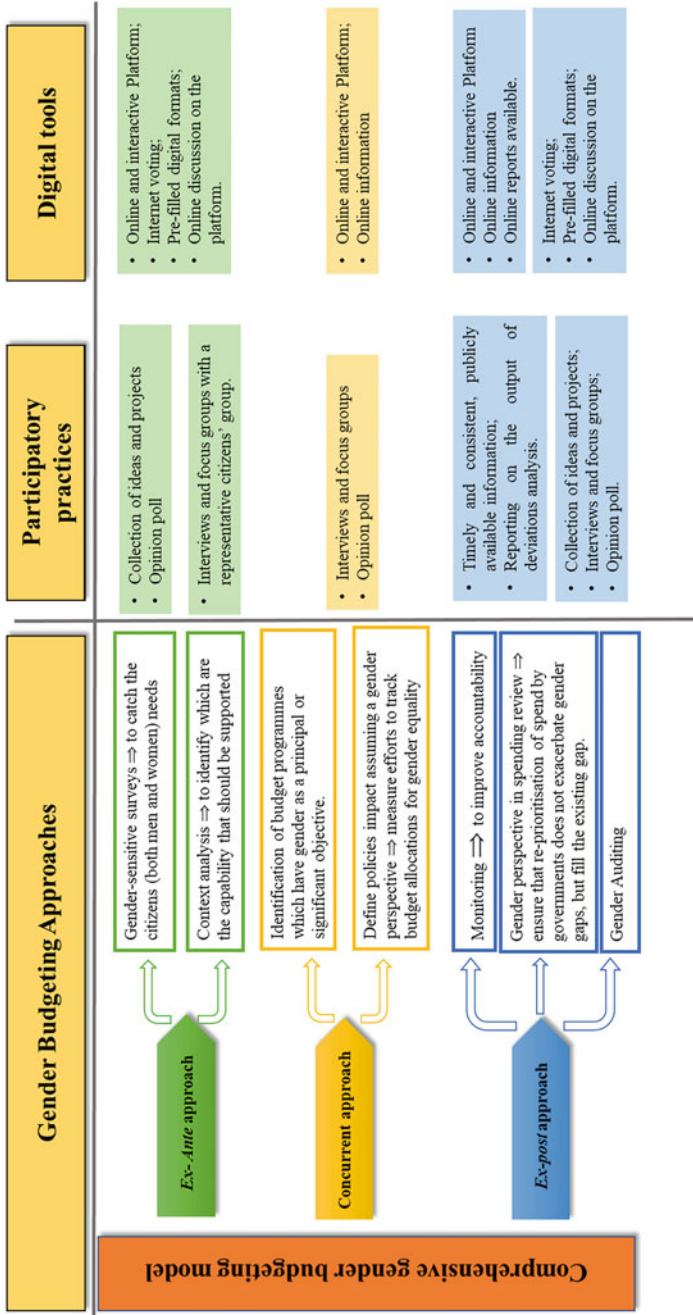


Fig. 1 Gender budgeting approaches. Source: Authors

the so-called participatory governance (Fung and Wright 2003). Citizens are involved in public choices under the communicative, visionary and decision-making dimension through listening, negotiation, consultation and discussion activities (Vigoda 2002). Citizens recover from the initial disadvantage, strengthening their capacity to intervene and influence public choices, determining the model of Empowered Participatory Governance (Fung and Wright 2003). This model has precisely the purpose—through the understanding of practical problems, participatory involvement and the application of practical solutions—to study the ways of reorganising public life, trying to understand whether it is possible to stimulate democratic commitment in society and strengthen the bonds that are created. It aims to create more responsive institutions by realising the effective participation of citizens (Levi-Faur 2012).

The participatory budget is of particular interest among the existing and different participatory tools, such as public debate, collaboration agreements, citizen sensing, petitions and referendums (Sintomer et al. 2013). Participatory budgeting (PB) is an innovation in the budgeting processes since this instrument allows the citizenry to participate in resource allocation actively (Papadopoulos and Warin 2007; Bartocci et al. 2019; Bartocci et al. 2022). Even if several PB formats could be set up (Sintomer et al. 2013; Mattei et al. 2022), it usually allows identifying—*ex-ante*—the population's needs and proposals helpful in implementing citizens-responsive policies (Allegretti 2010). Specifically, people involved in PB could define the intervention areas, namely the relevant issue that must be faced; propose their own ideas; discuss and debate with other citizens and with public institutions; co-create and co-evaluate projects; vote the proposals that should be implemented and finally monitor their effective implementation (Mattei et al. 2022). Considering the high relevance given to citizens, PB could be counted in the group of processes related to New Public Governance (Osborne 2006; Wiesel and Modell 2014). This continuous process of cooperation and adjustment between different and conflicting interests has led to the alternation of top-down, verticalised models, with policies imposed by governments on the communities, and bottom-up, coming from a plurality of diversified actors (Fung and Wright 2003). As a result, PB has determined a more widespread and circular concept of power than pyramidal, centralised and self-referential (Papadopoulos and Warin 2007).

A relevant issue in this process is how to foster citizens' participation. In this context, digital tools could help overcome some of the difficulties related to PB, allowing the inclusion of more people and bringing other benefits (Sampaio and Peixoto 2014; Falco and Kleinhans 2018). Specifically, digitalising PB may facilitate the process itself, influencing each stage, from how information is delivered to how people are identified, engaged and allowed to vote (Vydra and Klievink 2019; Grossi et al. 2021). Adopting digital tools in the PB could be fundamental in recreating a real public sphere, fostering discussion and collaboration among participants (Sønderskov et al. 2021). The ICT tools may also enhance the government's capability to intercept citizens' wishes and opinions (Grossi et al. 2021). However, digitalisation must be well-managed to avoid all its negative effects, such as digital inequalities (Ragnedda and Muschert 2013) or mere innovations that turn out to be

smokescreen (Allegretti 2012), not fostering citizens' engagement (Stortone and De Cindio 2015). Among others, the use of interactive platforms, creating an online place to debate, online voting and continuous monitoring increase PB effectiveness (Sampaio and Peixoto 2014).

5 The New Digital “Participatory” Gender Budgeting Model

Looking at the GB approaches above mentioned, GB usually provides citizens' participation with their comments and reviews in the final phase of the budgeting cycle, i.e. in the auditing phase, and, therefore, the ex-post approach is preferred (Polzer et al. 2021). On the other hand, as previously illustrated, PB usually operates ex-ante, providing for citizens' engagement when the local governments must develop their own budget, allocating economic and financial resources following the citizens' proposals (Allegretti and Falanga 2016). Therefore, it is possible to state that any participatory model dedicated to repairing gender inequality must integrate ex-ante PB tools and ex-post GB tools, involving citizens in the decision-making phase and making them aware of the gender perspective impact of the resource allocation. The citizenry is also supposed to support the institution in the final stage, creating a virtuous and consequential circle of enrichment of reporting performance and reprogramming the budget. In this light, citizens should not be viewed as mere commentators, but as active participants in policy design and debate (Downes and Nicol 2020).

This co-governance partnership between participatory and gender budgeting could become an ideoscape, suggesting a model that becomes real only through the use and experimentation of countries around the world, necessarily based on the standardisation of tools and procedures nowadays still dissimilar in their application. This would transform participatory gender budgets into ideal venues to collectively discuss the distribution of resources towards new and innovative, more advanced and less fragmented forms of government, capable of re-reading budgets in a gender key and eliminating the disadvantages for women.

Referring to the GB approaches identified in Fig. 1, it is possible to adopt and implement participatory practices and digital tools to enhance the citizens' engagement in GB. The integrated result is shown in Fig. 2.

Focusing on the ex-ante approach, it is normally mainly made up of a context analysis of the community's capabilities and a recognition of the main needs to be met, maintaining a gender perspective (Addabbo et al. 2010). These elements certainly have similarities with the PB, which includes an initial consultation with citizens to define priorities and propose projects (Mattei et al. 2022). Therefore, the participatory tools to be used could be similar: projects proposals by forms, opinion polls on past expenditure, surveys and focus groups to understand which needs are satisfied and which are still to be satisfied (Ng 2016).

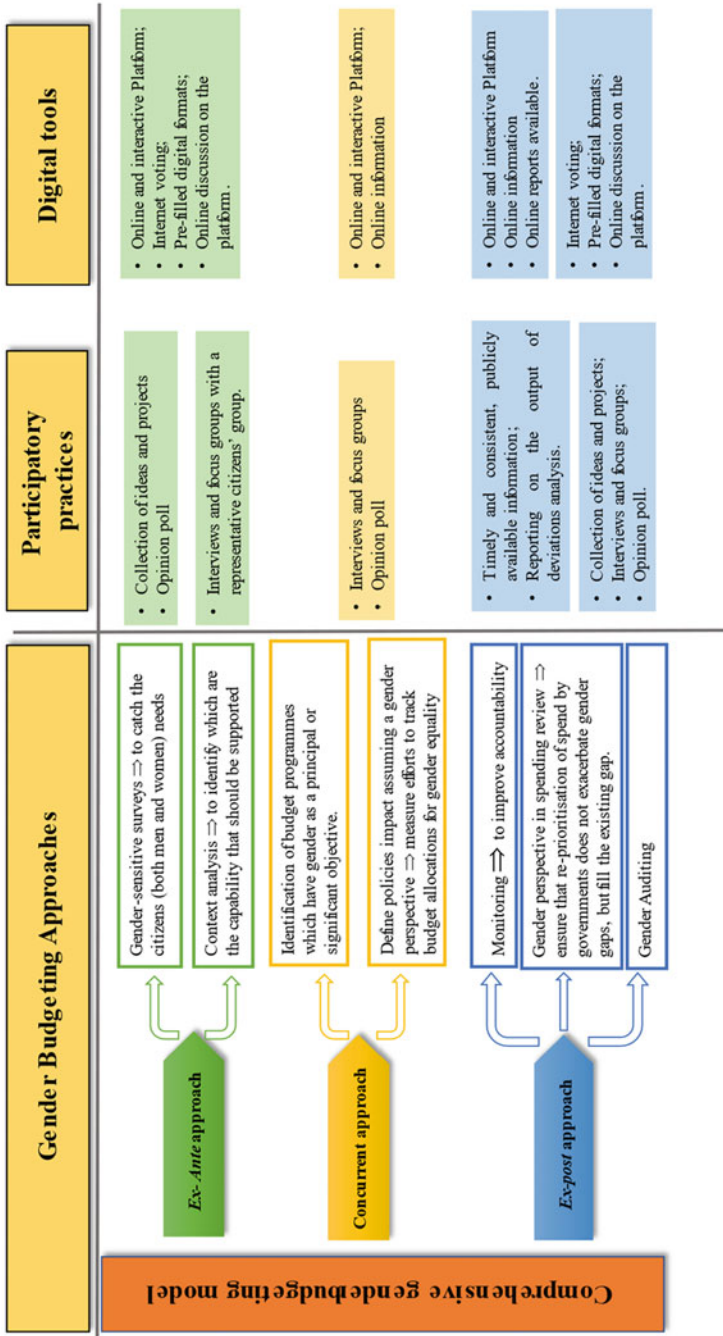


Fig. 2 The new GB model integrated with participatory practices and digital tools. Source: Authors

Relating to the concurrent GB approaches, after implementing the ideas that have been studied and included in the budget plan, governments have to interact with the people to make them aware of objectives and allow them to visualise the impact of gender policies on the established expenditure. To achieve this aim, citizen interaction can also be supported by opinion polls, surveys and focus groups.

Finally, considering the ex-post GB approaches, it is possible to set up all the participatory tools that are implemented in ex-ante approaches. In fact, the citizens' opinion of how GB has been implemented can be acquired through ex-post surveys, i.e. once the cycle is over, interviews with the different groups identified or just sending corrective ideas. Accountability is fundamental in this approach; therefore, digital tools that provide continuous and timely information must be adopted. In this approach, it is also fundamental to provide adequate online information, both publishing reports and updating the real-time information section.

Digital tools could be integrated to enhance access to and delivery of government information and service to citizens and improve citizens' engagement in the decision-making process (Sampaio and Peixoto 2014).

Among all possible digital tools that could be taken into account for these purposes, the proposition of a single digital platform on which all stakeholders can participate in the process of "participatory" gender budgeting appears to be the most functional (Bria 2019). This platform could include several digital tools that could enable citizens to participate in the process, starting from the proposals' format to a system to discuss all the presented projects. Thus, allowing each citizen, digitally identified (De Cindio 2012), the opportunity to access and participate in the decision-making process, this model could engage targeted females from the planning to the determination of the budget.

The single and open participatory budget governance platform can act as an aggregator of the various digital tools available to safeguard women's interests, such as digital reviews, internet voting, online evaluation and monitoring. Submissions of ideas can be delivered thanks to the interactive platforms that allow citizens to present and support proposals, prioritise issues and gather consensus (Mærøe et al. 2021). E-voting could be useful to bring people who are reluctant to participate closer to this process (Spada et al. 2016). The GB outputs can be translated into periodic reports that can be updated and optimised by the continuous feedback flow coming from the citizens, who detect the actual trend of citizen satisfaction and, consequently, of the GB effectiveness. This enables to settle and improve ongoing and ex-post corrective auditing. In this light, digital tools may help restore the relationship with the citizenry, increasing transparency and accountability (McGinley and Nakata 2015).

GB digitalisation must be led concretely, bringing added value to the community and the public decision-maker, avoiding an unjustified techno-optimism (Vydra and Klievink 2019), but trying to create a space for discussion and debates (Sønderskov et al. 2021). Doing this would benefit from the positive effects of opening up to dialogue with stakeholders to improve the system.

All the macro-phases and sub-phases analysed are necessary and fundamental to achieving the desired objectives. Without good planning (ex-ante approach), any

development effort would be in vain; without a skilled and efficient budget implementation (concurrent approach), the process could be considered worthless. Finally, without an auditing and monitoring process (ex-post approach), the implementation phase would not maintain high accountability standards towards citizens.

With these conclusions, this work demonstrates how GB could be implemented by local administrations in accordance with the laws, respect for gender equality and in a perspective of technological renewal. Starting from the small realities, passing through the cities and finishing to the regions and state, it is possible to achieve a fundamental, impartial, equitable, technological and no longer so utopian goal. This would be done by moving away from a neutral conception of the gender budget to a new GB model, useful to the advancement towards equality, through the allocation of public resources. This would also overcome one of the main gender budgeting issues, namely the total absence of civil society engagement (Galizzi et al. 2021).

6 Conclusion

Trying to summarise what has arisen from the previous sections, it is evident how restyling public budgeting can contribute to both the efficiency of the decision-making process and women's empowerment. Thanks to the advent of digitalisation tools, it can experiment with new frontiers in supporting the better weighing between the effectiveness of public decision-making and greater inclusiveness (Sampaio and Peixoto 2014). Indeed, thanks to the application of a model such as the one proposed, it would be possible to bring women from a position of weak stakeholders to a position of essential stakeholders (key people with high interest and strong influence). However, this must not be undertaken as a weakening or downsizing of the institutions since the civil development, social cohesion, and administrative improvement deriving from participatory budgeting represent a fundamental tool for inclusion and public administrations' increase in authority.

Moreover, citizens' active participation must be encouraged along each step of the GB digitalisation, namely the analysis of the socio-economic context, the preliminary analysis of indicators, the analysis of policies and programs, the reclassification of the budget according to gender perspective and the use of gender-sensitive indicators. This will instil greater confidence in the participatory process by ensuring that the "E" of gender equality can be combined with the 3 "Es" of economy, effectiveness and efficiency to evaluate the implementation of public administration performance. Finally, it can be stated that, given its centrality, the budget will be able to connect equality goal with macroeconomic policy, exploiting new technologies able to strengthen and influence the various decision-makers.

The value of the work mainly consists of filling the existing gap, considering that the integration of digitalisation in gender "participatory" budgeting has not been analysed, in contrast to the high attention given to digitalisation in participatory budgeting (Stortone and De Cindio 2015; Sampaio and Peixoto 2014). This topic could become even more relevant, as demonstrated by the emphasis on digitalisation

of public sector's processes and activities required by the temporary recovery instrument called NextGenerationEU (De la Porte and Jensen 2021).

In addition, the present research also suggests some innovative measures, such as introducing a platform for collecting citizens' proposals, becoming interesting from a practical view for policy makers, politicians and public managers who want to contribute to gender equality aim. Finally, according to what is required by both international entities (United Nations with Sustainable Development Goals) and National and European plans (NextGenerationEU), women's empowerment is a priority that must be pursued. In this view, countries have to set up adequate processes, such as this revised form of gender budgeting, to achieve it.

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The Prioritization of the SDGs: Analysis of European Policies in Favor of Gender Equality



Alberto Dello Strologo, Edoardo D'Andrassi, and Francesca Ventimiglia

Abstract Since the introduction of the Sustainable Development Goals (SDGs), researchers have sought to analyze the performance of states and the policies that nations can adopt to implement the results of the individual Goals (Dello Strologo et al., *Organizational Resilience and Female Entrepreneurship During Crises*. Springer: Switzerland, 2021). Hepp et al. (*Accelerating the United Nation's 2030 Global Agenda: why prioritization of the gender goal is essential*", *Global Policy*, 10: 677–685, 2019) indicated that the pursuit of the commitments made by signing the 2030 Agenda must be conducted by prioritizing the SDGs and identifying SDG5 on gender equality as central. This study, therefore, aims to analyze, for the European nations that perform best in the individual SDG5 indicators, the policies adopted to identify the most effective actions.

To achieve the research objective, the authors used an exploratory qualitative methodology, the case study, which allows investigating contemporary phenomena in their context (Blaikie, *Designing Social Research: The Logic of Anticipation*, Polity Press: Malden, 2000) and obtaining a broad description of a particular phenomenon (Yin, *Case study research and Applications*, 6th ed., Sage: Thousand Oaks, 2018). In addition, the study was completed with quantitative analysis to see if the countries identified as the best according to the qualitative analysis will also be the best by 2030.

This article aims to analyze the policies adopted by European countries to meet the commitments made by signing the 2030 Agenda (United Nations, *Transforming OurWorld: The 2030 Agenda for Sustainable Development*; Division for Sustainable Development Goals: New York, NY, USA, 2015) in terms of gender equality to ascertain which policies have proven to be most effective. Although other studies

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have analyzed the pursuit of the SDGs, to date no study has investigated the policies that are enabling excellent results for each indicator of SDG5 which, as has been indicated, represents the Goal that must be prioritized in the pursuit.

It is believed that the results of this study provide governments with the tools to identify, and possibly adopt, policies that can increase gender equality outcomes. In addition, the adoption of such policies could amplify the positive effects from an integrated perspective and, consequently, increase the commitment of states in the pursuit of the 2030 Agenda. It is believed that these results can be achieved, as policies will be analyzed which, to date, based on data provided by Eurostat, have already made it possible to achieve excellent results in the individual indicators of SDG5.

Keywords Sustainable Development Goals · SDG 5 · Gender diversity · Agenda 2030

1 Introduction

Since the introduction of the SDGs, researchers have sought to analyze the performance of states and the policies that nations can adopt to implement the outcomes of the individual Goals highlighting the difficulties encountered in aligning policies with the Agenda2030 goals (Dello Strologo et al. 2021). Hepp et al. (2019) pointed out that the achievement of the SDGs should be conducted by prioritizing some of them and identified SDG5 on gender equality as central.

SDG5 takes on a benchmark role as it includes indicators regarding different aspects of gender equality such as discrimination, violence, and women's participation in both the political and economic spheres (Heß 2020).

The key role of SDG5 with respect to all SDGs fits into the broader requirement recognized by the Agenda2030 to consider them as an indivisible whole to be achieved by considering the interrelationships between all goals and between their respective dimensions (Purcell et al. 2019).

The vast majority of SDGs studies deal with the state of SDGs implementation (Firoiu et al. 2019) in a specific nation and do not perform a broader spectrum analysis.

In this context, given the central role played by SDG5, it seems useful to analyze the progress made by different eurozone countries on gender equality. The analysis is part of a line of study started only recently (Dello Strologo et al. 2022) on the subject of policies adopted by the various countries to achieve the goals set by the SDGs and, in particular, those that have analyzed SDG5.

This study, therefore, fills the gap by investigating for each indicator (SDGI) of SDG5 the countries that rank first based on Eurostat data.

The analysis was conducted according to the exploratory qualitative case study approach, which allows contemporary phenomena to be investigated in their context and obtain a broad description of a particular phenomenon (Yin 2018). The data search was conducted through institutional documents (Corbetta 2014) and

secondary data from previous studies following the recommendations of Ruggiano and Perry (2019).

It is believed that this contribution can be relevant for governments as it aims to provide them with the tools to identify policies that can increase performance on SDG5 and, consequently, also in other SDGs.

The process of emulating the best countries, from a competitive perspective, could foster the greater commitment of states in the pursuit of the 2030 Agenda, especially in the pandemic context that is affecting the globe, also because Covid-19 has exacerbated existing disparities between women and men (European Commission 2021).

2 Literature Review

Many studies since the introduction of the SDGs have analyzed the interactions between the SDGs (Pradhan et al. 2017) or have studied the degree of implementation of the SDGs in individual countries through time-series-based analyses (Boto-Álvarez and García-Fernández 2020).

In line with the goals of the Agenda2030, several authors have emphasized the need to consider the SDGs as an indivisible and integrated whole to be achieved by considering the interrelationships, both positive and negative, among all the Goals (Purcell et al. 2019), according to an integrated approach (Hegre et al. 2020).

Thus, it is appropriate to monitor that progress in some areas does not occur to the detriment of others (Heifetz and Linsky 2002).

Nilsson et al. (2016) theorized a useful model to quickly understand which SDGs contribute positively to a given adopted policy, through goal-scoring that can assess the intensity with which different SDGs interact.

Pradhan et al. (2017) indicated that SDG1, SDG3, and SDG5 have a significant positive correlation with the other SDGs, confirming that improvement in these SDGs contributes to the achievement of the other goals. In the same vein, Hepp et al. (2019) argued that eliminating gender inequality (SDG5) would enable improvement in all other SDGs.

The importance of achieving the SDG5 goals seems to have been embraced by the various European governments; in fact, EU gender equality policies have expanded considerably and cover a wide range of programs (Lombardo and Meier 2008).

Many studies that have addressed the issue of gender equality have focused on the role of different institutional actors in the pursuit of gender equality, highlighting how international organizations play an important role in national policy-making (Boyle and Preves 2000; Hantrais 2000).

Achieving the goal of gender equality is complex because gender equality policy is a hybrid field that encompasses numerous frameworks that can be grouped into four areas: equality legislation, work-life balance, gender mainstreaming, and gender equity in decision-making (Skjeie et al. 2019).

The 2030 Agenda, with particular reference to SDG5, does not guide the tools and policies needed to achieve the goal and, indeed, has been widely criticized. The main criticism points out that it is predominantly focused on the public sphere although it has been noted that equality in the public sphere is highly dependent on equality in the private sphere (Chiva 2009).

At the same time, however, several papers have shown that Agenda2030 has offered an important “window of opportunity” to put more effort into achieving SDG5 (Borza 2010; Bútorová 2009).

In any case, it is worth noting how the study of the policies adopted by the various countries for the achievement of the goals of SDG5 can be particularly useful for emulation purposes, without prejudice to the fact that the background of each country must necessarily be considered. As Hudson and Lowe (2004) point out, “copying” policies in a different context can lead to results that are not in line with expectations. It is therefore important to understand whether certain policies have been adopted by more than one country to confirm their relative ability to provide an increase in the nations’ gender equality outcomes.

3 Research Method

To achieve the objective of the present study, a mixed qualitative–quantitative method was used, which is widely used in the reference literature on the degree of implementation of the SDGs (Firoiu et al. 2019).

To conduct the qualitative analysis, the case study technique was used, which allows for the analysis of contemporary phenomena and understanding of them (Yin 2018; Blaikie 2000).

To conduct the quantitative analysis, the countries to be analyzed were preliminarily selected through data provided by Eurostat (Eurostat 2021): for each SDGI of SDG5, the best performing countries were selected. The use of official statistics allows for highly credible data.

SDGI 5.1 was excluded because Eurostat data only showed values from 2012 onward.

For each country, the data search was done through institutional documents searched on the Internet, which is particularly well suited to studying the policy domain (Corbetta 2014) and through secondary data results from previous studies for which the recommendations of Ruggiano and Perry (2019) were followed.

Eurozone countries were analyzed because their relative commitment to adopting policies in line with the goals of the 2030 Agenda is known (Salaris et al. 2020).

Next, an analysis was conducted for each country to identify and analyze the policies used by the nations in pursuit of gender equality.

The authors employed a triangulation to increase the reliability of the data produced and the validity of the procedure used (Patton 2015).

To complete the quantitative analysis, the authors used, consistent with the previous literature on the degree of implementation of the SDGs, the FORECAST.

ETS function of Excel software (Firoiu et al. 2019) to check whether the same countries at the end of the Agenda2030 will turn out to be the best. This function identifies, based on a set of historical data, the value that a variable will assume in the future by assigning decreasing weights to the results that go back the longest in time (Hyndman and Athanasopoulos 2019). This methodology, therefore, appears to be the most suitable to achieve the objectives of the present study (Canela et al. 2019).

4 Result

The results obtained are summarized in Table 1 which shows for each SDGI the country that has achieved the best results and the countries that will achieve them by 2030.

4.1 Luxembourg: SDGI 5.20 and 4.20

Luxembourg, which renewed its National Action Plan for Equality in 2015, has indicated that gender equality will be a policy priority. The Ministry of Economy supports female entrepreneurship with awards and to facilitate female employment. Childcare facilities have been incremented and in 2005 a new type of kindergarten was introduced that cares for children 5 days a week from 6:00 a.m. to 8:00 p.m. (Official newspaper of the Grand Duchy from Luxembourg 2005.)

In 2014, the reform of Parental Leave was announced: fathers can reduce their working hours by 20% per week for 20 months or divide it into 4 periods of one month. The allowance paid is proportional to the income received but cannot be less than the minimum wage (Official newspaper of the Grand Duchy from Luxembourg 2016).

Since 2016, Luxembourg has had an equal pay law, and salary inequality has become a crime.

Table 1 Best performing countries

SDGI	2020/2021	2030
Gender pay gap in unadjusted form 5.20	Luxembourg	Czechia
Gender employment gap 5.30	Lithuania	Estonia
Inactive population due to caring responsibilities by sex 5.40	Norway	Luxembourg
Seats held by women in national parliaments and governments 5.50	Iceland	France
Positions held by women in senior management positions 5.60	Iceland	France
Early leavers from education and training by sex 4.10	Croatia	Greece
Tertiary educational attainment by sex 4.20	Luxembourg	Switzerland

Source: Authors

As for education policies, since 2002, the Ministry of Education has been supporting a project called “girls-day” that aims to enhance the skills of young women.

4.2 Lithuania: SDGI 5.30

Lithuania’s desire to be annexed into Europe accelerated the development process in terms of gender equality (Taljunaite 2003). In 1996, the government established the Women’s Advisory Board to coordinate work on the Gender Equality Act, which came into effect in 1999.

Lithuania became the first CEE state to adopt a law establishing equal status for men and women with oversight by the Ombudsman Equal Opportunities, an office established by the government in 2001. The office was given broad powers, including the responsibility to represent the rights of victims of discrimination in court and the ability to initiate investigations into alleged discrimination. The Office of the Lithuanian Parliamentary Ombudsman and the Office of the Equal Opportunity Ombudsman was then established. The Office of the Ombudsman plays a crucial role, e.g., it recently carried out a project that ended in 2019 “Municipalities’ Code of Success” under which seminars were organized to ensure equal opportunities between women and men, in which 150 representatives of municipalities and NGOs participated (EIGE 2020).

Important has been the activist role of women in parliament (Office of the Equal Opportunities Om-budsperson 2001; Sloat 2004). In 2005, the Law on Equal Treatment was enacted (Sloat 2004), which was revised in 2016 to include: a prohibition on giving priority to both sexes in job advertisements for civil servants; a prohibition on asking job seekers about family status and family planning; and a requirement that women and men be guaranteed equal opportunities in the purchase of goods and services.

Since 2012, Lithuania has compiled several key policy documents: the National Program for Equal Opportunities for Women and Men 2010–2014; the National Equal Opportunities Program for Women and Men 2015–2021; and the National Program Implementation Plans for 2015–2017 and 2018–2021, which set out concrete actions starting with adequate budget allocations (EIGE 2020).

The purpose of the National Program for Equal Opportunities for Women and Men 2015–2021 (*Valstybinį moterų ir vyrų lygių galimybių programa 2015–2021*) is to ensure a coherent, sophisticated, and systematic approach to gender equality issues across all sectors. The National Program per-follows four main priorities: (a) equal opportunities for women and men in the labor market; (b) gender balance in decision-making; (c) gender mainstreaming; and (d) enhanced geoeconomic effectiveness.

4.3 Norway: SDGI 5.40

As early as 1859, mothers in Norway were granted the same right as fathers to decide on matters concerning the lives of their children; paid maternity leave was granted in 1909, and numerous welfare measures for mothers were introduced in the following years (Lister 2009).

In 1978, Norway enacted the Gender Equality Act that covered “all sectors of society” and established the first Ombudsman and the Gender Equality Tribunal (Holst 2007). In fact, in the 1980s, women’s economic independence became a key goal of Norway’s gender policies (Borchorst and Teigen 2009).

There have been additional policies to support parents: the development of publicly subsidized day-care and extracurricular care has been a priority since at least the 1990s; Paid Parental Leave has been extended over time and is now 49 weeks with 100% coverage (or 59 weeks with 80% coverage), where some weeks are reserved for the mother, some for the father, and some conditional. In addition, there are paid leave for nursing mothers and paid leave to care for sick children. There is also a range of special benefits for single parents.

In 2009, a special White Paper was launched (Norwegian Ministry of Children and Equality 2009) stating that women and men should share responsibility for children (Norwegian Ministry of Children and Equality 2009). In addition, in 2011, the first national action plan on gender equality was launched (Norwegian Ministry of Children’s Equality and Social Inclusion 2011), which identified four strategic priority areas: (1) women’s political empowerment; (2) women’s economic empowerment; (3) sexual and reproductive health and rights; and (4) violence against women (Norwegian Ministry of Foreign Affairs 2007).

Gender equality and the empowerment of women and girls continue to be an important priority, the new action plan (2016–2020) supported the gender dimension of the 2030 Agenda and the full implementation of the Beijing Platform for Action (Unwomen 2020).

4.4 Iceland: SDGI 5.50 and SDG 5.60

As early as 1850, women were granted equal inheritance rights and in 1894, the first women’s rights organization was founded which allowed for national suffrage in 1920 (Johnson et al. 2013).

In 1975, activists planned Free Women’s Day in which approximately 90% of the female population went on strike demonstrating that their work was vital to the nation (Johnson et al. 2013). Within a year of the strike, the first gender equality law was debated and passed.

In 2009, a 40% gender quota was imposed on corporate boards (Axelsdóttir and Einarsdóttir 2017) and the incidence of women in politics increased.

The high participation of women in the labor market can be partly explained by the numerous initiatives to improve public childcare.

Of particular note is the Parental Leave Act of 2000, which introduced a leave period model consisting of three months maternity, three months paternity, and three optional months. The non-transferability of the leave promoted gender equality within families (Ellingsæter and Leira 2006).

Iceland's self-image has positively influenced the willingness of Icelandic governments to take additional measures. One example is the 2018 Equal Pay Standard under which the employer must demonstrate that the company wage system is fair (Institute for Social Research 2018).

4.5 Croatia: SDGI 4.10

The system of reforms that affected Croatia was driven by the desire to join Europe: a gender equality law was introduced in 2003. Harmonization of labor market legislation (e.g., prohibition of discrimination/sexual harassment) also began during this period, and attention was paid to domestic violence (Dobrotić et al. 2013).

The first comprehensive piece of anti-discrimination legislation in Croatia was the Anti-Discrimination Act of 2009, amended in 2012.

The Gender Equality Act arose to define the method of protection from discrimination on gender grounds (EC 2021). This legislation introduced a requirement to ensure 40% pink quotas in government and politics within three election cycles.

In 2015, the Parliament adopted the Comprehensive Education Strategy "Nove boje znanje" which provided an in-depth analysis of the education system starting from kindergarten while also covering the concept of lifelong learning.

In 2016, the document entitled "Cjelovita kurikularna reforma" was approved, which aims to prepare students for working life (Hornstein Tomić and Taylor 2018).

Particular attention was paid to girls from large families of low socioeconomic status, living more than 3 km from the school. Croatia's progress is especially affected by policies in favor of the Rom community for whom transportation has been provided from home to schools living in remote and isolated settlements (EC 2021).

5 Discussion and Conclusion

Analyses have shown that many nations have adopted policies in support of Gender equality, which in many cases has become one of the primary objectives of national policies.

It has been noted that the reduction of inequality is the result of a long-term commitment that, in line with the findings of previous studies (Dello Strologo et al. 2022) is in the following objectives: education, employment, and empowerment.

Although the policies adopted allow for good results in terms of gender equality, it is appropriate for nations to take action to change social conventions and redistribute tasks and responsibilities within families (Einarsdóttir 2020).

Governmental engagement on gender equality must be ongoing. As the results for 2030 show, none of the states that can be called the best today will maintain the lead. Therefore, governments must continue to monitor the degree of implementation of SDG5, strengthening national statistical offices, to understand the areas in which action is needed to fulfill the commitments made by signing the 2030 Agenda.

The objective of the study was to analyze the policies adopted by the eurozone nations that currently perform best in terms of SDG5, given the interdependence between this goal and improved performance in other SDGs as well (Hepp et al. 2019).

Although policies cannot simply be copied across different nations (Hudson and Lowe 2004), the analyses conducted were able to show that the best performing nations followed a common thread that, starting with education is aimed at promoting women's access and retention in the workforce. In this perspective, it has been necessary to create a welfare system capable of redistributing the responsibilities linked to the birth of children among parents. In addition, particularly relevant are the policies that have allowed for the development of day-care centers, both in terms of numbers and in terms of exemption of hours to support parenting.

The authors believe that the study adds to the debate on gender equality with numerous contributions by pointing out the measures implemented by nations to achieve the goal and, more generally, to fulfill the commitments made by signing the Agenda2030.

The analysis carried out more than 7 years after the introduction of the Agenda2030 makes it possible to evaluate the path taken by the nations and to identify the policies that have enabled the achievement of excellent results.

The results of the study are believed to be relevant for governments, as they outline a road map of adoptable best practices and policies for the pursuit of gender equality, integrating internal organizational shortcomings according to an integrated logic.

In fact, it is only by knowing the processes of gender equality that it is possible to plan the policies to be adopted, identify the areas in which interventions are needed and monitor the progress of the policies adopted.

In this perspective, the relevance of national statistical offices is emphasized. It is only through the implementation of these bodies that it is possible for countries to verify the effects of the policies adopted and identify areas where further action is needed. This circumstance appears even more relevant, since, as has been noted (Dello Strologo et al. 2021), there is often a non-homogeneous distribution within nations and states should also be able to identify the regions in which it is appropriate to carry out interventions through specific measures.

The study can also be an impetus to improve the information provided for Eurostat statistics, spurring a process of awareness on the part of women concerning the issue of violence for which there is a certain reluctance to report (Zaviršek 2020) but

especially on the part of institutions that must make a greater effort in the collection and dissemination of information.

Although the study makes many contributions to the existing literature, it has some limitations that need to be considered. The study does not consider additional indicators that could, due to interrelationships, increase the results in SDG5 and that could be considered by future studies.

In addition, institutional documents and secondary data from other studies were used as the basis for analysis, as they are more relevant to policy analysis. However, it is believed that further studies could, through the use of interviews, gain insight into the basis on which governments decide on policies to be adopted, as well as citizens' perceptions of the policies adopted.

In conclusion, although the results obtained can be considered relevant for those working in the field, it is hoped that future studies will continue to analyze in greater depth policies useful for the pursuit of gender equality, also taking into account the cultural, political, and historical evolution of the country examined to fully understand the origin of inequality and the best tactics to follow with constant attention to the evolution of legislation.

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A Short Reflection on Multidisciplinary Approaches to Women's Health After Radiotherapy



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Abstract Rehabilitation care after pelvic radiotherapy toxicity is a turning point. Because of the difficulties in accessing rehabilitation, care services during the pandemic may impact physical functioning, increasing disability. This issue is of utmost importance in the management of radiation toxicity, especially in women treated for gynecological tumors. Indeed, the post-radiation toxicity in long-term

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survivors of gynecological cancers often compromises the patient's well-being, even after she is declared free from the disease. This commentary aims to highlight the issues related to women's health after radiotherapy, the call for a multidisciplinary perspective to support female patients' well-being and try to provide recommendations to mitigate the consequences of COVID-19 impacts on gynecological rehabilitation. Therapeutic approaches require a continuous and multidisciplinary approach that involves the oncologists (radiation, medical, and gynecological oncologists) together with other figures, such as pelvic floor rehabilitation experts, psychiatrists, physiotherapists, psycho-oncologists, and sexologists. On top of that, treatment and rehabilitation require intense continuous collaboration between the patient and the professionals in the chair. Looking beyond the pandemic, this short reflection opens up the topic of well-being for female patients and how a multidisciplinary approach can support recovery reducing physical and psychological disability. There is a call for guidelines for the management of the pelvic rehabilitation of long-term survivors. Strong leadership for the inclusion of this topic in the residency programs in the field of oncology is needed to ensure high-value care and reduce long-term sequelae.

Keywords Radiotherapy · Female Health · Female Well-being · Multidisciplinary approaches · Gynecological tumors

1 Introduction

Women's health is a relevant topic in today's scenario, as women have often be seen as fragile patients (Bednarova et al. 2022; Biancuzzi et al. 2020; Dal Mas et al. 2020), needing to cope with their disease and their home and work responsibilities at the same time. In oncology, recent experiences have reported the difficulties of female patients in their recovery and follow-up phases to find time to heal and carry on their rehabilitation treatments while, at the same time, going back to their everyday duties and roles as soon as possible (Cobianchi et al. 2022). At the same time, in oncology and in several oncological diseases, a multidisciplinary approach has proved to be the winning strategy in the entire patient's journey (Barcellini et al. 2022; Cobianchi et al. 2022; Dal Mas et al. 2020; Plate et al. 2018). Gynecological cancers and the following treatment options follow the very same approach and unwritten rules for patients.

Gender differences emerge. Indeed, despite the impact on the quality of life (QoL) of long-survivors and sexually active patients, the gynecological substructures have so far only slightly been included in the panel of organs at risk in the radiotherapy (RT) planning treatment, and no consensus still exists about their dose constraints (Delishaj et al. 2018). Although 60% of gynecological specialists investigate their patients' sexual disorders by interview, only about a third of these assess sexual satisfaction, pleasure, and/or any sex-related distress (Coady and Kennedy 2016). There are also few reports about rehabilitation and psychological methods to alleviate symptoms or guidelines to manage the psychological impact of damage from RT in the sexual life of long-surviving women (Barcellini et al. 2021). The most common late vulvar and vaginal toxicities reported by patients after pelvic RT,

with or without brachytherapy, are vulvodynia, vaginal dryness-atrophy, and stenosis.

The iatrogenic chronic vulvar pain, known as secondary vulvodynia, is defined based on pain location (localized, generalized, mixed), triggering situations (upon contact, spontaneous, or mixed), and duration of a symptom (intermittent or constant) (Bornstein et al. 2016). As it happens in chronic pain, post-actinic vulvodynia is associated with neurological changes that can determine persistent pain, even in the absence of acute damage. The psychological stress of vulvodynia negatively impacts the QoL of survivors, that often report feelings of shame, inadequacy, emotional distancing from the partner, and alteration in body image (Coady and Kennedy 2016). This situation often causes the patient to erroneously believe that sexual pain is caused by the previous oncological disease. The difficulty in the management of vulvodynia is due to patients' reticence, lack of knowledge of such pain, inadequate availability of strategies/tools for diagnosis and treatment, and limited knowledge translation (Dal Mas et al. 2020) among different health professionals leading to difficulty in developing multimodal management roadmaps.

Vaginal dryness is related to the iatrogenic mucosal atrophy after RT due to microvasculature's alteration, with capillary loss and impaired microcirculation in the connective tissue, which hampers fluid arriving at the surface (Delishaj et al. 2018; Kirchheiner et al. 2012). This syndrome occurs progressively over time, with the reduced presence of vaginal roughness, decreased blood supply of the squamous epithelium, an increase in vaginal pH, and the change in the vaginal maturation index (Cox and Panay 2019). The lack of lubrication, often reported by patients, has proved to be a psychological issue negatively impacting QoL. At two years after RT to experience grade ≥ 1 and ≥ 2 dryness, the actuarial probability seems to be 62% and 8%, respectively (Delishaj et al. 2018). However, this syndrome is still underestimated and undertreated, not only by the oncological patient but above all by healthcare personnel. Indeed, recent data suggest that although it is known that this syndrome is a consequence of an RT treatment, less than 50% of medical doctors face this problem with the patient, only 41% refer the patient to a gynecologist specialist, and only 35% recommend a specific treatment in relation to the symptom reported by the patient. This situation suggests the need for greater disclosure, among health professionals, on the symptoms, signs, and treatments of vulvovaginal atrophy to provide more adequate and rapid patient care (Kathrin Kirchheiner et al. 2014).

Last but not least, vaginal stenosis, one of the most studied late post-actinic toxicities, has an incidence overall from 2.5% to 88% and seems related to the treatment performed, the histology and site of the primitive tumor, the surgical approach performed, the total RT dose of, the dose/volume ratio at the level of the vaginal structures, and the possible use of topical supportive therapy during treatment (Delishaj et al. 2018; Lalischia et al. 2016).

2 Lessons Learnt from the Literature

Many radiation oncologists generally perform sexual health conversations in case of pelvic RT, and the literature shows that women prefer to get counseling on sexual functioning after completing the treatment (Hay et al. 2018). The main recommendations to patients at the end of RT delivered to the pelvis with or without vaginal endouterine brachytherapy are to resume sexual activity or to avoid the collapse of the vaginal walls with the use of vaginal dilators (Damast et al. 2012; Miles and Johnson 2014). Unfortunately, this approach is often poorly tolerated by women with low adherence and compliance. The resumption of sexual activity is often affected by pain and feelings of inadequacy, both inhibiting factors. Despite the emerging interest in oncological sexual health care and the well-known role of pelvic rehabilitation on the resumption of sexuality, physical treatments remain limited and poorly studied. A multicenter, prospective, and interventional study has recently shown that multimodal pelvic floor physical therapy is effective in treating dyspareunia, acting on psychosexual and pathophysiological mechanisms (Cyr et al. 2020). Pelvic floor alteration is involved in the vulvovaginal toxicity of patients showing an increased pelvic floor muscle tone and lower control and endurance, and a preventive rehabilitation approach on the pelvic floor before RT has proved to be effective in preserving muscle function regarding strength, activation, and incontinence (Sacomori et al. 2020) with potential improvements in symptoms and QoL. Therefore, prior to RT, it would be advisable to plan preparatory sessions (Brennen et al. 2020; Frawley et al. 2017), including:

- One verbal interview with the patient to assess her history and lifestyle, defying eventual needed corrections and interventions
- A pelvic perineal evaluation, where the tone, tropism, and voluntary activity of the pelvic floor will be assessed
- A set of tailored pelvic floor exercises to be planned
- Psychosexual counseling. Indeed, psychological factors should not be underestimated. A cancer diagnosis leads to negative stress. Stressful events affect the respiratory act and, consequently, the muscle tension of the pelvic floor, altering the health of the vaginal mucosa, and causing dryness and atrophy (Ayling and Ussher 2008; Ye et al. 2014).

It is essential for the therapeutic rehabilitation intervention that the patient gets aware and learns the different skills of the muscular area of the pelvic floor and performing the recommended exercises correctly, and following a tailored exercise therapy plan to be carried on at home may speed up the post-RT recovery times (Cyr et al. 2020). Every patient should get a tailored approach, verifying that she should be able to activate and relax the pelvic floor muscles correctly and effectively. It is crucial for the patient to understand the relevance of self-treatment to be continued at home with frequent contact with the therapist that ensured a close follow-up to target all the aspects of sexual function (Bo et al. 2014). Such activity is crucial to facilitate the achievement of therapeutic goals.

3 The Multidisciplinary Perspective

Post-actinic vulvovaginal toxicity in long-term survivors of gynecological cancers often compromises the patient's well-being, even after she is declared free from the disease. The long-term consequences of radiotherapy treatment can, in fact, impact not only the sexual sphere but on the physical well-being of the woman in everyday life. Therefore, reducing the dose to the healthy organs surrounding the RT target is a clinical goal in RT planning, and modern radiation techniques, such as hadrontherapy are promising. The recommended therapeutic approaches, in the acute but also the follow-up phases, require a continuous and multidisciplinary interaction among various healthcare professionals. Such professionals include not only the oncologists (radiation oncologists, medical oncologists, and gynecological oncologists) but also pelvic floor rehabilitation experts, physiatrists, physiotherapists, psycho-oncologists, and sexologists.

The continuous and multidisciplinary interaction among such professionals requires them to develop shared knowledge about the subject, but more importantly, adequate knowledge translation tools and techniques must be put in place to facilitate the dialogue and the creation of new knowledge on the topic. The knowledge exchange among the various professionals, concerning the clinical but also psychological issues, and all the possible treatment alternatives, stand as key components to ensure the best outcome for the patient, improving the QoL and psychophysical well-being. The picture is even more relevant when severe psychological concerns arise, which often lead the patient not to open up even with the healthcare professionals regarding these issues. Such pain or physical discomfort can often be not too intense, but, in the long run, physically and psychologically debilitating.

Moreover, the prospects for treatment and rehabilitation require intense and continuous collaboration between the patient and the professionals in charge. While the healthcare professional should ensure that the technical and clinical knowledge is correctly translated to the patient, listening to the patient's needs and concerns. Narrative techniques and the use of soft skills like empathy and kindness (Dal Mas et al. 2021) should support the communication between the patient and the clinical professional.

Inpatient services are not enough. The engagement of the woman involved stands as a central element of the whole treatment. Such an engagement is considered not only emotional but also in everyday life. As an example, the patient should carry on parts of the recommended practices and exercises at home, and use some particular devices and/or products, including non-pharmaceutical ones. These practices recall the need to engage in co-production processes (Biancuzzi et al. 2020; Elwyn et al. 2020), in which the patient becomes a fundamental actor in her well-being and the success of treatment and rehabilitation. While such practices are not standardized, and should be tailored to the patient's wishes, a co-learning approach then emerges (Miceli et al. 2022). Clinicians and patients should find the best way to co-design, co-assess, and co-deliver the care, in a continuous learning approach. Technology and e-health, especially through mobile applications, may represent an aid for

patients to co-produce their care and for clinicians to check on their progress, collecting at the same time meaningful data for further developments and learning.

Such co-production initiatives, and the need to treat the whole matter in a multidisciplinary way, make it necessary to study tailored practices, including communication and dissemination of relevant information to early-diagnosed patients, patients under RT treatment, and in the follow-up phase. There is a call for all the various healthcare professionals involved to develop and adopt suitable tools (clinical, but also from a communication perspective) to ensure the best options for their patients.

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The Impact of the Covid-19 Pandemic on Women's Enterprises: Analysis of a Pilot Case



Veronica Procacci and Marco Ammaturo

Abstract Purpose The pandemic has imposed unconventional ways of working, reorganised company structures and significantly altered people's daily routines. The purpose of this article is to analyse the impact these new flexible working arrangements have had within women's enterprises and the effects they have had on their business models.

Design/Methodology/Approach The study is qualitative in nature and was conducted through a pilot single case study.

An unstructured interview was conducted with the CEO and leader of a female enterprise operating in the agri-food sector in a region of Northern Italy.

Originality/Value Direct case analysis relates the activities of a female entrepreneur running a business, and the difficulties she encountered during the pandemic period, with a focus on the delicate lockdown phase. From the analysis, organisational skills and resilience emerge in the attempt to reconcile the complexity of business management with family care.

Keywords Female Entrepreneurship · Flexible Working · Work–life balance · Female resilience

1 Introduction

The Covid-19 pandemic has imposed flexible working models that have impacted on the organisation of companies and their productivity.

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This has generated the need for many companies, particularly women's companies, the protagonists of this study, to review their business models in order to adapt them to the new evolving scenario.

It is believed that such labour agreements may partly help to reduce the gender pay gap as well, as these instruments may help women to maintain their employment position after childbirth (Chung and van der Horst 2018; Fuller and Hirsh 2019; Piasna and Plagnol 2018; Van der Lippe et al. 2018).

Specifically, however, it also seems to emerge that while working remotely, women perceive that they spend more time on domestic activities and childcare than their partners, due to an asymmetric division of roles typical of traditional Italian welfare (Paoloni et al. 2022).

Thanks to the enormous transformative capacities of digital technologies (Dunleavy et al. 2006), the slogan of anywhere-anytime, no time or space constraints, is spreading: to be connected (even limitless) and have everything at the touch of a smartphone or PC in order to facilitate the work–life balance, sparing employees the stress associated with the home-work commute and the work environment itself. Similarly, the employer would have an increase in competitiveness, lower absenteeism and a high level of productivity (Bloom et al. 2009).

Given that, the research aims to answer the following Research Question (RQ):

RQ1: How have women's enterprises adapted to flexible working models and what impact have they generated on their business?

The paper is organised as follows: literature review, methodology, presentation of results and finally conclusions and implications.

The literature review shows that the COVID-19 pandemic, and specifically the flexible work models imposed during the health crisis, have significantly reshaped work and its social representations, as well as all aspects of business organisation (Anderson and Kelliher 2020).

Many studies state that remote work, particularly from home, is a source of stress (Kraut 1989; Moore 2006) as a result of role conflict, where women are more likely than men to experience greater tension and blurring of boundaries between the domains of work and family (Chung and van der Horst 2018).

Despite the growing volume of literature on women entrepreneurs, there is evidence that the issue of objectively assessing the factors that contribute to promoting or undermining the well-being of women entrepreneurs is scarce.

Thus, it emerges that the well-being of women entrepreneurs is once again linked to the achievement of work–life balance and the satisfaction they derive from their employment (Lepeley et al. 2019), elements that were definitely undermined during the intervening pandemic crisis.

To answer the research question, a qualitative methodology is used, based on a case study of a pilot women's company active in the Italian food services sector. The empirical data were obtained from unstructured interviews.

2 Literature Review

The idea of entrepreneurship is closely related to those who create or seize opportunities and then develop organised economic activities that add value to both themselves and society (da Silva et al. 2015). Thus, the entrepreneurial function is defined as playing a key role in stimulating economic activity by transforming technical ideas and inventions into innovations, whether commercial or organisational in nature. This concept is based on the idea that entrepreneurship is a value generator for society. The characteristics of female entrepreneurship are examined for their uniqueness and perceived challenges (da Silva et al. 2015). Since colonial times, women have been subjected to a moralism that seeks to subject them to various restrictions. One of these restrictions is the difficulty for women to obtain higher-level positions within an organisation and secure pay comparable to that of men in the same position (Lages and Regina 2005).

In recent years, there has been an increase in the number of women working in sectors related to business creation and development (Hisrich and Peter 2004). Consequently, research on the characteristics of women entrepreneurs has attracted the interest of academic researchers in the field, revealing that women share certain traits with entrepreneurs.

Entrepreneurial ventures led by women have created value and fuelled innovation on a local and international scale. The increase in the number of women-led businesses in recent years has had a significant impact on employment and business competition. For example, these enterprises account for between 25 and 33% of all formal enterprises operating today on a global scale and are believed to play an even more significant role in socio-economic systems and informal markets (NFWBO 2001).

One of the main motivations driving women to entrepreneurship is the search for flexibility, which does not mean working fewer hours, but rather controlling working hours by reconciling them with private life (Patterson and Mavin 2009).

Thus, women's well-being in entrepreneurship is closely related to self-employment, work-life balance, work-family balance and economic prosperity (Paoloni et al. 2022).

Similarly, Tomlinson and Durbin (2010) highlight how female managers often seek a balance between career aspirations and career mobility but at the same time the introduction of flexible policies is perceived to hinder future career and development prospects.

The pandemic has increased the interference between work and family due to domestic work policies, and the closure of schools for children has increased the burden on women who are responsible for maintaining the home (Paoloni et al. 2022).

In particular, Lagomarsino et al. (2020) through an interview with 300 women from different Italian regions show how women themselves perceived blocking and smart working as increasing the time they spent on domestic activities and childcare

compared to their partners. As the age of the children decreases, the workload falls on the woman herself.

Similarly, Doria (2021) addresses the issue of the intrusion of work into the dynamics of private space, no longer freed from work time, but invaded by it. In particular, the author emphasises how complex it has been for women to enter the labour market, the reconciliation of work and family care and how smart working can be an instrument of overlapping and alienation with the risk of a return to home and asymmetries that have never been resolved.

As a result, according to Hilbrecht et al. (2008), female workers have the illusion of being more autonomous due to the availability of remote work options, accepting that the majority of domestic and care responsibilities fall on their shoulders.

Thus, this transition period provided new learning opportunities for entrepreneurs, who became courageous enough to handle any uncertain situation and maintain the survival of the business. However, the most significant and immediate learning was that of self-fulfilment, which enabled them to recognise their own strengths and weaknesses (Afshan et al. 2021).

The literature review generated few contributions on the topic of female entrepreneurship and the impact of flexible working arrangements on female entrepreneurs. This paper is proposed as a contribution to bridging this gap.

3 Research Methodology

The paper uses a qualitative methodology suitable for achieving research objectives that aim to provide a direct description of phenomena (Sandelowski 2004). The analysis is supported by a single case study (Yin 2014).

The analysis by means of business cases may concern the observation of a single business reality or multiple cases depending on the purpose. If the aim is specific knowledge of a business system, the single case is sufficient, whereas if the aim is to generalise certain considerations, it will be appropriate to consolidate one's statements by preparing the analysis of an appropriate number of cases.

The "single case" is comparable to the isolated experiment and only makes sense when it represents a critical case in the verification of a well-formulated theory. To confirm or disprove the theory in the single case, all the conditions for testing it must be met. The single case is also used when we are in the presence of an extreme or unique case that is unrepeatable or has never occurred, or if it is a revelatory case, i.e., a case that has never been examined before because it was inaccessible to scientific investigation. A single case can also be the pilot case, which, however, is only the first part of a multiple case analysis (Paoloni 2021).

The authors selected an Italian women's SME active in the six-food services market in the Trentino Alto Adige region; this represents a pilot company for the study, selected for its relational proximity to the researchers and, therefore, for its ease in finding useful and in-depth information. The data were collected through an unstructured interview conducted directly with the CEO of the company.

COMPANY MASTER DATA AND PERSONAL PROFILE ENTREPRENEUR

- Legal form of company
- Activity
- Location
- Personal information

COVID-19 IMPACT ON COMPANY BUSINESS MODEL

- New sales channels
- New organizational approach to work
- Business networking: the importance of relationships

IMPACT OF FLEXIBLE WORKING MODELS ON CORPORATE ORGANIZATION

- Smart working
- Corporate digitization

NEW POST-PANDEMIC ORGANIZATIONAL SET-UP

- Return to headquarters of workers

THE IMPACT OF REMOTE WORKING ON WOMEN

- Role conflict
- Reconciliation of private and working life

Fig. 1 Unstructured questionnaire outline. Source: Authors

The use of the pilot case in our investigation supported the development of new and important questions by providing us with clarifications and clarifications regarding the object of the research. It also led us to the formulation of a more structured questionnaire suitable for the information needs of our analysis to be applied to subsequent cases (Paoloni 2021).

The unstructured questionnaire (Fig. 1) with broad questions gives the respondent the opportunity to expand on specific questions:

1. Company details and information on the personal profile of the entrepreneur
2. How has the company's business model changed as a result of the COVID-19 pandemic?
3. How have flexible working models impacted on business operations?
4. Has the new post-pandemic organisational structure been maintained even after the health crisis has passed?
5. As a woman, how did you experience remote working?

4 Results

Through the answers provided by the entrepreneur to the unstructured questionnaire submitted, it is possible to make some observations.

Company biographical data and information on the entrepreneur's personal profile

It was possible to gather basic information on the company under study but, above all, on the distinctive characteristics of the entrepreneur.

Below is the answer given to the first question: *“My name is Lorella and I am the owner of the company (xxx) which for privacy reasons I prefer to keep anonymous. It is a limited liability company (SRL) active in the food distribution sector in the region of Trentino Alto Adige. We have been operating as a trading company in the food service market for over 20 years and supply mainly the hotellerie-restaurant-café (Horeca) channel. I play the role of managing director, so I am a female entrepreneur over 40 years old, married and with two minors to take care of”.*

Having defined the main characteristics of the company and therefore the personal profile of the entrepreneur, it was then possible to submit the following questions in order to obtain information to answer our research question.

How has the company's business model changed following the COVID-19 pandemic?

The entrepreneur states that her business model has undergone changes as a result of the health crisis that occurred, two are the main changes introduced: a new e-commerce sales channel and entry into a national purchasing network.

Specifically, she reports: *“In order to strengthen our purchasing power on the national and international market, it was a far-sighted move to join a national purchasing group. This is a group to which about 15 companies active in the same sector and tending to potential competitors located in different Italian regions currently belong. There is no overlap of companies belonging to the same region joining the same purchasing group. Joining this enlarged group has allowed the company to strengthen its bargaining power in the market, especially in the foreign market, for the import of containers of products following the increase in transport costs dictated by the immobility that characterised the months of the pandemic. Being part of the purchasing group is also a valuable opportunity to relate and compare notes with colleagues who strive every day to pursue the same goals as me”.*

The third question was then put to the CEO:

How have flexible working models impacted on the company's operations?

The entrepreneur states that the sudden halt in operations and the imposition of flexible working models have generated considerable organisational changes. In detail, Lorella, the young owner, reveals: *“About 60 per cent of our workforce kept their operations from home, i.e., in smart working, the remaining 40 per cent continued to come to work in attendance with hours and shifts that ensured that there were no crowds. The workforce that remained active on site are manual workers that perform warehouse and goods delivery tasks. Instead, the employees*

active in smart working are marketing, administration, quality control and insurance management". Clearly, to make the new operational set-up efficient, the entrepreneur states that considerable investments were necessary: "We took the unwanted event of the pandemic as a good opportunity to question the company's level of digitalization. To ensure the operability of our smart working staff, we invested in IT equipment: PCs, tablets and monitors. A release of the management system was carried out in order to allow remote connection to the various users in the company management system. A cloud system for data storage was implemented".

The fourth question was then submitted to the entrepreneur:

Was the new post-pandemic organisational set-up maintained even after the health crisis had passed?

As a result of the pandemic and the imposed company reorganisation, many companies, like the selected female entrepreneur's, underwent organisational restructuring. The entrepreneur interviewed stated that some of the innovations introduced were maintained even in the post-pandemic scenario, while other old operations were restored. Specifically, Lorella states: *"We felt it was important to bring back staff to work in presence. So today all our staff work in presence 5 days a week. One day per week of flexibility has been maintained to request remote work, so that this can be perceived as a tool to help reconcile private and working life".*

Finally with reference to the last question:

As a woman, how did you experience remote working?

Before answering the last question in our questionnaire, the entrepreneur provided further details about her private life that can undoubtedly influence the management of work at home. Specifically, Lorella states that she is married and lives with her spouse and two young children. Her spouse is a full-time employee at a private IT company and therefore usually spends few hours in the marital home.

The entrepreneur says: *"Living and working all within the same house for such a long period as the months of the pandemic was a social experiment for me. It was quite complex to be able to maintain one's productivity in such a noisy setting as the home. Despite collaborating with my husband to carry out household tasks, I perceived an increased workload especially related to childcare and a consequent increase in stress".*

Lorella's experience therefore confirms the findings in the literature that flexible working methods increased women's perception of unpaid workload. Thus, such alternative working methods have exacerbated gender differences, especially for women and men in top positions. Specifically, the pandemic emergency seems to have isolated workers within the home by imposing close cohabitation with other members of the household (Paoloni et al. 2022).

Companies have also had to experiment with alternative working methods in order to ensure productivity without negatively impacting their business.

5 Conclusions

The analysis conducted shows that the topic of female entrepreneurship has become increasingly popular in the literature, involving a growing number of research articles, with a consequent increase in the number of interconnected analyses on this topic.

The Coronavirus epidemic, especially in the West, has demonstrated the value and capacity of working from home for both employers and individuals, with different consequences and impacts on men and women.

Indeed, men and women are used to using their time differently when it comes to organising family activities, due to the conventional separation of tasks (Rafnsdóttir and Heijstra 2013).

While flexible working arrangements have long been seen as a way to create work–life balance by giving employees greater discretion over when and where to work (Hilbrecht et al. 2008), the sudden relocation of all household members within the home has resulted in a sudden and compulsory transition of work outside the normal context, making temporal and spatial boundaries between paid work and caring for others non-existent (Craig and Churchill 2021).

In a regime of gender asymmetry, where welfare remains family-based and domestic and care work falls mainly on women's shoulders, it is necessary to contextualise remote work, as it emerges that it does not necessarily reduce inequalities and improve women's working conditions.

The Covid-19 pandemic has thus forced different ways of working from traditional ones, a restructuring of business organisations and thus a profound change in individuals' routines.

A structured analysis of the literature (Paoloni et al. 2022) revealed a gap in research regarding the analysis of the effects of the pandemic and specifically of smart working in women's businesses.

To fill this gap, the present work, by means of a single pilot case study, aimed to investigate the impact of flexible working models on the business of women's enterprises and thus how they have adapted to these changes.

In order to answer research question RQ1, a pilot case was used: a female enterprise that has been in the market for more than 20 years and is active in northern Italy in the distribution of food to the Horeca segment. An unstructured questionnaire was submitted to the CEO of the small female enterprise who provided comprehensive answers.

Specifically, it emerged that the COVID-19 pandemic had profoundly impacted on the company's operations and thus imposed changes on the existing business model. In order to maintain/enhance its market position, it was necessary to activate an additional sales channel, e-commerce, to sell products directly to the end consumer. Significant digital investments were made by the company, an intervention to modernise digital equipment such as computers, laptops, monitors and tablets in order to ensure full operability even for workers working remotely. Similarly, interventions were implemented to update and modify the company software, to

ensure a remote connection to the management system and the inclusion of a cloud storage system. This technological transition process proved necessary due to the imposition of remote working for a large part of the employees. In fact, the entrepreneur noted that only the manual workers in the warehouse department and thus the carriers continued to work onsite for almost the entire period of the health crisis, the others, employees in the marketing, credit insurance administration and finance departments, instead worked entirely remotely throughout the months of the pandemic emergency.

It still emerges that in the post-pandemic scenario, some of the innovations introduced were retained while other good old practices were reinstated.

In fact, the entrepreneur claims that in the post-pandemic scenario, she considered it appropriate to encourage staff to return to face-to-face work, guaranteeing them the opportunity once a week to remain active remotely. The e-commerce channel has been maintained; a new division has been set up specifically for online business.

The company owner also stated that, in order to strengthen its market power, the company joined a national purchasing group, which includes similar companies operating in various Italian regions. Belonging to a network of companies proved to be a far-sighted choice for the initiation of relationships and shared development strategies that brought positive effects on its business.

Finally, it emerged from the study that the female entrepreneur experienced an increase in stress and a perceived increase in unpaid workload to be managed and reconciled with work activities.

This pilot case highlighted the need for further research on the topic of relationship networks, as it was shown that such networks sometimes provide easier access to supply markets, outlet markets, financial markets and the entire external environment.

All relationships (formal, informal, temporary, permanent, internal and external) are of fundamental importance for the survival and growth of the enterprise and in turn influence, shape and characterise the factors that distinguish and personalise individual enterprises. To this end, one of the possible scenarios of future research could be oriented towards the analysis of such relational relationships and thus the analysis of the results through the application of the CAOS model ("Characteristics, Ambience, Organisation, Start-up") (Paoloni 2021).

From a theoretical perspective, the research contributes to studies on female entrepreneurship, with a focus on flexible working methods. In particular, it increases the literature on the impact of flexible work on women and women entrepreneurs. Furthermore, it can enrich studies focusing on the adaptation of traditional business models to the organisational changes dictated by the Covid-19 pandemic.

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Accountability for Gender Equality: A Bibliometric and Content Analysis of Gender Budgeting in the Public Sector



Valeria Naciti, Guido Noto, Luisa Pulejo, and Carlo Vermiglio

Abstract Gender budgeting (GB) implies that, within budget programs, actions and policies, revenues and expenditure are evaluated and restructured to ensure that the priorities and needs of women are considered in the same way as those of men, with the goal of achieving equality between women and men. The aim of this paper is to assess the intellectual development, the characteristics of authors, and manuscripts pertaining to GB in the public sector and to investigate research trends.

This study uses a bibliometric and content analysis to examine the current discourse on GB in the public sector and to elicit avenues for future research.

While in the last years, there have been several significant GB studies, focusing on various domains, few studies comprehensively assess the GB research in the public sector. The present study develops a bibliometric analysis.

This article introduces a variety of findings, including yearly trends, top players at the journal and institute levels, citations, keyword distribution, highly cited works, co-authorship at the nation level, and the most influential journals and authors.

This study offers valuable results both from the academic and governance perspective. The bibliometric analysis clearly illustrates the different stages of this field of study, as well as the emerging lines of research, which can be studied in greater depth.

Keywords Gender Budgeting · Public sector · Bibliometric analysis · Accounting

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1 Introduction

Accounting is commonly thought of as a neutral technology that reports on known facts, but social studies of accounting have revealed that accounting is a performative technology that creates the objects it reports on (Marx 2019). In a nutshell, accounting is a driver that organizes the society it professes to merely represent, for example, by giving a lexicon for composing subjects and granting them capacities to operate.

In the last decade, accounting scholars' attention has been focused on gender issues, especially in the public sector (Steccolini 2019; Polzer et al. 2021; Naciti et al. 2022). The decisions and actions taken by public institutions are not gender neutral, as they have different impacts on women and men, both in terms of revenues and expenditure. In this perspective, gender budgeting (GB) is a tool for evaluating an institution's action that emphasizes the degree of justice, effectiveness, and efficiency that it may represent through its policies, and, on a practical level, the spending viewed in relation to the impact on women and men (Nolte et al. 2021).

The gender budget is therefore the tool that allows for the analysis of public expenditure using criteria that promote equal opportunity for men and women, as well as the implementation of gender perspectives in policies and budget planning in a transparent process (Pulejo 2011). As a result, the allocation of resources is considered as a critical juncture between the formulation of ideas and their effective execution.

The analysis of public budgets according to the gender perspective is a theme around which, since the Fourth World Conference on Women, Beijing Conference in 1995, there have been both specific research activities (Elson and Cagatay 1999; Addabbo et al. 2010; Galizzi et al. 2018; Polzer et al. 2021) and multiple experimental applications (Budlender et al. 2002; Budlender and Hewitt 2002; Sharp and Dev 2004; Campbell and Gillespie 2016; Addabbo et al. 2020).

The topic is certainly relevant in the public sector due to the accountability and transparency requirements public organizations should comply with. In fact, since they are financed by the public expenditure, public organizations are asked to disclose how these resources are employed and to what extent.

While in the last years, there have been several significant GB studies, focusing on various domains, few studies comprehensively assess the GB research in the public sector. The present study focuses on bibliometric analysis. Our research contributes by conducting a thorough review of the literature in order to answer several questions: (1) What is the domain of gender budgeting in public sector literature? (2) What are the influential aspects of top journals and authors, as well as the characteristics of the most studied topics? (3) What are the past and current key research streams in gender budgeting in public sector literature?

This research uses a bibliometric (Van Eck and Waltman 2010) and content analysis to examine the current discourse on gender budgeting in the public sector and to elicit avenues for future research. This article introduces a variety of findings, including yearly trends, top players at the journal and institute levels, citations,

keyword distribution, highly cited works, co-authorship at the nation level, and the most influential journals and authors. This study offers valuable results both from the academic and governance perspective. The bibliometric analysis clearly illustrates the different stages of this field of study, as well as the emerging lines of research, which can be studied in greater depth.

The paper is structured as follows. The study's data source and methods are discussed in Sect. 2. The study's findings, as well as the content analysis and discussion, are presented in Sect. 3. Eventually, Sect. 3.2 concludes with recommendations for future research.

2 Methodology

To follow current approaches in literature analysis, we perform an analysis of the literature in which we employ both quantitative and qualitative methodologies, such as bibliometric citation and content analysis (Choiijil et al. 2022; Naciti et al. 2021; Paul and Bhukya 2021).

According to Paltrinieri and Paul (2021), bibliometric analysis has various advantages. First, it is more objective in terms of sample selection and extraction than traditional systematic reviews, eliminating sample selection bias. Second, by using a statistical technique, both quantitative and qualitative evaluations of the articles are combined. Finally, by objectively examining prior work, bibliometric analysis can handle a large amount of data and produce new study subjects.

This methodology is frequently used to determine quantitative changes in a research field, as well as to determine the pattern of publications on a certain topic and to determine the publishing propensity within that discipline (Paltrinieri et al. 2019). The findings of such a study provide practical, valuable, and timely information for both professionals and specialists interested in evaluating such scientific effort (Duque Oliva et al. 2006). Another benefit of bibliometric analysis is that it enables for a quantitative objective study of a given subject.

Figure 1 depicts the architecture of the data collection process and the use of VOSViewer software for mapping the scientific literature, as well as the selection of various settings while using the software.

This program gathers information and creates maps based on bibliographic coupling, co-authorship, citation, co-citation, and keyword co-occurrence. Bibliographic coupling happens when two texts quote the same third article (Kessler 1963). Co-citation (Small 1973) is used to calculate the most cited documents when two papers obtain a reference from the same third work. The degree of co-authorship between the most productive sources is measured by co-authorship analysis. The degree of citations between two variables is the topic of citation analysis. The network connections illustrate the keywords that appear more frequently in the same publications, while the co-occurrence of author keywords reveals the most popular terms that normally appear below the title, abstract, and author keywords.

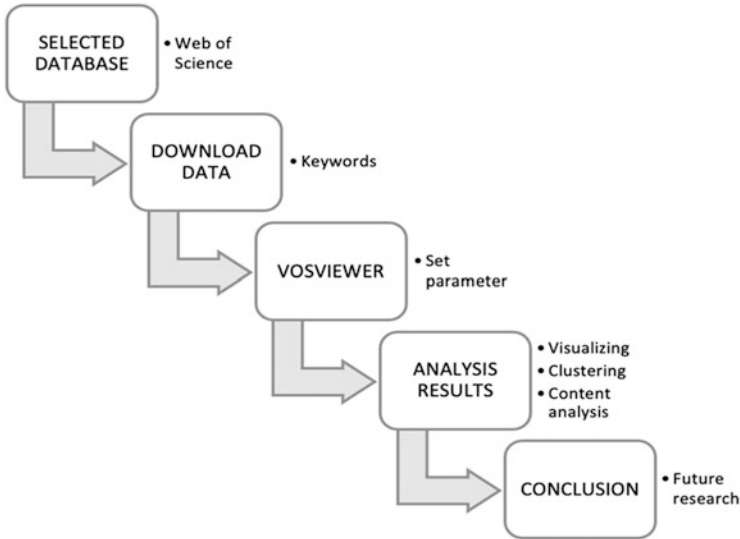


Fig. 1 Steps of the analysis. Source: our processing. The figure displays the data collection process

The Web of Science database was used for searching the papers related to gender budgeting in the public sector. The choice of terms derives from consulting the literature for the purpose of identifying a relevant combination of search terms (Marks Rubin and Bartle 2005).

Table 1 shows the sample criterion, where the rationale of our study is fully explained in the first row; the design of the study is subsequently presented as it specifies the type of the analysis (i.e., bibliometric). The period is “2002-2021” (all years available), and the retrieval time is February 24, 2022. A total of 70 articles were selected.

The publishing analyses were a step-by-step procedure that started with a predetermined framework and evolved to open coding. Among the types of documents, only the articles published in peer-reviewed journals in the English language have been selected.

Two of the authors independently analyzed the papers and compared their findings, leading to improvements and revisions in the classification scheme.

3 Results and Discussion

3.1 Performance Analysis

Figure 2 shows the total number of publications (70) from 2002 to 2021. It is undeniable that the topic of GB in the public sector has become increasingly relevant in the last three years. The graph is combined with the trend of article citations.

Table 1 Sample criterion

Study design	The study applies a bibliometric analysis to summarize the existing literature evidence based on a rigorous process.
Eligibility criteria	We considered for eligibility only articles published in peer-reviewed journals.
Publication time frame	All years available on the database Web of Science
Language	English
Search strategy	We selected the following codes to be searched in the source database: “women budget*” OR “gender budget*” OR “gender sensitive budget*” OR “gender responsive budget*” OR “gender report*” AND “public sector*” OR “universit*” OR “government*” OR “hospital*” OR “health” OR “municipalit*” OR “public administration*” OR “public orga- nization*” OR “public organisation*” OR “authorit*” OR “region*” OR “cities” OR “city*” OR “higher education” OR “public transport*” OR “council*”
Sample	Results found: 70
	Sum of the Times Cited: 373
	Average Citations per Item:5,33
	H-index:10

Source: our processing

The table displays the criterion used for the sample selection

Authors that have published at least two documents are shown in Table 2. The scholars who are not on the list have written less than two papers, thus it is assumed that, on the one hand, the published scientific study lacks a sense of consistency in terms of subjects and time references and, on the other hand, researchers who have only one publication are approaching the topic only recently. This, of course, has an impact on the current state of research and the advancement of gender budgeting in the public sector.

The authors are all academics, demonstrating that there is no interdisciplinarity amongst researchers from various matrices (non-university research bodies).

Table 3 shows the affiliations that have published the most papers on GB in the public sector. It should be noted that there are not only universities but also Ministry of Education and Science of Ukraine and Public Health Agency of Barcelona. This shows how this topic is not only of academic research interest but also directly affects public institutions. Indeed, Table 4 displays the countries that have the highest number of items published. We can observe that Italy is in first position with the University of Modena and Reggio Emilia (5 articles) and in first position *ex aequo* as a nation (8 articles).

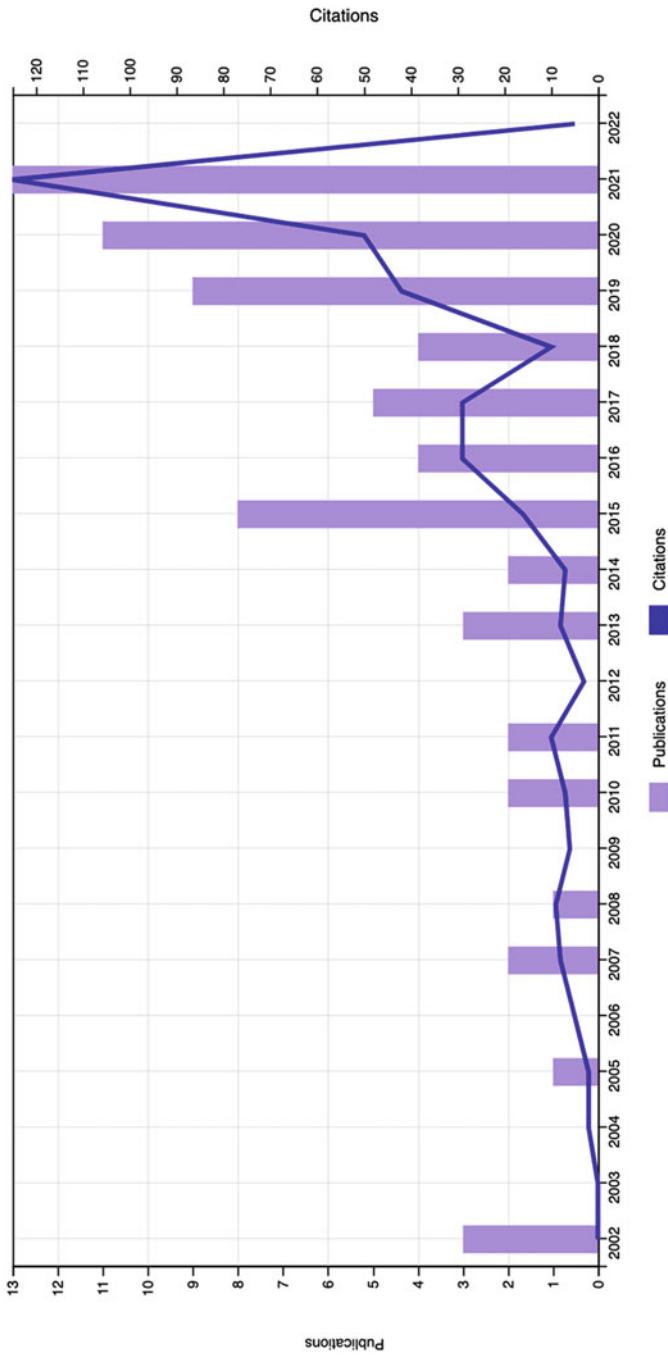


Fig. 2 Publications and citations trend. Source: our processing using Web of Science database. The figure displays the total number of publications and the total number of citations from 2002 to 2021

Table 2 Authors by number of articles published (min. 2)

Authors	Record Count	% of 70
Addabbo T	4	5.714
Holvoet N	4	5.714
Gunluk-senesen G	3	4.286
O'hagan A	3	4.286
Petursdottir GM	3	4.286
Sharp R	3	4.286
Costa M	2	2.857
Einarsdottir T	2	2.857
Inberg L	2	2.857
Muntaner C	2	2.857
Picchio A	2	2.857
Puig-barrachina V	2	2.857
Rubin MM	2	2.857
Steinporsdottir FS	2	2.857
Ylostalo H	2	2.857

Source: our processing

The table displays the name of the authors that have published at least two documents

Table 3 Affiliations by number of articles published (min. 2)

Affiliations	Record count	% of 70
University of Modena and Reggio Emilia	5	7.143
Glasgow Caledonian University	4	5.714
University of Antwerp	4	5.714
University of Iceland	4	5.714
Istanbul University	3	4.286
University of South Australia	3	4.286
Ministry of Education and Science of Ukraine	2	2.857
Public Health Agency of Barcelona	2	2.857
University of Bergamo	2	2.857
University of Toronto	2	2.857
University of Turku	2	2.857

Source: our processing

The table displays the affiliations that have the highest number of items published

3.2 *Scientific Mapping and Content Analysis*

3.2.1 Citation Analysis

Citation analysis is a basic approach for scientific mapping that works on the notion that citations represent intellectual links between publications that arise when one references another (Appio et al. 2014). The number of citations received by an article is used to estimate its influence in this study. The methodology allows for the

Table 4 Country by number of articles published (min. 2)

Countries/regions	Record count	% of 70
India	8	11.429
Italy	8	11.429
Spain	6	8.571
USA	6	8.571
Belgium	5	7.143
England	5	7.143
Scotland	5	7.143
Turkey	5	7.143
Austria	4	5.714
Canada	4	5.714
Iceland	4	5.714
Australia	3	4.286
Germany	3	4.286
Ukraine	3	4.286
Finland	2	2.857
Netherlands	2	2.857
South Africa	2	2.857
Switzerland	2	2.857

Source: our processing

The table displays the countries that have the highest number of items published

identification of the most significant articles in a certain field of study (Donthu et al. 2021).

The cluster analysis of the most referenced publications is depicted in Fig. 3. Because the objects are not related, there are no linkages or clusters between them, as you can see. In the citation analysis the relatedness of items is determined based on the number of documents in which they cite each other.

The most extensive group of linked things consists of five items where we may locate investigations by Sharp and Broomhill (2002), O'Hagan (2015), Addabbo et al. (2010) and Steinþórsdóttir et al. (2019).

Table 5 displays the top five cited papers. The first paper, by Sharp and Broomhill (2002), proposes a feminist political economics perspective on the state as an analytical starting point for debating the future of gender budgets in other parts of the world. The authors arrive to the conclusion that involving stakeholders improves the transparency and accountability of the budgeting process by encouraging governments to provide information on the use of public funds that is otherwise unavailable, as well as ensuring the practice's continuity by avoiding interruption due to political change.

The second paper, by Costa et al. (2013), focuses on the case of Timor-Leste parliament. According to the authors, the resolution on gender-responsive budgeting fostered the participation and representation of women, and thus diversity, in the parliament.

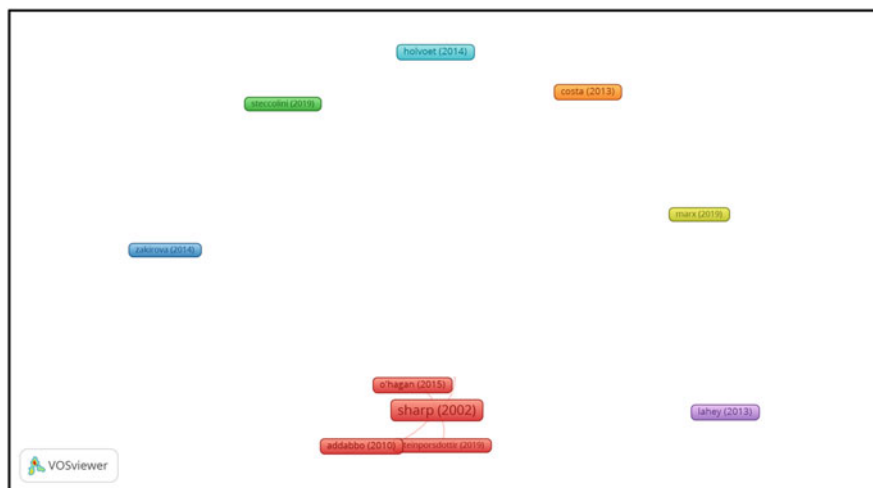


Fig. 3 Citation network-cluster map. Source: our processing using VOSviewer software. The figure displays the citation network-cluster. The relatedness of items is determined based on the number of documents in which they cite each other

Table 5 Top five cited articles

	Title	Authors	Source Title	Publication Year	Total Citations
1	Budgeting for Equality: The Australian Experience	Sharp, R; Broomhill, R	Feminist Economics	2002	48
2	Women Acting for Women Gender-Responsive Budgeting in Timor-Leste	Costa, Monica; Sawer, Marian; Sharp, Rhonda	International Feminist Journal of Politics	2013	18
3	Favourable Conditions for the Adoption and Implementation of Gender Budgeting: Insights from Comparative Analysis	O'Hagan, Angela	Politica Economica	2015	14
4	Economic Crisis, Gender Equality, and Policy Responses in Spain and Canada	Lahey, Kathleen A.; de Villota, Paloma	Feminist Economics	2013	14
5	Gender Budgets: A Capability Approach	Addabbo, Tindara; Lanzi, Diego; Picchio, Antonella	Journal of Human Development and Capabilities	2010	14

Source: our processing
 The table displays the top five cited publications

The third study by O'Hagan (2015) proposes a framework of “favourable” factors impacting on gender budgeting adoption and implementation in various national and governmental levels. It is based on empirical investigation into three case studies on gender budgeting at the subnational level in European Union member states. The author argues that the factors indicated as favorable circumstances have an impact on the extent to which governments embrace and execute gender budgeting. The importance of finance departments as gatekeepers facilitating or impeding development is one of the most important issues and lessons for supporters of gender budgeting.

Following we find in fourth position Lahey and De Villota's (2013) research that examines the likely gender effect of each country's policy during the global financial crisis. The writers conducted a comparative examination of the countries of Spain and Canada. While the study found that major economic policies can have an impact on women's economic status, the global financial crisis of 2007–09 revealed that policies that prioritize deficit reduction can overwhelm commitments to gender equality, even in the hands of governments that are sympathetic to women's equality. Gender budget analysis, the authors said, cannot fully disrupt the complicated processes of gender equality, but it may surely strengthen women's counter-discourses while modeling feminist ideals of accountability.

The fifth paper, by Addabbo et al. (2010), proposes an innovative method to gender audits of public finances based on the capability approach. They broaden the scope of the policy impact evaluation to include women's multidimensional well-being and the contribution of their unpaid labor to the well-being of others.

3.2.2 Bibliographic Coupling Analysis

Bibliographic coupling is a technical mapping tool built on the concept that two articles with similar references would have similar content (Kessler 1963; Weinberg 1974). In this respect, bibliographic coupling is appropriate for business researchers who want to learn about a wide range of topics and their most recent advancements. As a result, the analysis might represent the current state of the study field (Donthu et al. 2021). Therefore, in the bibliographic coupling analysis the relatedness of items is determined based on the number of references they share.

The analysis shows the presence of four clusters. From reading the articles it emerged that despite there being four clusters there is not a well-identified topic, because in the Green, Yellow, Red, and Blue clusters we find studies that have focused on country level, political economics, and research performing organizations and universities. This is also confirmed by the analysis of the top five articles in terms of bibliographic coupling. Indeed, Table 6 displays the top five coupled articles. According to the VOSviewer manual, each link has a strength, represented by a positive numerical value. The higher this value, the stronger the link (Fig. 4).

The first article by Galizzi et al. (2018) focuses on the municipality of Bologna, and incorporates a gender viewpoint into the budget planning stage. The research highlights the need of improving stakeholder participation throughout the

Table 6 Top five articles bibliographically coupled

Document	Total link strength	Focus on
Galizzi, G., Bassani, G. V., & Cattaneo, C. (2018). Adoption of gender-responsive budgeting (GRB) by an Italian municipality. <i>Administrative Sciences</i> , 8(4), 68.	90	Municipality
Moser, B., & Korac, S. (2021). Introducing gender perspectives in the budgetary process at the central government level. <i>International Journal of Public Administration</i> , 44(14), 1274-1285	77	Government
Steinþórsdóttir, F. S., Brorsen Smidt, T., Pétursdóttir, G. M., Einarsdóttir, Þ., & Le Feuvre, N. (2019). New managerialism in the academy: Gender bias and precarity. <i>Gender, Work & Organization</i> , 26(2), 124-139.	77	University
Oppi, C., Cavicchi, C., & Vagnoni, E. (2021). The Journey to Gender-Responsive Budgeting: Lessons Learned from Higher Education. <i>Sustainability</i> , 13(4), 2019.	73	University
Addabbo, T., Lanzi, D., & Picchio, A. (2010). Gender budgets: a capability approach. <i>Journal of Human Development and Capabilities</i> , 11(4), 479-501.	72	City Council

Source: our processing
 The table displays the top five publications bibliographically coupled

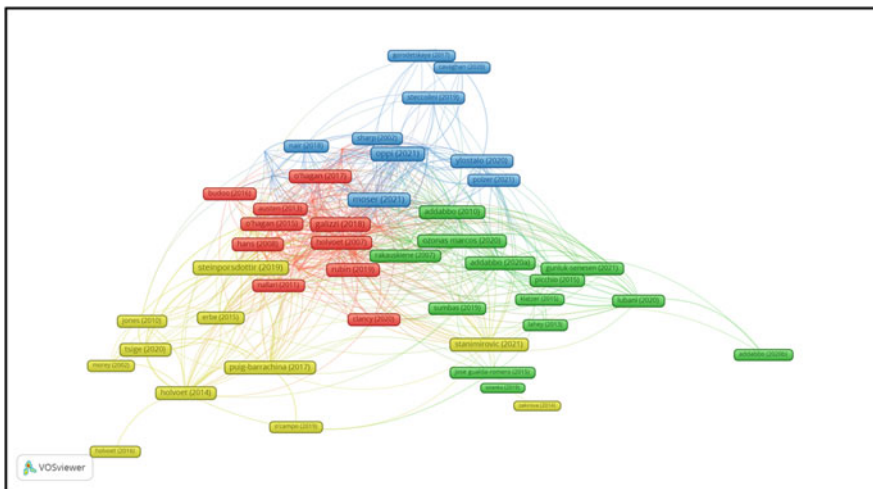


Fig. 4 Bibliographic coupling network-cluster map. Source: our processing using VOSviewer software. The figure displays the bibliographic coupling network-cluster. The relatedness of items is determined based on number of items with the same references, in which they occur together within four cluster (Green, Yellow, Red, and Blue)

gender-responsive budgeting process. According to the authors, stakeholder participation promotes both a cycle of accountability and a co-production of gender policies and activities at various levels of gender-responsive budgeting adoption. Gender-responsive budgeting contributes to improved incisiveness in local

government management and creates gender-sensitive governance processes in this way, making public decision-making more effective.

The second paper is the one of Moser and Korac (2021). The research examined how the inclusion of gender considerations in the budgetary process influenced the distribution of public resources at the Austrian central government level. It discussed the various methods for including gender views in government budget documents and it examined the effects of gender budgeting on the legislative priority-setting process, a topic that is rarely treated in academic literature. Gender budgeting information was regularly cited in budget deliberations, according to the authors, and hence informed resource allocation.

In the third study by Steinþórsdóttir et al. (2019), gender budgeting was utilized to analyze the financial and administrative processes and procedures of an Icelandic academic organization. They suggest that the emphasis on modern managerialism exacerbates the insecure conditions of early career academics, particularly women and those working in feminine subjects. Furthermore, the authors reveal that the system's bias in favor of the culturally masculine, or the so-called hard sciences, has a disproportionate influence on early career academics.

The fourth paper by Oppi et al. (2021) looks at the evolution of the Gender-Responsive Budgeting process and related reporting practices at the University of Ferrara (UniFe), as well as the possibility of completely integrating it into the university's strategic plans. The findings have emphasized the need for further investigation inside the institution to determine why Gender-Responsive Budgeting was so poorly incorporated into the university's plan. Gender-Responsive Budgeting at UniFe appears to have limitations as both a decision-making accountability tool and a performance measuring instrument. The limited incorporation of Gender-Responsive Budgeting in budgeting practice documented in the literature is consistent with UniFe's GRB implementation.

The fifth and last article by Addabbo et al. (2010) is also found in the previous section among the most cited papers, therefore, reference is made previously.

3.2.3 Co-citations Analysis

Because all research may be cyclical, each field of study should take a step back from time to time to consider how the research area is truly made up (Appio et al. 2014). In reality, a large amount of information that exists today is the consequence of a long study history. Researchers build on one other's work as well as their own. Co-citation analysis can be used to investigate these conceptual connections in a systematic way.

In the co-citation analysis the relatedness of items is determined based on the number of items that they are cited together. The cluster analysis of the co-citation shows the presence of four clusters of different colors. We can observe how the four clusters are very interconnected and close to each other. In fact, as in the analysis of the bibliographic pair, the focus on country, political economics, and research performing organizations and universities are present in each cluster (Fig. 5).

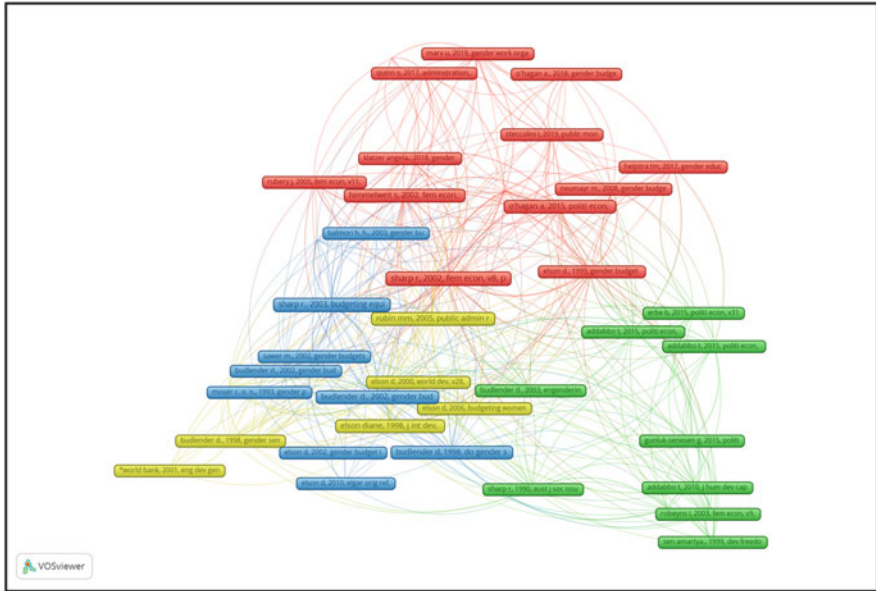


Fig. 5 Co-citation network-cluster map. Source: our processing using VOSviewer software. The figure displays the co-citation network-cluster. The relatedness of items is determined based on the number of items that they are cited together within four cluster (Green, Yellow, Red, and Blue)

Table 7 shows the top five publications that were most cited together by the papers of our sample (co-citation). In the first place we find the work of Sharp and Broomhill (2002) which we have previously seen also to be the most cited work among the 70 articles of the sample (citation analysis).

The author Sharp (2003) can be found again in second position with a manuscript from 2003. Her research was commissioned by United Nations Development Fund for Women (UNIFEM), to investigate the implications of current public sector’ performance oriented’ reforms in government budgeting for gender-responsive budget efforts. The paper traces the history of performance-based budgeting and offers a “model” for how the system of output and outcomes budgeting works, as well as a number of suggestions for attaining a more gender-conscious outputs and outcomes performance budgeting framework.

The third publication is a book by Budlender et al. (2002) whose purpose is to provide the reader a thorough grasp of gender responsive budget (GRB) programs. The authors pointed out some of the key takeaways from gender-responsive budgeting analysis and procedures, highlighting both potential and problems.

Budlender et al. (1998) is the publication that occupies the fourth position. The research was motivated by the experience of developing gender-sensitive budgets in several countries. According to the authors, gender-sensitive budgeting can be used to track a government’s progress toward gender equality as well as to increase accountability. This is a sufficient rationale for gender budgeting in terms of social

Table 7 Top five co-cited papers

Cited reference	Citations received by our papers sample	Cluster
Sharp, R., & Broomhill, R. (2002). Budgeting for equality: The Australian experience. <i>Feminist economics</i> , 8(1), 25-47	15	Red
Sharp, R. (2003). <i>Budgeting for equity: Gender budget initiatives within a framework of performance oriented budgeting</i> . United Nations Development Fund for Women (UNIFEM).	13	Blue
Budlender, D., Elston, D., Hewitt, G., & Mukhopadhyay, T. (Eds.). (2002). <i>Gender budgets make cents: understanding gender responsive budgets</i> . Commonwealth Secretariat.	12	Blue
Budlender, D., Sharp, R., & Allen, K. (1998). <i>How to do a gender-sensitive budget analysis: Contemporary research and practice</i> . Commonwealth Secretariat	8	Blue
Marks Rubin, M., & Bartle, J. R. (2005). Integrating gender into government budgets: A new perspective. <i>Public Administration Review</i> , 65(3), 259-272.	8	Yellow

Source: our processing

The table displays the top five co-cited publications

fairness, especially when one considers the favorable consequences of decreasing gender gaps on economic development and stability.

Finally, the fifth job is the one by Marks Rubin and Bartle (2005). The authors explain gender-responsive budgeting, address why it is needed, what lessons have been learnt, and how it may be used as a budget reform. They claimed that every budget reform has a normative focus that aims to realign the budget process and maybe slant budget results toward those standards. The present emphasis on performance budgeting has normative importance in that it aims to redirect the budget process toward improved efficiency and responsibility in achieving program goals.

3.2.4 Co-words Analysis

Topic mapping is crucial in bibliometric study. VOSviewer may present two distinct mapping visualizations of co-words, namely Fig. 6 (network visualization) and Fig. 7 (overlay visualization). The minimum number of subjects that can occur is restricted to two events/conditions.

From the network analysis (Fig. 6) three main clusters are well defined by different colors. Starting with the Blue cluster, we find the most recurring and also central word in our research, that is “gender budgeting.” Among the most frequent words we find “policy,” “women,” “gender economics,” “politics,” “health.” This topic mainly represents studies focusing on economics and political economy dynamics and implication related to gender budgets.

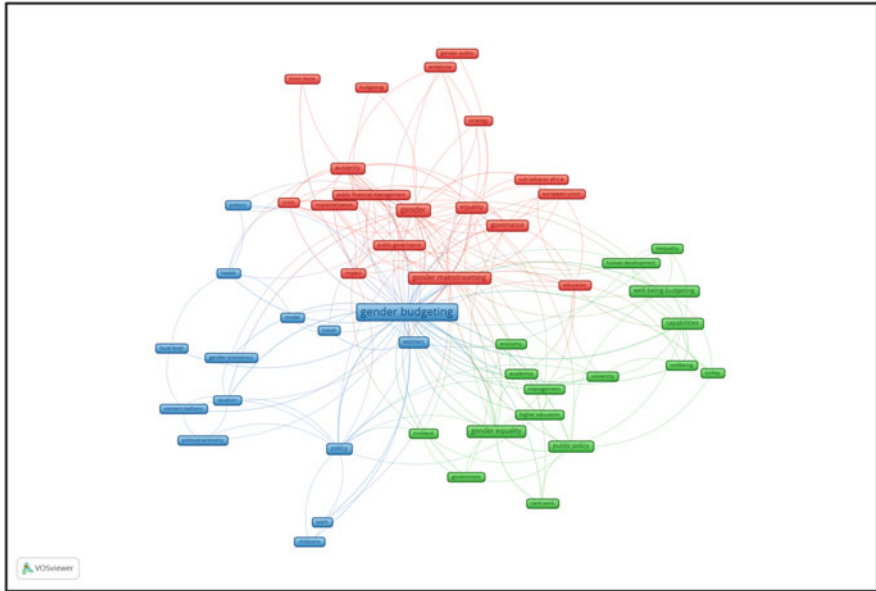


Fig. 6 Co-words network-cluster map. Source: our processing using VOSviewer software. The figure displays the co-words network-cluster. The relatedness of items (word) is determined based on the number of documents, in which they occur together within three clusters (Blue, Red, and Green)

The Green cluster is mainly representing the studies dealing with governance and policy/strategy implication related to gender budgeting. In this cluster, we find words such as “public policies,” “gender equality,” “well-being budgeting,” “government,” “capabilities,” but also, words related to the field and context in which the related studies focus on—e.g. “academia,” “university,” “turkey,” “Scotland.”

The Red cluster is focussed on management and accounting issues. In this cluster, the most recurring words are “gender mainstreaming,” “austerity,” public finance management,” “governance,” “equality,” “budgeting,” and “gender audits.”

Moreover, we also presented the same mapping with an “overlay” visualization (Fig. 7). The figure shows, in the bottom right, the weighted average year of keyword occurrence for the 70 items. Between 2014 and 2020, the shift from blue to dark green, light green, and yellow shows the average year of keyword occurrence. The typical years of occurrence fall within the 7-year frame, 2014–2020, due to a significant rise in the amount of items published in that timeframe. Nonetheless, the change within this time timeframe reflects the progress of the selected topic (Naciti et al. 2021).

Overall, we can observe that the blue/violet cluster shows the main keywords of previous literature evolved from 2014 to 2016 and the most frequent words are “gender,” “gender economics,” “health,” “taxation,” “inequality,” “European Union,” “Timor-Leste,” and “well-being budgeting.”

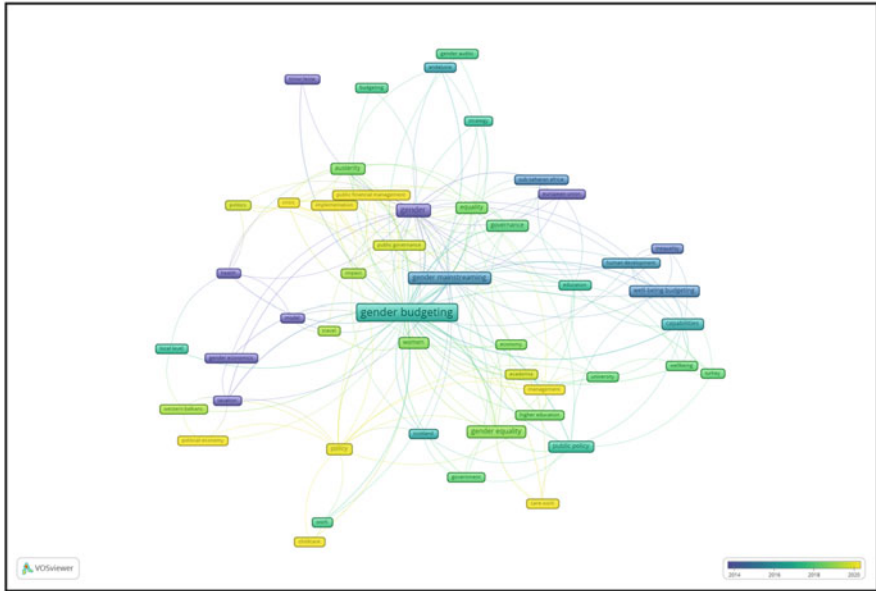


Fig. 7 Co-words overlay network-cluster map. Source: our processing using VOSviewer software. The figure displays the co-words network-cluster overlay. The relatedness of items (word) is determined based on the number of documents in which they occur together. The figure shows the weighted average year of word occurrence by the color shift from blue to dark green, light green, and yellow

From 2017 to 2019, the green words reveal the evolution of the topic, where there are several words but among the most frequent we immediately notice “gender budgeting,” “public policy,” “women,” “capabilities,” “gender audits,” “governance,” “local level,” “gender equality,” “education,” and so on.

Finally, from 2020 to 2021, words are represented in yellow. These refer to the latest “topics” (words) that have been investigated such as “public financial management,” “management,” “implementation,” “policy,” “political economy,” and “crisis.”

4 Conclusion

The research on the GB in the public sector has substantially increased throughout the last few years. This paper deployed VOSviewer software to conduct bibliometric research on scholarly literature. The study's major goal is to aid researchers and academicians in better understanding the GB knowledge base in the public sector. Based on the existing publications on the problem (70 articles), many relational methodologies were used (1) citation analysis, (2) bibliographic coupling analysis, (3) co-citation analysis, and (4) co-word analysis.

The current study has widespread implications that should be addressed.

First, what emerges from our analysis is that gender budgeting is a topic of interest in multiple streams of research ranging from accounting, strategic management, economics, and public policies. Each of this stream is contributing significantly though further studies needed to address the open research questions which we have identified based on the results of our review of the literature.

Second, when it comes to gender budgeting methodologies, most research focuses on the *ex ante* stage of gender budgeting and the system as a whole, leaving concurrent and *ex post* study underdeveloped. In fact, once the gender budgeting process has been completed, the last phase begins which concerns the analysis of the budget and the evaluation of the allocation of resources from a gender perspective. It looks at the monitoring and verification of the policies and services-activities developed in view of their effective and efficient response to the general budgetary needs of the institution, the institutional objectives, and the specific needs of the women and men of the community. The quantification of the impact of public interventions on the gender gap, as well as on other relevant forms of inequality, would be more effective if carried out in the context of an overall and systematic evaluation, *ex ante* and *ex post*, of public policies, in the scope of a budget oriented to the performance. This finding is consistent with prior results that the literature is primarily descriptive or analyzes secondary data (Polzer et al. 2021), making it easier for researchers to explain existing procedures rather than evaluate outcomes and effects.

Future research should focus on analyzing outcomes and impacts of implementing gender budgeting to fill these gaps in the literature.

Third, despite the importance and effectiveness of GB having been recognized by the international community at the Fourth Conference of Women in Beijing in 1995, the direction of GB studies in the public sector has only shown since 2015 a growing interest. Moreover, gender budgeting is becoming more popular among academics as legislation changes, particularly in rising economies like Turkey and India.

Fourthly, the analysis also shows that there are no longitudinal studies that frame this instrument as necessary and useful for Sustainable Development. The analysis of Gender Budget—in order not to translate into an accounting year—should be concentrated above all in those sectors in which a gender disparity is most evident, through the development of specific result indicators, which are also able to guide public policies. Experimentation on gender balance should also be coordinated with other ongoing initiatives relating to gender equality, especially with reference to the application of welfare indicators and the implementation of the 2030 Agenda for Sustainable Development.

Finally, the phenomenon of GB has mainly established itself at the level of local public governments and, only recently, has it affected the state budget and that of some universities, but some public sectors still remain unexplored.

Future talks on the topic of gender budget research in public administration, policy implementation, and local government might be fascinating. As a consequence, we have identified some research concerns to pursue as future research questions (see Table 8).

Table 8 Future research questions

Research streams	Future research questions
Accounting and management	1. In terms of approaches to gender budgeting, what are the results and impact of implementing gender budgeting at the organizational level?
	2. Are GB practices equally distributed across the different public sectors?
	3. Does the quantification of GB meet the concerns of qualitative objectives at all? Or, at the very least, in this type of analysis, simultaneous representation of qualitative characteristics is required?
Economics	4. How does GB relate to other social outcomes (education, poverty, health)?
	5. What can be done to widen the economic gender budgeting analysis to achieve greater gender equality outcomes?
	6. Does the quantification of GB meet the concerns of qualitative objectives at all? Or, at the very least, in this type of analysis, simultaneous representation of qualitative characteristics is required?
Public policy	7. Can public budgets lead to closing gender gaps? can they help governments promote gender equality?
	8. How does gender budgets, as a gender equality tool, contribute to Sustainable Development?
	9. What are the determinants fostering GB adoption at the government level?

Source: our processing

The table proposes future research questions suggested by the authors

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Do Females Impact the Probability of Corporate Default? Primary Evidence for Future Research



Carla Morrone, Alberto Tron, Federico Colantoni, and Salvatore Ferri

Abstract The aim of this paper is to investigate if the presence of females in the boardrooms influences the probability of corporate default. Even if the gender issue gained a growing relevance in both practical and theoretical literature, women impact on companies' results and organizations seems not yet clear.

This paper provides a quantitative analysis, combining the use of the traditional Logit model with the application of the most recent approaches such as the Random Forest and the AdaBoost models, joint with the use of the SHAP technique. Our paper refers to a sample of non-listed Italian companies.

Considering ambiguous and mixed results of prior literature, our research investigates the relation between females in the boardrooms and an unusual variable that is the probability of default. In the current scenario, where the gender issue is assuming a growing interest, the results of this analysis could add a piece to the still vague puzzle.

Gender issue is a relevant topic in academic and practical communities as well as in decision and policy makers perspectives. Discovering the role of women in the likelihood of meeting a financial distress could allow to step forward for the sectorial research, expanding the edge of the debate and underling the relevance of the topic.

Keywords Gender · Governance · Crisis · Corporate default · Distressed companies

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1 Introduction

Even though the gender issue gained a growing relevance in literature (Mckinsey and Company 2007; Kirsch 2018; Brieger et al. 2019; Paoloni and Lombardi 2020; Webb Farley et al. 2021; Cosentino and Paoloni 2021), women influence on companies' results and organizations seems not yet clear (Rose 2007; Adams and Ferreira 2009; Bear et al. 2010; Lückerath-Rovers 2013; Wellalage and Locke 2013; Gordini and Rancati 2017; Martínez-Jimenez et al. 2020; Brahma et al. 2021). Furthermore, previous research lacks many contributions of the impact that females' presence has on the likelihood of bankruptcy/financial distress (Salloum et al. 2013; Mittal and Lavina 2018; García and Herrero 2021). Thus, the female influence in the corporate default seems a topic under investigated.

García and Herrero (2021) tested the relation between gender diversity and likelihood of bankruptcy. Indeed, the main focus of previous literature is on economic-financial performance such as ROE, ROA, and Tobin Q (Adams and Ferreira 2009; García-Meca et al. 2015; Reguera-Alvarado et al. 2017; Brahma et al. 2021; Tuo et al. 2021) or sustainability/CSR performance (Byron and Post 2016; Glass et al. 2016; McGuinness et al. 2017; Beji et al. 2021; Nuber and Velte 2021). Due to the inconsistency (in terms of results) and scarcity (in terms of quantity) of previous studies, the aim of this paper is to investigate if and how the presence of females in the board of directors affects the probability of corporate default. Hence, this research proposes a quantitative analysis based on a sample of non-listed Italian companies to achieve the research aims.

The choice to refer to non-listed entities is grounded the presence of gender quotas by the Italian legislation for listed entities and companies under the public control introduced with Law No.120 of 12 July 2011 (Teigen 2012; Weeks and Baldez 2014; Paoloni et al. 2019; Comi et al. 2020). In this direction, the use of a mix sample risks distorting results of similar analyses. Additionally, most of publications refers to listed companies (Barontini and Bozzi 2011; McGuinness et al. 2017; Solimene et al. 2017; Ahmadi et al. 2018; Consob 2019; Martín-Ugedo et al. 2019) and, finally, non-listed entities are significantly more representing of Italian market.

Thus, our research investigates the relation between females in the boardrooms and an unusual variable that is the probability of corporate default. In the current scenario, where the gender issue is assuming a growing interest, our evidence could add a piece to the still vague puzzle. The originality and contributions of this paper derive from the gender issue as a relevant topic in academic and practical communities as well as in decision and policy makers perspectives. Discovering the role of women in the likelihood of meeting a financial distress could allow to step forward for the sectorial research, expanding the edge of the debate and underling the relevance of the topic.

The paper is organized as follows. In the next sections, we firstly review the literature on the gender issue, focusing on the presence of females on corporate governance. Then, we present the sample and the methodology applied and finally we discuss the findings and wrap up our main conclusions.

2 Theoretical Background

The gender issue is a fascinating topic increasing its relevance in literature, covering different areas of research such as social science, arts and humanities, medicine, business, management, and accounting (Galdas et al. 2005; D’Espallier et al. 2011; Tiron-Tudor and Faragalla 2018; Chundakkadan and Sasidharan 2022; Peruzzi et al. 2022; Morrone et al. 2022). Figure 1 shows the publication trend, during the period 2000–2020, of documents on “gender issue” in the Business, Management, and Accounting subject area. Thus, such topic is investigated under several perspectives especially in the recent time.

In order to investigate gender issue, various strands of research have been developed in the years (Betz et al. 1989; Barber and Odean 2001; Trinidad and Normore 2005; Fehr-Duda et al. 2006; Gneezy et al. 2009; Adams and Funk 2012; García Lara et al. 2017). For example, behavioural studies focus on the higher female risk-averse, less overconfident, and independent thinking; ethics studies highlight women are usually more ethical, and organizational studies include the ability of women in improving deliberations and communication (García Lara et al. 2017).

Despite the increasing interest in analysing the impact of females within the boardrooms on corporate performance, evidence is still controversial and do not provide coherent answers (Francoeur et al. 2008; Adams and Ferreira 2009; Carter et al. 2010; Lückerrath-Rovers 2013; Li and Chen 2018; Magnanelli et al. 2020; Morrone et al. 2022). On the one hand, Adams and Ferreira (2009) argue that “the average effect of gender diversity on firm performance is negative”; on the other hand, several scholars point out a positive relationship and still others find no relation between gender diversity in the boardroom and firm performance (Brahma

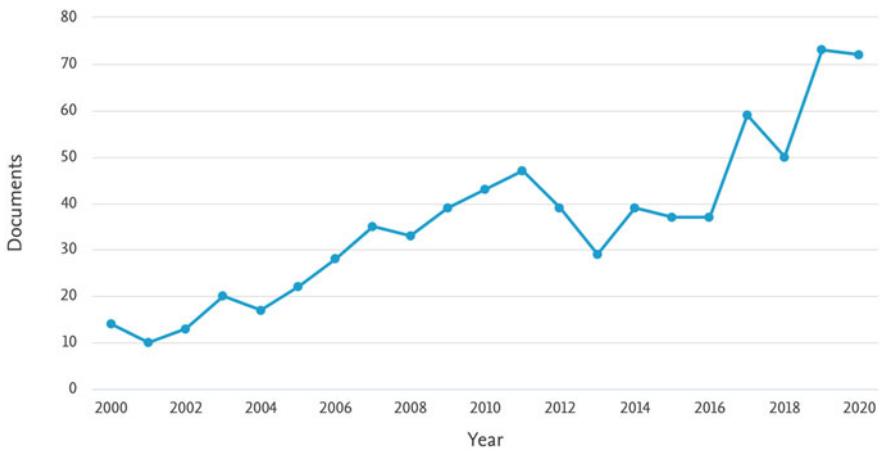


Fig. 1 Publication trend of documents on “gender issue” in the Business, Management, and Accounting subject area. Source: Scopus

et al. 2021; Campbell and Mínguez-Vera 2008; Carter et al. 2010; Chapple and Humphrey 2014; Erhard et al. 2003; Lückerath-Rovers 2013; Magnanelli et al. 2020; Rose 2007).

Other scholars arise a relation under specific conditions: for instance, Francoeur et al. (2008) highlight a positive relation limited to firms operating in riskier environments and, similarly, Li and Chen (2018) document “a positive impact on firm performance if and only if the value of firm size is less than some critical value”. If literature on gender and economic-financial (corporate) performance is quite huge, few research are based on the role of women in crisis management and their impact on likelihood of bankruptcy (Salloum et al. 2013; Vieira 2017; Mittal and Lavina 2018; García and Herrero 2021). García and Herrero (2021), examining a sample of 1416 European companies, point out having a small and independent board with a high ratio of female directors decreases the likelihood of financial distress. Others scholars do not find any relation (Salloum et al. 2013; Mittal and Lavina 2018).

Vieira (2017) explores the different relationship between the family firms’ board of directors’ characteristics and performance between periods of economic stability and financial crisis. Her results shows that positive effects of women on performance are statistically significant only in a period of crisis, relating this to the higher risk-aversion that characterizes females and to male overconfident (Huang and Kisgen 2013; Faccio et al. 2016; La Rocca et al. 2020). As assumed by Hutchinson et al. (2015), the association between risk-taking and firm performance is relevant in the post global financial crisis period since the excessive risk-taking is one of the major contributing factor of the crisis (Kashyap et al. 2008).

Thus, considering females’ characteristics (e.g. less overconfident and greater risk-aversion), women in boardrooms could influence the likelihood to meet financial distress. Our hypothesis to test is the following:

HPI. The presence of female members in the boardrooms impacts the probability of corporate default.

3 Methodology

We adopted a quantitative methodology to achieve our research aims and to test the hypothesis 1. In the following section, we analyse the sample selection and data analysis through the model we adopted.

3.1 Sample Collection

Using a list of companies that met a financial distress, provided by an Italian bank, we identified 33 distressed companies during the period 2012–2014. Specifically, the register provided by the bank contained the so-called unlikely to pay (UTP)

positions including companies that are considered defaulted in the bank perspective, even if they have not yet entered into a formal insolvency procedure. Thanks to this register, among 10,143 distressed companies, we were able to identify 33 private entities that respected the following conditions:

1. we considered only private companies that were based in Italy,
2. all the financial and governance data were available on Bureau van Dijk's AIDA,
3. we excluded the financial and the real estate sector,
4. the board of director of the companies included at least 2 people.

For each of these companies, we applied a pairwise sampling procedure to identify other 33 comparable and financially healthy companies that did not meet financial distress during the same time horizon. These companies were identified to be similar in terms of sector, size, and revenues. Therefore, the final sample consists of 66 entities, 33 distressed and 33 healthy companies. We collected governance and economic-financial data through Bureau van Dijk's AIDA, a leading financial data provider.

3.2 Data Analysis and Model

As a control variable and economic-financial predictors of a crisis, we used the average Z'-Scores (REF) of the three years preceding the corporate insolvency procedure. In this way, the application of the ratio by the Z score is able to predict the financial crisis for Italian companies (Madonna and Cestari 2015; Dallochio et al. 2020). To investigate if the presence of females in the boardrooms influences the probability of default of a company, we ran every model twice for considering two types of variables:

1. a dummy variable for considering if a woman sits in the board of directors ("Dummy Woman Presence"),
2. the percentage of women that sit in the board of directors ("% Woman Presence").

These variables follow the example of Adams and Ferreira (2009).

As a dependent variable, we used a dummy variable equal to 1 if the company met a financial distress. An overview of the independent variables that we used in this paper and their source can be found in Table 1.

Additionally, three methods were used for the analysis of data: I) logit model, II) random forest, and III) AdaBoost. The logit model is one of the most used methods for predicting the probability of default (Jones et al. 2017), since it is specifically suitable for analysing binary events (Hilbe 2015). The random forest and the AdaBoost are machine learning models which recently have shown their reliability in predicting bankruptcies, by also overperforming the logit model (Jones et al. 2017). These models are particularly useful for small samples since they are reliable also in this case and they are immune to outliers and missing variables (Jones et al. 2017).

Table 1 Variable description

Variable	Description
Z''-score	Average Z''-score of the three years before the entrance in the insolvency procedure
Dummy woman presence	Dummy variable equal to 1 if there was a woman in the board of the directors
% woman presence	Percentage of women present in the board of the directors

Source: our elaboration

Table 2 Descriptive statistics by companies' status

	N	Mean	Std. Dev.	P1	P50	P99
All firms						
Z''-score	66	4.27	2.43	-1.08	4.38	13.11
Dummy woman presence	66	0.45	0.50	0	0	1
% woman presence	66	0.20	0.33	0.00	0.00	0.98
Distressed						
Z''-score	33	3.30	1.42	0.71	3.14	6.02
Dummy woman presence	33	0.52	0.50	0	0	1
% woman presence	33	0.13	0.19	0.00	0.00	0.75
Healthy						
Z''-score	33	5.24	2.83	-1.08	5.87	13.11
Dummy woman presence	33	0.40	0.50	0	0	1
% woman presence	33	0.28	0.41	0.00	0.00	1.00

Source: our elaboration

However, the main issue in using them is the interpretation of which variables, inserted in the models, can affect the final results (Lantz 2019). In order to overcome this problem, we applied a recently introduced methodology, the SHAP techniques (Lundberg and Lee 2017), which allow to interpret the results also for machine learning models. Such step permitted us to apply various methodologies to corroborate our results.

4 Results

Our evidence is reported below to achieve research aims and testing HP1. In Table 2, we show the descriptive statistics of each variable. Additionally, the correlation among the variables is presented in Table 3.

The correlation among the variables shows a negative significant correlation between the Z''- Score and the presence of woman in the board of directors with the probability of bankruptcy. In this scenario, we ran the Logit model using I) the % Woman Presence (Logit-Model 1) and II) the Dummy Woman Presence (Logit-Model 2). Results are shown in Table 4.

Table 3 Correlation analysis

	Dummy Distressed Companies	% Woman Presence	Dummy Woman Presence	Z'-Score
Dummy distressed companies	1.00			
% woman presence	-0.2464*	1.00		
	0.0461			
Dummy woman presence	0.1217	0.7030*	1.00	
	0.3303	0.0000		
Z'-score	-0.4020*	0.1684	-0.0752	1.00
	0.0008	0.1765	0.5486	

Standard error in parentheses; ***, **, and * indicate statistically significant levels of 1%, 5%, and 10%, respectively.

Source: our elaboration

Table 4 Logit results

Dependent variable	Dummy Distressed Companies	Dummy Distressed Companies
Models	(1)	(2)
Independent variables		
% woman presence	0.11	
	(0.07)	
Dummy woman presence		-1.02**
		(0.47)
Z'-score	-0.14*	-0.16*
	(0.08)	(0.08)
Constant	1.09***	0.66
	(0.42)	(0.48)
Observations	66	66

***, **, and * indicate statistically significant levels of 1%, 5%, and 10%, respectively

Source: our elaboration

In Model 1, the variable % Woman Presence is not statically significant. However, in Model 2, the variable Dummy Woman Presence is statistically significant with a negative impact on the probability of corporate default. In both models, the control variable Z'-Score is statistically significant with a negative effect on the dependent variable. Secondly, we ran the Random Forest model using I) the % Woman Presence (Model 3) and II) the Dummy Woman Presence (Model 4). The SHAP values are shown in Fig. 2 (Model 3) and Fig. 3 (Model 4).

Results of the Random Forest Model confirm partially the previous results of the Logit Model. In Model 3, the % Woman Presence has a small but not significant impact on the probability of default. However, in Model 4, the Dummy Woman Presence has a negative significant effect on the probability of corporate default,

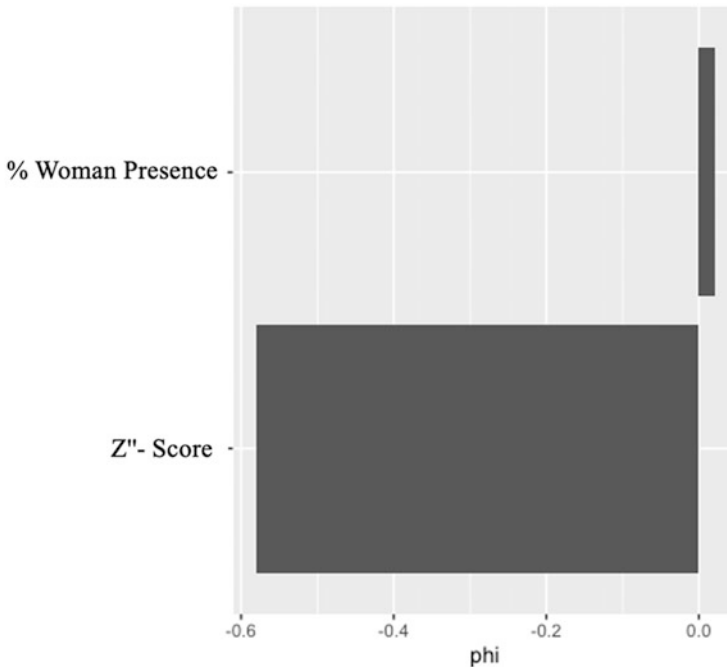


Fig. 2 SHAP Values—Random Forest Model 3. Source: our elaboration

even if in this case the impact is small and less relevant in comparison with the Z'' -Score.

Finally, we ran the AdaBoost model using I) the % Woman Presence (Model 5) and II) the Dummy Woman Presence (Model 6). We report in Fig. 4 (Model 5) and Fig. 5 (Model 6) the results of the SHAP values.

Also, in the case of the AdaBoost model, previous results are confirmed. The % Woman Presence has a not significant and reduced impact on the probability of default (Model 5). On the contrary, Model 6 confirms the previous results of the Logit Model, by showing again that the Dummy Woman Presence has a significant and negative influence on the probability of default. Overall, our models show that female presence in the board of directors can significantly reduce the probability of corporate default, even though its impact is less relevant than the Z'' -Score.

5 Discussion, Conclusion, and Future Research

The board of directors is a key corporate governance player and has supervisory, managerial, and advisory roles; it has a critical role in achievement of business results. As assumed by García and Herrero (2021), it helps firm to adopt appropriate measures among which those able to prevent firm's exposure to financial distress and

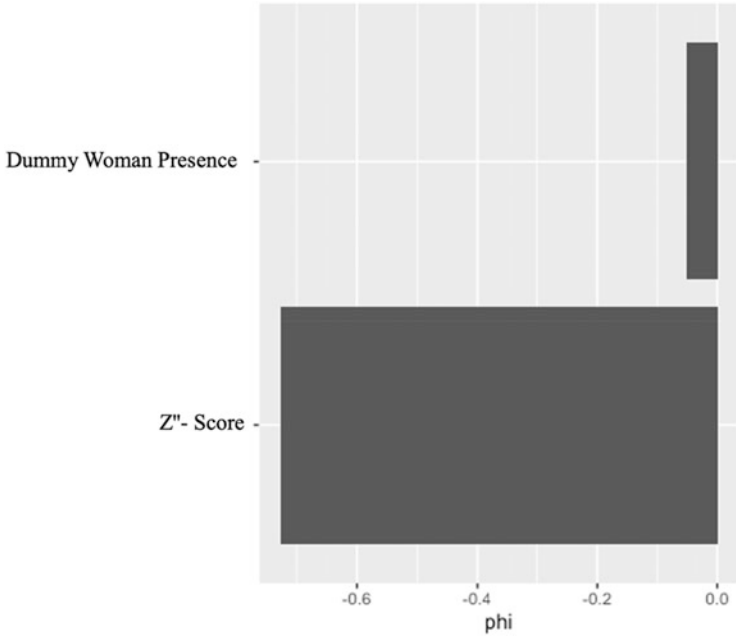


Fig. 3 SHAP Values—Random Forest Model 4. Source: our elaboration

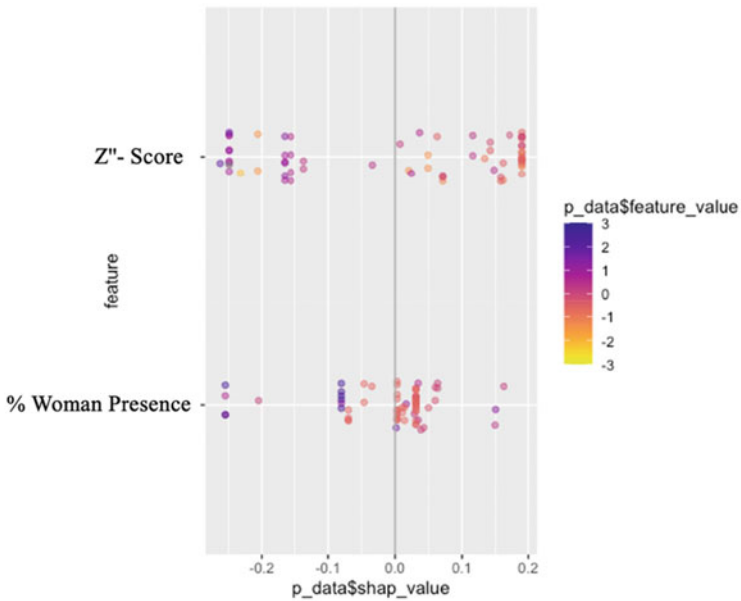


Fig. 4 SHAP Values—AdaBoost Model 5. Source: our elaboration

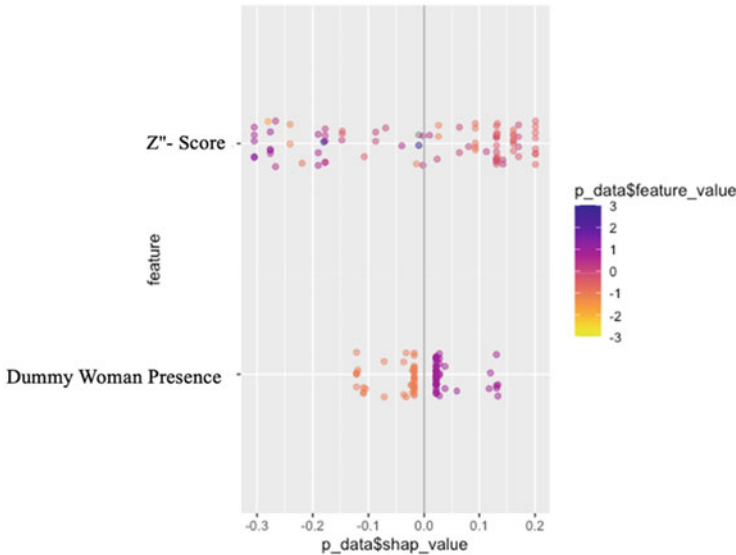


Fig. 5 SHAP Values—AdaBoost Model 6. Source: our elaboration

its consequences. Starting from the assumption that behavioural differences between women and men exist both in the general population and in leadership approaches, our analysis—focused on Italian non-listed companies—tested the female directors’ impact on the probability of corporate default that is scarcely investigated by previous literature.

Our paper has several theoretical and practical implications directed to enrich literature (Salloum et al. 2013; Mittal and Lavina 2018; García and Herrero 2021). Our primary evidence confirms HP1. “The presence of female members in the boardrooms impacts the probability of corporate default” highlighting that women in the boardrooms reduce the probability of corporate default, adding a piece to the still vague puzzle and providing useful information to the policy makers. Our evidence can be extended to other companies. Even if Italy suffers chronic scarcity of females in prominent managerial positions (Salesforce Italia 2020; Banca Ifis 2021), discovering the positive role of women in reducing the probability of corporate default allows to step forward for the sectorial research, expanding the edge of the debate and supporting future research and policy makers.

This study suffers different limitations among which the small size of the sample, the single country analysis based on Italian companies. Further research could also increase the number of variables to insert in the applied model of analysis. Moreover, future research could qualitatively investigate if the lower female risk-aversion and minor overconfident of women have a real impact on results as well as collect data from other country-based companies.

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New Opportunities in the Time of a Crisis: Perspectives on Virtual Relational Capital Through a CAOS 4.0



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Abstract New technologies and digital tools are profoundly affecting today's business scenario, changing how organizations run their business models. Relational Capital as a pillar of Intellectual Capital is also impacted by the increasing importance of virtual relations, which are carried on using new tools and are changing how a company deals with its stakeholders. The COVID-19 pandemic has fostered the application of digital transformation at every level, from the digital competencies and use of customers to the opportunities that organizations can benefit from to enhance their business, for example, by opening e-stores or using social media to engage their clients. Still, virtual relations show different features than other types of connections. Therefore, new models are needed to map and assess such relations to allow organizations to benefit from their potential. The chapter employs a narrative review of the literature stating the current trends, underlining the need to define new framework models. Starting from Paoloni's CAOS model and its relational matrix, reflections on a 4.0. or "Meta" application of it are made.

Keywords CAOS model · Relational matrix · Relational capital · Digital tools · COVID-19 crisis · Intellectual capital

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1 Introduction

Today's economic scenario is dominated by the rise in the use of new technologies, affecting how organizations shape their business models and, therefore, how they engage with their customers, suppliers, and other stakeholders (Bagnoli et al. 2019). The growth of the invention known as "Industry 4.0" and those technologies linked to the web are bringing new sources of innovations that provide new challenges and opportunities for companies to change the way they conduct their business (Bagnoli et al. 2018). Industry 4.0 technologies like artificial intelligence (AI), advanced and additive manufacturing, big data analytics, cloud computing, Internet of Things (IoT), and cyber security are leading to a digital transformation, which combined effects bring "about novel actors (and actor constellations), structures, practices, values, and beliefs that change, threaten, replace or complement existing rules of the game within organizations, ecosystems, industries or fields" (Hinings et al. 2018; Leone et al. 2021). Digital transformation has the power to "change a business model and provide new revenue and value-producing opportunities", (Garmann-Johnsen et al. 2020) being it "the process of moving to a digital business" (Gartner 2021). All in all, new technologies and the phenomenon of digital transformation cause disruption in the value chain, and as a result, businesses are compelled to reconsider their business models and methods of operation to continue providing value to their clients (Bagnoli et al. 2019).

The use of digital technologies is also changing the way organizations manage their knowledge processes and the relationships they hold with their valuable stakeholders, especially customers, suppliers, employees, collaborators, public bodies, local communities, and so on (Bagnoli et al. 2019). This phenomenon is particularly evident when we consider, for example, social media, which offer a set of computer-mediated tools that allow people or companies to create, share, or exchange information, ideas, and content in virtual communities and networks.

The COVID-19 pandemic at the beginning of 2020 (WHO 2020) had a profound effect on society and the economy all around the world. Several countries were placed under lockdown during the first stage of the COVID era, which the literature refers to as the Emergency phase (Cobianchi et al. 2020). As a result, the majority of businesses were forced to close their public locations and factories, with significant negative economic effects (Bagnoli et al. 2021). Companies had, therefore, to develop novel business strategies to continue operating and retain relationships with their stakeholders, mainly clients. New consumer behaviours and business strategies have emerged (Bagnoli et al. 2021). The closure of schools and kindergartens, the requirement for children to use online and remote learning, and the business disruptions all significantly impacted people, professionals, and firms in general terms, stimulating the use of web-based technologies, and incrementing the digital competencies of the entire population.

While the academic debate was already interested in the shift to new digital technologies and the subsequent opportunities for companies and businesses, the

recent COVID-19 pandemic and the following business disruptions have shed light on a new role of such tools for entrepreneurs.

The paper starts from the premise that virtual relational capital contributes to the value of enterprises in the modern business ecosystem. Therefore, virtual relations and new digital solutions can enhance business performance by promoting new intangible assets that create new relational and structural capital, allowing entrepreneurs to make their businesses thrive despite the crisis. In such a new context, it is crucial to find ways to map and understand the various virtual relations that contribute to the success of the organization. Through a narrative review of the literature, the paper aims to apply the CAOS framework concepts (Paoloni 2011, 2021) to the new business scenario.

2 Literature Review

2.1 *Relational Capital and New Technologies*

Relational capital is one of the elements of intellectual capital, and it is recognized as a key asset for any firm, being a source of competitive advantage and value creation (Dal Mas and Paoloni 2020; Edvinsson et al. 2022). Relational capital can be defined as the sum of the relationships between the organization and its external stakeholders (Paoloni and Demartini 2012; Schiuma and Lerro 2008). Such stakeholders may include customers, suppliers, employees, other firms belonging to the same or a different industry, public bodies, local communities, universities, schools, and research centres, among others (Yen et al. 2015). Brand, corporate image, reputation, customer satisfaction, and loyalty marketing are all examples of relational capital that firms may rely on as a result of their continuous relationships with stakeholders (Ax and Marton 2008; Bontis 1998).

While in the past, most attention was paid to “traditional” stakeholders like customers, today the situation is different, with ecosystems being more open and interconnected (Secundo et al. 2019b). In fact, a firm’s success is strongly connected to the relationships an organization can hold with other actors in the ecosystem (Edvinsson et al. 2022). The so-called fourth stage of intellectual capital underlines the need for organizations to develop relations and capabilities outside their own boundaries, to work effectively in a new ecosystem (Secundo et al. 2016) which includes not only firms but also nations and countries (Käpylä et al. 2012; Roos and O’Connor 2015), cities (Dameri and Ricciardi 2015), and communities (Bounfour and Edvinsson 2005). The fifth stage of intellectual capital extends the need for organizations to cope also with sustainability and corporate social responsibility issues (F. Dal Mas 2019; Massaro et al. 2018), to ensure that their businesses are valuable and beneficial for the entire society (Biloslavo et al. 2018; REDI 2022).

The need to nurture relationships with a variety of stakeholders with different values and expectations requires organizations to think of new ways of exchanging and sharing knowledge. According to Savory (C. Savory 2009; Clive Savory 2006),

the complexity of the scenario and the actors working in the ecosystem require more effort than a simple knowledge transfer. A more comprehensive translation is needed to ensure that the valuable information can be understood and passed through (Dal Mas et al. 2021), generating new knowledge.

The management of the relationships to ensure adequate knowledge translation and sharing is, therefore, complex, and it requires several tools and facilitators (Dal Mas et al. 2020b). While some of these tools are connected with creativity (Secundo et al. 2019a; Simeone et al. 2018), design (Dal Mas et al. 2020a), or non-technical skills (Stahel et al. 2022), several studies underline the importance of the new technologies to enhance relational capital and nurture the network of stakeholders (Cobianchi et al. 2021; Dal Mas et al. 2020b; Grigoroudis et al. 2012; Karimi and Walter 2016; Loftus et al., 2020a, 2020b).

Moreover, as stated above, new technologies allow new ways to engage the various stakeholders. For instance, thanks to additive manufacturing and simulations, companies are able to offer new products and services to their customers, including prototypes, improving clients' satisfaction (Bagnoli et al. 2019). Big data analytics gives the possibility to understand customers' trends and wishes by analysing vast amounts of data or scrapping numbers from social media (Centobelli and Ndou 2019; Del Vecchio et al. 2020). IoT-connected devices allow monitoring situations, offering customers better live services (Paoloni et al. 2022a). E-commerce and e-payment enable organizations to reach customers that would never be able to visit their physical stores because of the geographic distance, boosting their business worldwide (Bagnoli et al. 2021).

2.2 Virtual Relations During the COVID-19 Pandemic

The COVID-19 pandemic and related healthcare crises impacted several industries globally (WHO 2020). Many businesses were obliged to close their doors to customers due to non-pharmaceutical interventions (Massaro et al. 2021). Some sectors were severely hit, like tourism, because of the travel ban. Most of the human population of the planet was confined. Pandemics and disasters in general (like natural calamities) have demonstrated the ability to alter the course of history by spurring the development of innovative religious, political, economic, and technological systems (Fuller 2013). Numerous businesses have been halted due to the required closure of several non-essential factories and offices, which has also resulted in a disruption of supplies from international vendors, particularly the large ones based in China. The closure of almost all public places like shops, theatres, cinemas, auditoriums, restaurants, gyms, and fitness centres had the effect of replacing physical interactions with virtual ones, maximizing the use of e-stores and digital platforms (Bagnoli et al. 2021). The closure of schools and universities pushed all organizations active in education and training to boost e-learning platforms in several fields (D'Agostino et al. 2021; Garcia Vazquez et al. 2020; Thannhauser et al. 2010) and for every degree of education. Many people started

“overnight” (The Economist 2021) working from home instead of commuting to work (Risi and Pronzato 2021), bringing their tasks online through online collaboration tools, like Zoom, Microsoft Teams, Google Hangouts, and Google Meet, among others (Paoloni et al. 2021; Park et al. 2021; Prodanova and Kocarev 2021). About 69% of employees in the USA switched to remote work from at least sometimes to full time in April 2020 (Brenan 2020).

All in all, people of all ages worldwide were forced to increase their digital competencies and their availability of devices connected to the Internet—as private citizens—being them students or parents/guardians of study-at-home children, or e-customers—or professionals—as remote workers or entrepreneurs, boosting a trend (that of digital transformation) which was already on its way.

3 The Need to Map Virtual Relations

The literature and practice have underlined the massive shift in the type of relational capital a modern organization can hold, stressing the value and contributions of virtual relations in boosting a company’s competitive advantage and business opportunities in a post-pandemic era. Therefore, it emerges the need to find framework models that can map and assess the type and quality of virtual relations to guide the company’s managerial practices.

3.1 The Qualitative and Quantitative Aspects of (Virtual) Relational Capital

Relations represent bonds and connections between two or more subjects or groups. According to Paoloni and her renowned C.A.O.S. (Characteristics – Ambience – Organization – Situation) model (Mercuri et al., 2021; Paoloni et al. 2021; Paoloni et al. 2020; Paoloni et al. 2022b), the relational cycle portrays the journey which shows how a firm’s relational capital can be nurtured and transformed into better performances and economic value. Such a path starts with relations, which become stronger thanks to trust, being then converted into relational capital, which boosts the company’s performance leading to an increase in economic value.

Relations can be distinguished according to their qualitative aspects, dividing so between formal and informal relationships (Paoloni 2011). Formal relationships are characterized by the presence of a need or duty, which can derive from regulations, managerial, or economic necessity. Informal relationships escape from any economic bond, but they still may be valuable to support the company’s business. Informal relations are not generated by a specific duty or need, but they are voluntary, and they may merge economic and personal interests.

Moreover, relations can vary according to intensity or frequency, being so permanent or temporary (Paoloni 2011). Permanent relationships imply the presence of a long-lasting life, which is prolonged and consolidated by trust and confidence. Stakeholders engaged in permanent relations mutually appreciate the value and benefits coming from such a relationship. Temporary relationships do not last long, and they are occasionally generated by a specific moment or need. They are rarely based on mutual trust, and they are likely to end, as the mutual benefit is not widely recognized by the involved parties.

The traditional relationship matrix by Paoloni (2011) still looks suitable to assess and map virtual relationships in the post-pandemic era. However, some considerations emerge.

3.1.1 A Change in the Tools Used

The original model (P. Paoloni 2011, 2021) did not take into account the tool used to maintain and nurture the relations. Indeed, they could be kept in person (e.g. through meetings, gatherings, shared workspaces, events, boot camps, training courses, or else) or using other ways (e.g. via e-mail or mail, . . .). Still, in the previous scenario, the number of practical tools was limited.

Today, the number of potential tools and devices that can support the development of relationships is more extensive than it was before, and technology is progressing fast. From e-mail services to online meetings through collaborative platforms like Zoom, Meet, Hangout, Webex, from social media and instant messaging services up to new perspectives described for the Metaverse (Hirsch 2022), where avatars are able to e-meet, e-chat, e-play, regardless of where they physically are (Kraus et al. 2022; Lee et al. 2011). Moreover, such new technologies as AI can allow organizations to maintain relationships with their customers without using real humans but, for instance, customer care through chatbots. Even if such a technology is not yet perfect (Baabdullah et al. 2022), it can give feedback and provide customers with some basic suggestions and responses, reducing the number of clients that need tailored assistance (Chen et al. 2022). Such new technologies and ambiances (like the Metaverse) represent structural capital elements that allow not only to keep and nurture relationships but also to boost the business by, for instance, reaching or engaging clients that are physically far, providing them with new services (like online shopping or teleconsultation).

3.1.2 A Change in Consumers' Habits

While some people may still claim that they miss the “old fashion way” of doing business and maintaining relations, the consumers' trends tell a different story, especially after the pandemic (Bagnoli et al. 2021). The Internet is today an essential part of everyone's life, as it is hard (if not impossible) to escape from its use. Internet 2.0, where users can generate content beyond what is shared by professional

operators, has become a valuable search engine for every topic (Torabi and Bélanger 2022), from healthcare suggestions (Miceli et al. 2021; Zoghiami and Ben Rached 2022) to tourism tips (Mehraliyev et al. 2022), from the assessment of mass products (Paintsil and Kim 2022) to university and school rankings (Sirkeci and O’Leary 2022)

E-government services in many countries made it mandatory to have an e-mail address or even a Public Digital Identity System to access several services (Abdelhakim and Idoughi 2021), for example, enrolling children on school or asking for funds or fiscal benefits.

The mandatory closure of non-essential activities during the worst waves of the COVID pandemic made e-commerce the only way to access non-essential products.

Social media networks like Facebook, Instagram, Twitter, and Tik Tok represent a growing phenomenon in modern society (Bessarab et al. 2021), used not only to communicate, seek information, or entertain but also to shop (business-to-consumer, business-to-business, and consumer-to-consumer), promote someone’s products, services, or skills, even leading to new job opportunities.

3.1.3 A Change in the Concept of Trust

As reported by the literature on relational capital (P. Paoloni 2011, 2021), trust represents a central element which is able to strengthen the relationships between different parties and transform temporary relations into permanent ones. Moreover, trust is a vital step in the relational cycle leading to more performing results and a more decisive competitive advantage. While trust among people or groups is grounded on reciprocal confidence, knowledge, affection, and fondness, the concept of trust in the virtual world is more connected with data and cyber security and technology or the eventual relationship with solid and famous partners. For instance, in e-commerce, online customers do trust big operators, like Amazon or PayPal, while they may be reluctant to buy from (even nice-looking) web portals that do not have any previous ratings or reviews. Therefore, firms willing to sell online would better have or show a profile also on premier online retailers like Amazon or rely as a payment method on PayPal, which guarantees the customers against frauds or illicit use.

Moreover, as stated before, people are more likely to trust official rankings and reviews than what a business entity shows through its official channels (like pictures, websites, leaflets, or product descriptions). Customers’ reviews are perceived to be more genuine than sophisticated marketing tools employed by firms, especially when data are vast. Mass reviews drive customers’ choices more than what a company wishes to express. That is why several companies (like Amazon, Ali Baba, Shein, or hotel chains like Marriott or Hilton) have decided to include transparent customer reviews in their e-commerce portals. Products with poor or low satisfaction measured through reviews would be obscured or end up at the bottom of the page, as fewer people will likely buy those items. Top-rated goods

will, on the contrary, see an increase in their public visibility, as customers love them.

All in all, the concept of trust is less linked to someone’s features and more connected with this someone’s cyber security and online reputation, also measured through customers’ independent assessment.

4 An Example of a Relational Matrix

Our narrative review has underlined the features of the new virtual relations that can be beneficial to an organization to boost its business and enhance its competitive advantage.

The following Table 1 reports a possible relational matrix with some of the virtual relations that can be identified according to the current technological, economic, and social scenario.

Table 1 A map of virtual relations

		Intensity of the relation	
		Permanent	Temporary
Type of relation	Formal	The use of certified e-mail services for the relationships with public agencies The use of certified e-mail services for the official relationships with other businesses (e.g. clients, suppliers, other business partners, . . .) The use of e-signature to sign contracts with multiple parties The use of digital tools for e-booking The use of e-commerce platforms, both managed by the company and using third parties firms (like Amazon)	The use of chatbots for customer service The use of online messages to respond to customers’ queries The use of crowdfunding portals to collect funds for new investments or initiatives The use of portals to invest in cryptocurrencies . . .
	Informal	The use of social media to promote the company’s products and services The use of simulations or prototypes for clients The creation of avatars or virtual places to engage clients in the Metaverse . . .	The use of web scraping tools to map customers’ satisfaction The use of social media to engage leads and keep the company’s reputation high The use of live streaming, webinars, or Metaverse events to engage new and existing customers . . .

Source: Authors

5 Conclusions and Future Research Avenues Concerning a CAOS 4.0 or MetaCAOS Model

In concluding our chapter, we should recall the premises that inspired it. The current business scenario sees the importance of virtual relations as a relevant part of an organization's relational and intellectual capital, especially to thrive in the post-pandemic tough business times.

Our narrative review of the literature has found some new trends and features when it comes to virtual relations. There is the need to use sound framework models that can be considered as "4.0" or "Meta", just to mention two of the megatrends (the technological shift brought by the fourth industrial revolution and the fascinating ambience of the Metaverse). The CAOS model by Paoloni (P. Paoloni 2011, 2021) and the relational bonds among its factors stand as a promising framework to expand the topic of virtual relations, their assessment, and management, leading to a "CAOS 4.0" or "MetaCAOS".

Empirical studies are needed to explore the topic further and translate it into promising research and practice implications.

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Gender Equality in Italian Non-Listed Banks: A Step Forward, but There Is Still a Long Way to Go



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Abstract The underrepresentation of women in power positions means they are not part of shaping the decisions that affect the future of their lives. In the corporate governance sector, gender discrimination still seems far from being eliminated, despite the numerous regulatory interventions that have been recorded in recent years.

In 2021, Banca d'Italia updated the circular n. 285/2013 concerning the corporate governance of banks, introducing the prescription of a minimum gender quota both in the boards of directors and in the boards of statutory auditors also for non-listed banks.

How do these innovations fit with the existing Italian regulatory framework? And what could be the likely effects that these rules will have on the corporate governance of Italian banks?

This research seeks to answer these questions, trying to contextualize the results achieved in comparison with the most relevant issues the literature has found on the relationship between gender equality and corporate governance.

As we will see, even if the Banca d'Italia's regulatory intervention seems to be able to produce positive results, it could be not enough to eliminate the unjustified disparities between men and women in corporate governance of Italian non-listed banks.

Keywords Corporate governance · Finance sector · Women · Inclusive leadership · Gender studies

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1 Introduction

Gender equality and corporate governance have become a hot topic in literature since, worldwide, over the last few years, there have been several regulatory interventions to fight the underrepresentation of women in power positions. Among the reasons why we have witnessed this regulatory production aimed at eliminating gender disparities in corporate governance, there are at least two that seem to be unanimously shared.

The first is based on the fact that the presence of women on the boards of companies, if significant, improves the quality of management's decision-making processes.

The second relies on a need for social and legal justice, which becomes a fundamental principle shared by nations and international organizations¹: to eliminate unjustified obstacles to gender equality between men and women.

In such context, in Italy in 2011, Golfo–Mosca Law introduced specific mandatory provisions in terms of gender equality in corporate governance of listed companies and companies under public control (Calvosa and Rossi 2013; Desana 2015; Capone 2020).

Ten years later, Banca d'Italia updated the circular n. 285/2013 concerning the corporate governance of banks, introducing the prescription of a minimum gender quota both in the boards of directors and of statutory auditors also for non-listed banks.

This is a regulatory novelty of absolute interest in the Italian legal system, resulting in an extension of Italian companies that will be called upon to comply with rules on gender equality.

The purpose of this paper is to (RQ1) analyze the aforementioned recent innovations Banca d'Italia introduced in the corporate governance of Italian non-listed banks. To fully understand the scope, we will try to contextualize the provisions contained in circular n. 285/2013 within the existing Italian regulatory context.

Under another profile (RQ2), we will also try to explain what effects these innovations could be able to produce on the corporate governance of unlisted banks, trying to find possible correlations between these outcomes and the most relevant issues the literature has identified on gender equality in corporate governance.

As far as it is known, the paper represents one of the first attempts to analyze the innovations introduced by Banca d'Italia hypothesizing also the possible future consequences of their application.

The major implication of the paper is to advance knowledge in the area of gender equality in corporate governance by focusing on both theoretical and empirical results.

¹See for example Goal n. 5 of the 2030 Agenda for Sustainable Development adopted by the United Nations in 2015.

Relevant evidence of the paper is related to a better understanding of the most important issues that in the future will probably have to be addressed to eliminate gender disparities in corporate governance sector.

The paper is structured as follows. After a brief description of the methodology in Sects. 2 and 3 illustrates the most pertinent results that the literature has so far produced regarding the topics covered by the research. Section 4 is dedicated to an in-depth analysis of the Italian regulatory framework, while Sect. 5 contains a structured analysis of the innovations introduced by Banca d'Italia. Finally, Sect. 6 identifies the future implications that these innovations could produce and in Sect. 7, the conclusions to which this research has led are illustrated.

2 Methodology

To answer the research questions, a study on three different levels was conducted:

1. literature review about gender equality in corporate governance
2. analysis of the Italian regulatory framework on gender diversity in corporate governance
3. analysis of the new Banca d'Italia circular n. 285/2013 innovative provisions about gender equality in corporate governance of non-listed banks.

To answer RQ1, Qualitative Legal Research was done (McConville 2017; Berring 1987) and more precisely a Doctrinal Research (Hutchinson and Duncan 2012), whose aim is to examine a body of law, not only through textual analysis but by trying also to contextualize it in the legal and social system.

RQ2, on the other hand, has required a deductive process: starting from empirical evidence the research tries to formulate hypothesis on future events, not completely predictable by now, linked to the application of a set of rules. This Method, known also as Empirical Legal Research (Epstein and King 2002), reflects a certain amount of approximation, which has to be intended as a positive value of legal research whose purpose does not tend to certainty, but to the dialogue and confrontation (Terranova 2015).

3 Literature Review

Recently scholars have broadly focused their attention on the impact of gender diversity on corporate governance. This line of research has been developed thanks to the increasingly widespread awareness of a strong disparity between men and women in terms of participation in company boards. In fact, since the end of the 90s, studies have consistently highlighted the worldwide scarce presence of female directors (Provasi and Harasheh 2021).

There have been many approaches that scholars adopted to study the relationship between corporate governance and gender equality.

The most consistent pattern seems to be the one that tries to quantify the impact of gender equality on business results. However, the extreme heterogeneity of these analyses, due to the different ways of evaluating the business results used by scholars, leads to conflicting outcomes (Capone 2020).

It seems more solid the strand according to which gender equality on boards would improve the company's decision-making processes, as well as the effectiveness of monitoring mechanisms (Adams and Ferreira 2009).

In this regard, many researchers found that the presence of women on boards produces positive effects only when it is relevant (critical mass effect) (Torchia et al. 2011). More specifically, recent research carried out on Italian listed companies identifies the critical threshold of 20% (Bruno et al. 2018).

Such results seem to be confirmed also by specific studies carried out on the banking sector.

A research conducted on 83 European banks highlighted that a minimum of 14% of gender diversity can contribute to significant improvement of social justice and positive structural change in the bank's organization (Proença et al. 2020).

Farag and Mallin (2017), using a sample of 99 European banks, found out that beyond the critical mass of 18–21% of women in directors and supervisory boards, the bank's insolvency risk decreases.

These figures seem to be corroborated also with reference to national banking sectors. Indeed, it has been pointed out that in Croatia when a critical mass over 20% of women on the board is reached, banks' performance improves (Kramaric and Miletic 2017).

In terms of legal perspective, the literature identifies two different models currently coexisting in Europe to achieve gender balance on company boards and supervisory bodies (De Cesare 2021; Garilli 2012):

- (a) Voluntary initiatives taken by the market players themselves (the so-called soft law), which can vary from the recommendations of regulatory authorities, to self-regulatory codes, as well as the adoption of best practices;
- (b) Regulatory measures (the so-called hard law), distinguished according to the nature and size of the companies to which they are addressed, the content of the objectives or obligations envisaged as well as the provision or not of a sanctioning or rewarding system and its characteristics.

In Europe, the choice between the hard- and soft-law models now seems in favor of the first solution, although there are still systems that rely on voluntary implementation, even though the recommendation model has achieved less positive results (EU Commission 2016).

Therefore, it is no coincidence that literature feels the strong need for regulatory intervention by the European Union, still firm to the proposal for a Directive presented in 2012, to harmonize the regime of measures to eliminate gender discrimination in corporate governance (Callegari 2021).

Besides this, although hard-law measures seem to be more successful, it must also be considered that these to date tend exclusively to impose a minimum quota of the less represented gender on the boards, without however providing any kind of measure regarding what can be defined as the *career glass ceiling effect*, according to which women once inside the boards would encounter invisible obstacles in reaching the apical and executive roles, still in the exclusive preserve of men (Solimene et al. 2017; De Vita and Magliocco 2018; Pastore et al. 2017; Adams and Funk 2012).

4 Analysis of the Italian Regulatory Framework

In Italy, Law n. 120/2011 “Golfo-Mosca Law” established for the first time rules that fostered the presence of women as directors and statutory auditors in listed companies and companies under public control administration boards through the imposition of mandatory gender quotas. Hard-law rules that, like the Golfo–Mosca Law, pursue the goal of ending unjustified gender discrimination are known as affirmative actions (Desana 2015).

The constitutional basis for affirmative actions lies in Article 3, paragraph 2, of the Italian Constitution, which justifies and encourages the promotion of actions aimed at achieving effective equality between gender. In the European context, similar principles can be deduced from Article 23 of the Charter of Fundamental Rights of the European Union, according to which equality between men and women is a priority objective in all fields, and in particular in the field of employment, work, and pay, with the specification that such principle does not preclude the adoption of measures providing for specific advantages in favor of the underrepresented gender (Amadeo 2013). In this perspective, the legitimacy of positive actions has been repeatedly stated also by the Court of Justice of the European Union, provided that they are proportionate to the objective, without counter-discriminating the other gender.²

Having the Italian Parliament taken note of the situation of chronic inequality in the representation of genders in the corporate governance boards, the purpose of the introduction of the Golfo–Mosca Law was to rebalance access in favor of women to apical position in (1) listed companies and (2) companies under public control.

The Law, therefore, limited the borders of this regulation to two categories of companies.

It was observed that the imposition only on listed companies and on companies under public control of gender-equality mandatory rules was not a limit of Golfo–Mosca Law. According to the literature, this choice would have corresponded to the

²Case C-450/93, Judgment of the Court of 17 October 1995; Case C-409-95, Judgment of the Court of 11 November 1997; Case C-158/97, Judgment of the Court of 28 March 2000; Case C-407/98, Judgment of the Court of 6 July 2000.

primary need to impact the representation of women on boards in those organizations with a wider circle of stakeholders. Moreover, it was believed that the adaptation of listed and public companies to the rules of Golfo–Mosca Law would have subsequently determined a “waterfall” effect on the entire Italian entrepreneurship, leading to a spontaneous improvement of gender equality in corporate governance (Calvosa and Rossi 2013).

However, as will be argued below, these expected effects did not occur.

Therefore, the discipline on gender balance for both listed companies and those under public control has the same origin, the Golfo–Mosca Law. However, it is necessary to underline that over time there has been a stratification of regulatory interventions that consistently diversified the rules applicable to the two categories of companies.

Below we will then reconstruct the regulatory framework for both listed companies and those under public control.

4.1 *Listed Companies*

The set of rules for listed companies is currently contained in articles 147-ter, 147-quarter, and 148 of Italian Consolidated Law on Finance ³ (hereinafter also ICLF), whose contents are the result of the innovations introduced at the time by the Golfo–Mosca Law and, more recently, by Legislative Decree 160/2019 which strengthened the measures to protect the less represented gender.

Article 147-ter ICLF imposed to listed companies, as a general principle, to adapt their statute to assure gender balance among the directors.

Then, it is also specified a minimum quota to be respected: the least represented gender must have at least two-fifths of the elected directors. ⁴ The same provisions also apply to the effective members of statutory auditors (art. 148 ICLF). If the two-tier model is adopted, the listed company is required to comply with the requirements imposed by Golfo–Mosca Law in the composition both of the management board and the supervisory board. In the case of one-tier model, an exemption is provided for the management control committee, due to the circumstance that it constitutes an internal articulation of the board of directors which already underlies to Golfo–Mosca rules (Musumeci 2015).

Regarding the sanctioning regime, a prominent role is entrusted to the Italian listed-companies supervisory Authority, Consob. Specifically, a three-levels based mechanism is fixed.

³Legislative Decree n. 58/1998.

⁴Originally, with Golfo–Mosca Law the quota reserved in listed companies’ boards for the least represented gender was one-third and it has been further strengthened to two-fifths by Legislative Decree n. 160/2019.

Firstly, if a company does not comply with the requirements imposed by the law, Consob must send a warning to the company with the order to adapt within the term of four months. Then, in the absence of spontaneous fulfillment, the Authority initiates the sanctioning procedure, which ends with the imposition of a pecuniary penalty within the limits provided for by Golfo–Mosca Law (from € 100,000 to € 1,000,000 for irregularities concerning the administrative body, from 20,000 to 200,000 for irregularities of the supervisory body), setting a further three months term to remedy the irregularity. If the company does not comply with such provisions, the third stage of the sanctioning regime imposes the forfeiture of the administrative or supervisory body within which gender equality is not respected.

Another feature of gender-equality regulation in listed companies lies in the temporary nature of the rules introduced. Originally, Golfo–Mosca Law imposed their application only to the subsequent three renewals of the administrative and supervisory bodies of listed companies.

However, also because according to Consob in 2020, the three mandates term would have expired for about 37% of listed companies, Legislative Decree 160/2019 extended the validity of the rules introduced by Golfo–Mosca Law to six mandates.

4.2 Companies Under Public Control

Article 3 of Golfo–Mosca Law extends gender quotas also to non-listed companies controlled by public administration. To date, after the first implementing regulation by Presidential Decree n. 251/2012, gender equality in the corporate governance of companies under public control is also entrusted to Legislative Decree n. 175/2016 “Testo Unico delle Società Partecipate” (hereinafter also TUSP).

Specifically, article 11.4 of TUSP imposes on public administrations to respect the principle of gender balance, which is concretely configured in the duty to appoint at least one-third of the directors belonging to the less represented gender compared to the total appointments made during the year. Furthermore, if the company under public control appoints a board of directors rather than a sole director, the statute must provide that the choice between the directors is made in compliance with the principles expressed by the Golfo–Mosca Law, which means at least one-third of the elected directors must belong to the least represented gender.

It can be noted that in the public sector the principle of gender balance has been significantly strengthened, having to be respected not only in the composition of administrative bodies but also in the total annual number of appointments made by public administrations. On the other hand, the regulatory framework dedicated to companies under public control provides for a softer monitoring and sanctioning regime than what is expressed by the Golfo–Mosca law for listed companies.

In particular, Presidential Decree n. 251/2012 assigns the supervision for the compliance of gender-equality rules to a political organ: the Prime Minister or the Minister delegated for equal opportunities. Unlike what is provided for listed

companies where Consob, the supervisory authority is granted an active role, a mechanism focused on self-reporting is provided for those subject to public control.

The company itself has to communicate to the supervisory authority the lack of gender balance on its boards. Then, having ascertained the non-compliance with the quota system, the supervisory authority warns the company to restore gender balance within sixty days. In the event of non-compliance, a new period of sixty days must be set to comply, with the warning that, once this has also passed in vain, the components of the affected organ decay.

However, there are no coercive or sanctioning instruments if the company does not make the communication. Moreover, neither Presidential Decree n. 251/2012 nor TUSP provides the possibility of imposing pecuniary penalties on companies that do not respect gender balance, and this potentially leads to a lower degree of efficiency of both monitoring and sanctioning legal framework. A correction to such weakness could be partially found in the circumstance that the report to the supervisory authority can be made by anyone who has an interest in it, therefore also by subjects external to the company and the public entity that controls it.

Contrary to the provisions for listed companies, TUSP does not identify a temporary limit to the application of corporate governance gender-equality rules, which can reasonably be interpreted as that in the context of companies under public control the quota system has to be considered definitive (Cuccu 2019).

5 Banca d'Italia Fosters Gender Equality Also in Non-Listed Banks

In this context, Banca d'Italia, the Italian Central Bank member of the European System of Central Banks, updated circular n. 285/2013 in June 2021, introducing significant innovations in terms of inclusive corporate governance in the banking sector.

It should be noted that Banca d'Italia, as the Supervisory Authority of Italian banks, is assigned the role of issuing general provisions regarding corporate governance, administrative, accounting, and external controls of supervised entities (Mattarella 1996). Circular n. 285/2013 represents the most relevant regulatory source with which Banca d'Italia exercises its power of Regulatory Supervision—“-Vigilanza regolamentare”—over the corporate governance of banks according to art. 53 of Italian Consolidated Law on Banking (hereinafter also ICLB).⁵

Section IV of the June 2021 update contains extremely interesting provisions in the composition and appointment of corporate bodies in Italian banks. Such Section IV is divided into two parts: (1) General Principles and (2) Application Guidelines.

⁵Legislative Decree n. 385/1993.

More in detail, among the General Principles, Banca d'Italia specifies that under a qualitative perspective the correct performance of the functions of the bank's supervisory, management, and control bodies requires the presence of members with appropriately diversified skills. According to Banca d'Italia, this diversification helps to ensure effective risk governance in all areas of the bank.

The concept of diversification is further explored by the Authority, specifying that “an adequate degree of diversification, also in terms of age, gender, and geographical origin, favors the plurality of approaches and perspectives in the analysis of problems and in the decision-making, avoiding the risk of behaviors of mere alignment with prevailing positions, inside or outside the bank” (Banca d'Italia 2021).

In the Application Guidelines, Banca d'Italia takes care to indicate the minimum objectives that must be pursued by the banks.

Indeed, article 2.1 letter b. specifies that, concerning gender diversity, in the board of directors, as well as in the board of statutory auditors, the number of members of the least represented gender is at least one-third.

Banca d'Italia considered that introducing the 40% threshold currently in force for listed companies would have not met the principles of proportionality.

The choice seems undoubtedly acceptable, considering that in 2019, the percentage of women directors in unlisted banks was 15.1%. Therefore, the introduction of the 33% threshold is a more reasonable objective for the near future. This approach must also be shared because it is fully consistent with the principles expressed by the Court of Justice of the European Union on affirmative actions, which are legitimate as long as they tend to gradually eliminate gender discrimination and without imposing disproportionate limits to the autonomy of entrepreneurial management.

As provided also for companies listed by Golfo–Mosca Law, if the bank adopts a dual-tier model it is specified that the quota system has to be fulfilled in the composition both of the management board and the supervisory board, while in the case of a one-tier model adoption reference is made to the board of directors as a whole, without considering the management control committee, that constitutes an internal articulation of the first.

The quota system is mandatory only regarding the composition of the bodies of the banks that exercise the function of strategic supervision or control.

This means that bodies with operative functions, such as the CEO, are excluded.

However, with specific regard to this last aspect, circular n. 285/2013 provides three general rules of best practice, therefore not binding for banks:

1. In all endo-board committees there should be at least a member of the least represented gender
2. The positions of chairman of the administrative body, of the supervisory body, the role of chief executive officer, and general manager should not be held by persons of the same gender
3. For banks adopting a one-tier model, also the composition of the management control committee should respect the quota system.

To allow banks sufficient time to adapt their bodies to the new rules, Banca d'Italia has provided that the gender quota must be reached on the first full renewal of the body, and in any case by 30 June 2024.

The rules for smaller banks are partially different.⁶

In this case, the adjustment must be ensured gradually to the extent of at least 20% of the members of the body no later than the first full renewal, and in any case by 30 June 2024; for subsequent renewals, and in any case, no later than 30 June 2027, the 33% quota also applies to smaller banks.

During the preliminary public consultation, Assopopolari (National Association of “Banche popolari”) had expressed strong disagreement regarding the extension of the mandatory quota also for smaller banks, arguing that such institutions have a stronger territorial vocation. Therefore, the effectiveness of the administrative body depends almost exclusively on whether the director knows the local economy.⁷

These considerations cannot be shared from a legal point of view.

The introduction of the gender quota responds to a precise need of constitutional relevance, which is to eliminate gender discrimination, that cannot succumb to the needs of appointing directors with deep knowledge of the territory.

The composition of an administrative body with specific knowledge of the economic background in which the bank operates can perfectly coexist with the introduction of the compulsory quota system.

Indeed, its introduction could significantly favor diversification within the bodies of banks “with a territorial vocation,” traditionally more reluctant to implement renewal processes. And besides, this type of criticism still shows a strong reluctance of Italian entrepreneurs to accept a management model oriented toward pluralism in corporate boards.

Circular n. 285/2013 does not mention any sanctioning instruments if banks do not comply with the rules on gender equality. It is undoubtful that sanctions in this field constitute a serious deterrent for conduct contrary to gender-equality rules and it has been seen that in Italy for listed companies the sanctioning regime is also quite severe, providing for the imposition of a monetary penalty and also the possible forfeiture of the body within which the gender quota is not respected.

In the explanatory report released by Banca d'Italia concerning the updated version of circular n. 285/2013, it is specified that failure by banks to comply with the gender quota imposed does not entail the forfeiture of the administrative or control body (Banca d'Italia 2021).

However, it is also stated that the gender quota is a provision that must be respected and its violation may therefore result in the imposition of administrative sanctions provided for by the ICLB.

⁶Defined by circular n. 285/2013 as those banks with the average amount of assets in the previous four years equal to or less than 5 billion euros.

⁷See Assopopolari “Osservazioni al documento di consultazione della Banca d'Italia”, February 2021 at the following link <https://www.bancaditalia.it/compiti/vigilanza/normativa/consultazioni/2020/cons-rev-pol-gov/ASSOPOPOLARI.pdf>.

On this point, it can therefore be assumed that in case of violation of the rules protecting gender equality, art. 144 of the ICLB could apply, providing that in case of non-compliance with the provisions issued on Regulatory Supervision, such as circular n. 285/2013, a pecuniary administrative penalty from € 30,000 up to 10% of turnover is foreseen for the banks.

6 Future Implications

In light of the analysis conducted on the innovations recently introduced by Banca d'Italia, it can be said that circular n. 285/2013 contains both hard-law tools, based essentially on the introduction of a mandatory gender quota, and soft-law recommendations for the banks to pursue a more inclusive corporate governance.

Based on such consideration, it cannot be argued that the rules introduced by Banca d'Italia are consistent with the regulatory framework already introduced for listed companies and those under public control since Golfo–Mosca Law.

This, therefore, allows questioning what outcomes the new circular n. 285/2013 could produce on the governance of non-listed banks, with particular reference to two main issues that at the moment the literature identifies in the field of gender equality in corporate governance:

- (a) Only beyond a threshold the presence of women on boards increases the quality of governance (critical mass effect)
- (b) Once on boards, women still encounter serious difficulties in assuming executive roles (ceiling glass effect).

To try to provide hypotheses, it has been analyzed the quantitative impact of the gender quota introduced by Golfo–Mosca Law in the period from 2014 to 2019 on the composition of the boards of directors of listed companies and companies under public control, also extrapolating the evidence emerging from the banking sector (Fig. 1), which in fact before the new circular n. 285/2013 was divided between (1) listed banks, which had to complain to Golfo–Mosca Law, and (2) non-listed banks, which had no legal constraints on gender equality matters.

It emerges that the mandatory provision of a gender quota significantly increases the percentage of women on boards of directors of listed companies, companies under public control, and listed banks (from $\approx 7\%$ to almost 37%).

On the other hand, in non-listed banks the percentage improved much more slowly, due to the lack of a legally binding obligation.

This seems to show that diversity on board is not pursued by Italian banks unless they are obliged by law. In other words, the data show that the mandatory quota seems to be necessary in Italy to eliminate gender inequality on boards. Therefore, It is reasonable to expect that in the coming years there will be an increase in women on the boards of unlisted banks with a trend similar to that recorded for companies already subject to the Golfo–Mosca Law.

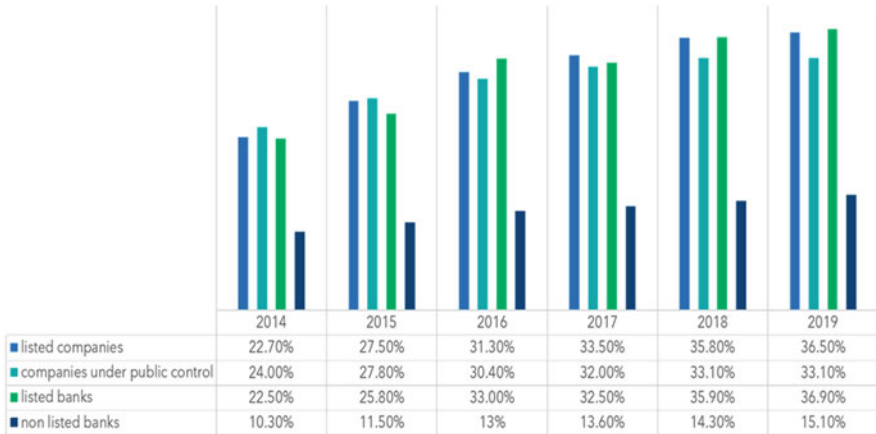


Fig. 1 Percentage of female directors. Source: Authors (This comparison has been made extrapolating the data reported by Banca d’Italia in “L’introduzione delle quote di genere nelle disposizioni sul Governo societario delle banche e dei gruppi bancari” (2020))



Fig. 2 Percentage of roles held by women directors in listed companies. Source: Authors (This comparison has been made extrapolating the data reported by Consob in “Report on corporate governance of Italian listed companies” (2021))

Moreover, considering that the literature believes that the critical mass to be exceeded so that the presence of the least represented gender produces positive effects is at least 20%, the 33% gender quota introduced by circular n. 285/2013 will allow even unlisted banks to overcome this threshold.

From another perspective, it is possible to question whether the regulatory innovations introduced by Banca d’Italia could produce positive effects not only “numerically” but also “qualitatively” in terms of positions held by women on the board of directors, even without imposing a specific obligation for the banks.

In this regard, the role held by women on the boards of directors of listed companies in the years 2019–2021 was analyzed (Fig. 2).

The data are rather disappointing, considering that in the three years analyzed the role of CEO has been held by less than 3% of women directors of listed companies, and the role of chairman of the board by less than 4%, showing that the introduction

of a mandatory gender quota only improves the number of women appointed to the boards.

This represents a clear example of the glass ceiling effect on the progression of women's careers on the boards and, consequently, means that in Italy the corporate governance sector does not open up to diversity and gender equality autonomously and without regulatory constraint.

Therefore, it is reasonable to believe that the innovations introduced by Banca d'Italia, providing only recommendations to banks to ensure gender diversity in top management positions, will not lead to breaking this glass ceiling and will not lead to a substantial and spontaneous improvement of the roles held by women in the board of directors.

7 Conclusions

The research aimed to analyze the innovations recently introduced by Banca d'Italia that pursue gender equality in the corporate governance of unlisted Italian banks, also trying to contextualize a) these rules in the already existing Italian regulatory context and, more generally, b) their possible impact compared to what are currently the most important issues in pursuing gender equality in corporate governance according to literature.

The innovations introduced by Banca d'Italia essentially aim at two different goals:

1. Introduction of mandatory gender quotas also in unlisted banks: at least one-third of the least represented gender has to sit on the board
2. Introduction, as a general principle, of the purpose of inclusive corporate governance to enhance diversification in the administrative and control bodies of banks.

The ten-year application of the Golfo–Mosca Law suggests that inclusive leadership is far from being rooted in Italy, especially if there is no regulatory obligation.

For this reason, it is likely believed that thanks to the novelties introduced by circular n. 285/2013, there will be an increase in the number of women on the boards of both directors and statutory auditors of unlisted banks in the coming years.

In this respect, it is certainly positive that the one-third gender quota introduced by Banca d'Italia will allow the presence of the least represented gender beyond the threshold of the critical mass recognized by the literature.

On the other hand, it is more challenging to hypothesize that Banca d'Italia's intervention would significantly improve the roles held by women on the boards of directors, where a stringent regulatory constraint is probably necessary to finally break the still resistant glass ceiling, and this will undoubtedly be the most complex future challenge that policymakers will have to face shortly.

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Women Directors and Strategic Disclosure



Emmadonata Carbone, Sara Saggese, Fabrizia Sarto, and Giulia Fiorillo

Abstract The article focuses on the implications of women directors for strategic disclosure by exploring their influence on the quality of business plan in terms of information comprehensiveness. To this aim, by using hand-collected data and combining content analysis with OLS regression, it examines a sample of publicly listed non-financial Italian firms. Findings show that, while the presence of a critical mass of women on board negatively influences the quality of business plan, women CFOs positively affect such strategic planning tool. Therefore, by showing that women directors influence the quality of one of the most effective strategic planning and communication tools, the study extends the research on the role of women for the strategic decision-making process and outcomes. It also enriches the literature on the determinants of the business plan and strategic disclosure by exploring how women directors prompt the related quality. Following the recent increasing attention of policy-makers towards the necessity to foster the women’s involvement in company activity that has been also strongly pushed by the socio-economical COVID-19 consequences, the article informs firms and practitioners about the beneficial implications of appointing women in apical positions for the level of company strategic disclosure quality.

Keywords Women · Board of directors · Strategic disclosure

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1 Introduction

The debate on the importance of female representation in apical position has significantly grown in recent years, involving both scholars and practitioners (Bruna et al. 2021; Lewellyn and Muller-Kahle 2020; Saggese et al. 2021). In this regard, multiple regulatory interventions (e.g. policies specifying gender quotas) have been introduced to increase the firm's gender diversity (Sojo et al. 2016), and women have started to break the "glass ceiling" reaching managerial positions previously considered as men's prerogative (Bruna et al. 2019; Lewellyn and Muller-Kahle 2020; Tyrowicz et al. 2020).

Despite these circumstances, there are still many steps to take in order to overcome gender inequality (e.g. gender pay gap; Cook et al. 2021, and gender segregation; Hakim 2006) that has been also exacerbated by the effects of COVID-19 pandemic on work and daily life (Feng and Savani 2020). Currently, the women's talents remain underestimated (and underused), female on board of directors remain an exception (Broadbridge and Simpson 2011), and the debate about the female's contribution to firm's outcomes is still open (Elmagrhi et al. 2019; Pangestu et al. 2019).

In this regard, literature points out that women on board and top management team positions provide a significant contribution to the business. Among the others, several previous articles have explored the relationship between board gender diversity and reporting process, by usually focusing on the mandatory reporting practices (e.g., Alfraih 2016). For instance, Krishnan and Parsons (2008) document that the appointment of women on top management positions increases the level of earnings quality. Similarly, Gul et al. (2011) report that gender diversity on audit committee reduces the adoption of earnings management practices in the financial statements. In the same vein, Ho et al. (2015) and Arun et al. (2015) find that women directors are more likely to implement conservative accounting policies.

However, when turning the attention to the voluntary disclosure, the existing research on the connection with gender diversity is more inconclusive (Nadeem 2020; Tingbani et al. 2020; Bueno et al. 2018), especially for what concerns the strategic and financial forward looking disclosure (Kılıç and Kuzey 2018). This kind of disclosure includes both future financial projections and strategic plan items related to the firm (Padia and Yasseen 2011; Santema et al. 2005), representing a useful tool for external stakeholders to make decisions about the company (Chung et al. 2017) and even for company to create value and reduce the information risk (Graham 2005).

Going back to the woman's contribution to such kind of disclosure, there are a number of reasons to believe that female directors could matter for the forward looking information level of quality. This is true from the agency theory, as gender diversity could increase the board oversight over managerial reporting decisions, fostering the adoption of high-quality standards (Harjoto et al. 2015; Srinidhi et al. 2011). However, it is true also from resource dependence theory. Indeed, women directors encourage the board discussion and problem-solving attitude (Huse and

Solberg 2006; Konrad and Kramer 2006), enhancing the strategic planning (Daily and Dalton 2003; Hillman et al. 2002) and the related disclosure. From a different standpoint, as women are more conservative and risk adverse (Sila et al. 2016), they are more likely to promote the strategic planning processes as well as increase the quality and quantity of forward-looking information disclosure in order to signal their jobs to the market (Harjoto et al. 2015).

Considering these arguments, the aim of our study is to explore the effect of women directors on the level of strategic disclosure, proxied by the quality of the business plan, as one of the most relevant tools of the strategic planning and control system at the company disposal.

To achieve our research aim, we employ hand-collected data from multiple sources (i.e. business plans, financial, social, and governance reports, AIDA database) by relying on 138 publicly listed non-financial Italian firms.

To test our prediction, we run the OLS multivariate regression analyses. We consider the quality of business plan in terms of information comprehensiveness as dependent variable, and we also control for several factors that previous research has found to affect the relationship under examination. Moreover, to appreciate the quality of the document, we perform a content analysis of published business plans. In particular, by relying on both practical and theoretical recommendations for the redaction of a business plan (e.g. Brusa 2016), and also following previous studies on strategic disclosure (e.g. Hassan and Lahyani 2020), we catch the presence/lack of a number of relevant sections within the analysed documents through dummy variables and create a score to measure the overall quality of the business plan.

2 Literature Review and Theoretical Background

Over the last decades, literature has extensively examined the role played by voluntary forward-looking disclosure as a relevant instrument in the capital markets. This kind of information could include not only future projections about company financial items, but also future strategy and forward-looking action plans (Padia and Yasseen 2011; Santema et al. 2005). Forward-looking disclosure is usually employed by companies to distinguish themselves from their competitors as well as to share and interact with their stakeholders (Santema and Van De Rijt 2001). This disclosure is considered especially crucial not only to firm's external constituents (i.e. customers, investors, regulators, media) as able to drive their overall decisions (Healy and Palepu 2001; Chung et al. 2017; Kılıç and Kuzey 2018), but also to the firm in order to create value (Garanina and Dumay 2017). Indeed, knowing future strategies and objectives increases the investors' capability to assess future cash flows as well as to estimate future earnings (Hassanein and Elsayed 2021; Hussainey and Walker 2009). At the same time, sharing such kind of information with the external environment allows company to foster the analysts' forecasts accuracy and to reduce the information risk (Graham 2005).

In this regard, when studying the antecedents of such kind of disclosure, the influence of corporate governance has widely appeared on the researchers' agenda. Literature has pointed out that the voluntary disclosure and firm governance play as complementary mechanisms to solve the agency problems. At the same time, it has also highlighted that when corporate governance good practices increase, an improvement of the firm voluntary disclosure can be observed (Abad and Bravo 2018; Cerbioni and Parbonetti 2007). In this regard, by performing a cross countries study, Santema et al. (2005) document that disparities in the level of strategic forward looking disclosure among European countries appear to be the outcome of national-level differences in terms of corporate governance systems and practices. In the light of agency and signalling theories, studies reveal that good governance practices are likely to reduce the information asymmetry between insiders and outsiders, thus increasing the level and quality of such information (Hossain and Reaz 2007; Karamanou and Vafeas 2005). Therefore, grounding on this argument, a number of empirical studies have tried to shed light into the firm's corporate governance structure representing the main significant predictors of forward-looking information, above all in terms of board's structure and composition. For instance, Hashim et al. (2014) and Wang and Hussainey (2013) find that the board size positively influences the levels of strategic forward looking information. At the same time, O'Sullivan et al. (2008) document that the presence of board committees fosters the degree of this kind of disclosure. Additionally, Hussainey and Al-Najjar (2011) and Lim et al. (2007) show a positive relationship between board independence and forward-looking disclosure.

Notwithstanding such literature, less attention has been devoted to the role played for the level of forward-looking information by women directors on top management position (Bravo and Alcaide-Ruiz 2019). Despite this, there are many reasons to believe that women directors matter for the level of quality of such disclosed information.

First of all, following the agency theory, women directors might foster the board monitoring function as they support good governance practices and tend to limit the information asymmetries (Gul et al. 2013; Labelle et al. 2015). Indeed, as women are more trustworthy and assume more ethical behaviours, they are less likely to manipulate corporate information, while favouring the adoption of high-quality standards in company reporting (Harjoto et al. 2015) and displaying better reporting discipline (Srinidhi et al. 2011). Moreover, following the resource dependence theory, gender diversity might enhance the execution of the board strategic role as it increases the board decision-making process (Saggese et al. 2021). Indeed, thanks to their unique cognitive schema, values, skills, educational and professional background, female board members promote broad-mindedness by stimulating divergent thinking and fostering the board's problem-solving attitude (Huse and Solberg 2006; Konrad and Kramer 2006). As a result, they provide the boardroom with alternative perspectives, thus increasing the board discussion, enhancing the strategy formulation and setting (Daily and Dalton 2003; Hillman et al. 2002), as well as improving the related forward-looking disclosure. From a different point of view, by fostering more participative communication within the board, gender diversity might also

improve the firm's ability to manage the external stakeholders' needs, and therefore those related to the procurement of forward-looking information from the company (Harjoto et al. 2015; Kılıç and Kuzey 2018).

Aside the positive implications of gender diversity for board strategy promotion and formulation, there are also unique characteristics that make women managers able to influence the strategic planning and therefore the forward-looking disclosure. In particular, the women's personal characteristics, such as higher risk aversion and propensity to ethical behaviours, have the potential to influence the firm's strategic planning and the related outcomes (e.g. the forward looking action plans). Indeed, since women are more conservative and risk adverse (Sila et al. 2016), their presence on top management team might increase the likelihood to implement the strategic planning processes to avoid unexpected events and limit wrong decisions. Moreover, since women are less tolerant to ethical lapses (Eagly et al. 2004) and present a low inclination to fraud (Vermeir and Van Kenhove 2008), they are more prone to provide a comprehensive disclosure also in terms of strategic plans and objectives by drafting the business plan. Finally, also in line with the signalling theory, as women directors, due to their status, are more sensitive to the fear of being fired compared to their male peers, they are more likely to increase the quality and quantity of forward-looking disclosure to signal to the market their jobs (Harjoto et al. 2015). Hence, based on these arguments, it is reasonable to predict that the presence of women on board and top management positions might positively influence the level of strategic disclosure.

With this in mind, the following section illustrates the methodology applied to test the predicted relationships.

3 Research Method and Results

Our study is based upon a hand-collected data set of 138 listed Italian firms. The sample was selected starting from all publicly listed non-financial companies on the Italian Stock Exchange at the end of 2019 (i.e. 341) and dropping firms with missing relevant governance data (i.e. 91) and firms that have not published their Business Plan (i.e. 112). Thereby, this procedure resulted in a sample of 138 firms. We drew upon the AIDA database and hand-collected information from corporate financial, social, and governance reports, as well as from the business plan of all companies in our sample.

To test our prediction, we run the OLS multivariate regression analyses by using the quality of business plan in terms of information comprehensiveness as dependent variable. To this end, following previous research (Hassan and Lahyani 2020), we first content analysed the business plans of all companies in our sample and used dummy variables assuming value 1 in the presence of the following items that practical and theoretical recommendations identify as crucial for the redaction of a business plan (Brusa 2016): (1) business definition; (2) industry description; (3) competitive positioning; (4) industry attractiveness; (5) strategic positioning; (6) strategy

map in terms of key success factors, key risk factors, specific targets; (7) action plans; (8) expected results; (9) mission; (10) vision; (11) sensitivity analysis. Then, we created a score to measure the quality of the business plan (BP_Q) as the sum of all items from (1) to (11) scaled by their numerousness.

As for the independent variables of our regression models, we appreciated the effect of women on board and top management positions in terms of women's presence as board members, critical mass of women directors, and appointment as CEO. In particular, we proxied for the presence of women on board (BD_wom) as the percentage of women seat on Board and for the appointment as CEO (CEO_wom) by dummy variables with value 1. Differently, we appreciated the presence of a critical mass of women directors (Crit_mass) by a dummy variable coded 1 if the related amount is at least 3 (Torchia et al. 2011; Saggese et al. 2021). Additionally, we captured the presence of a CFO woman (CFO_wom) through a dummy variable equal to 1. We also controlled for some factors able to influence the predicted relationships. To this aim, we run our regression models by including control variables proxying for firm performance by EBITDA (EBITDA) and firm's size (F_size) as measured by total asset.

The descriptive analysis shows that only the 35% of the companies in the sample appoints women on board (BD_wom), while a critical mass of such directors (Crit_mass) characterizes the 21.60% of firms under scrutiny. Furthermore, women are appointed as CEO (CEO_wom) in the 26.65% of cases and as CFO (CFO_wom) in the 24.30% of analysed companies, while almost half of the sample firms (i.e. 45%) publishes the business plan.

Shifting the attention to the regression results, as illustrated in Table 1, women on board positively affect the quality of the business plan, except when they represent a critical mass on board. In particular, as shown in Models 1 and 2, while women on board (BD_wom) are positively but not statistically significantly related to our proxy for the quality of the business plan (BP_Q), the presence of a critical mass of women directors is negatively and statistically significantly related to our dependent variable (Model 2: $\beta = -0.066$ $p < 0.05$). A similar relationship is also documented in the presence of a CEO woman (CEO_wom). Indeed, as shown in Model 3, even if such variable is not statistically significantly related to the quality of business plan, it is positively related to our dependent variable. Finally, more interestingly to our research, as illustrated in Model 4, our regression analyses find the presence of a positive and statistically significant influence of CFO woman (CFO_wom) on (BP_Q) ($\beta = 0.079$, $p < 0.05$).

4 Discussion and Conclusions

The present study examines the effect of gender diversity on board and top management positions on strategic disclosure. In particular, the article focuses on the quality of the business plan and tests the positive relationship between women

Table 1 Regressions

Variable	Model 1	Model 2	Model 3	Model 4
<i>BD_wom</i>	0.014 (0.063)			
<i>Crit_mass</i>		-0.066** (0.028)		
<i>CEO_wom</i>			0.022 (0.039)	
<i>CFO_wom</i>				0.079** (0.039)
<i>EBITDA</i>	-1.593 (1.168)	-1.430 (2.432)	-1.530 (2.469)	-1.616 (2.506)
<i>F_size</i>	-1.314 (1.168)	-8.055 (1.156)	-1.319 (1.158)	-1.209 (1.178)
<i>Constant</i>	0.458*** (0.015)	0.479*** (0.017)	0.458*** (0.015)	0.448*** (0.0167)
<i>Observations</i>	250	250	250	250
<i>F</i>	0.843	2.623*	0.991	2.207*
<i>R²</i>	0.027	0.077	0.031	0.073

Levels of significance: * <0.1; ** <0.05; *** <0.01

Standard errors in parentheses

Source: Authors

directors/managers and the quality of the business plan on a sample of 138 publicly listed non-financial Italian firms by combining content analysis with OLS regression.

Considering the women involvement on board and the presence of a woman CEO, our analyses document their positive influence on the quality of the business plan. Thereby, although not statistically significant, these results confirm previous evidence reporting that female directors improve company disclosure (Srinidhi et al. 2011) thanks to their personal characteristics and the new perspectives they bring to the board discussions.

Shifting the attention to the role of the critical mass of women on board, our analyses reveal interesting insights. Indeed, we report that the presence of a critical mass negatively affects the quality of the business plan. In this sense, our finding seems to confirm the necessity to switch the attention “*from critical mass to critical actors*” (Childs and Krook 2009). Such result suggests that, rather than looking at the number of women on the board, we should pay attention to the role they play and to the effective impact they have on corporate outcomes.

This statement is reinforced by our finding about the presence of a CFO woman. Indeed, according to our expectation, the analyses show that the presence of a CFO woman positively affects the strategic planning disclosure, proxied by the quality of the business plan. In doing so, this finding reinforces the assertion that women in apical positions promote the quality of forward-looking information (Aribi et al. 2018), both from the agency (Gul et al. 2013) and the resource dependence (Saggese et al. 2021) perspectives. Indeed, female directors are more prone to disclose

information and reduce asymmetries, thus positively influencing the execution of the board strategic role. This result corroborates previous studies claiming that the greater conservatism and risk aversion of women directors (Sila et al. 2016) push them to implement better strategic planning processes. Similarly, our finding is in line with those of scholars suggesting that, since women are less tolerant to ethical failures (Eagly et al. 2004) and present a low tendency to fraud (Vermeir and Van Kenhove 2008), they tend to provide more comprehensive disclosure.

Stemming from these arguments, our study has scholarly and practical implications. From a theoretical point of view, we introduce the role of the CFO woman into the academic debate about female representation in apical position and forward looking disclosure. At the same time, our article integrates the research on strategic planning and disclosure by measuring it through the quality of the business plan. In this regard, we also enrich the literature about the determinants of such strategic tool (e.g. Gibbons and O'connor 2005; Honig and Karlsson 2004), by investigating the effect of women in apical positions. Furthermore, this study takes a step forward in our understanding on the influence of the critical mass of women on board, by showing that the comprehension of its influence on business outcomes is far from being complete. From a practical point of view, the research demonstrates the beneficial effect of woman in the CFO position and, in doing so, it theoretically sustains recent national and international interventions to favour the female representation within the companies. Moreover, by documenting the controversial role of the critical mass of women directors, this study suggests policy-makers to focus on the quality of positions held by women, rather than on the simplistic number of seats they occupy on the board of directors.

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Board Gender Diversity as a Key Indicator of Sustainability. A Study on the Top 20 Italian Listed Companies



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Abstract The objective of this paper is to demonstrate how gender diversity can be considered an indicator of sustainability in the Board of Directors.

The growing attention to multicultural, social, and environmental aspects has, in fact, underlined the need to make a change of direction with respect to the typically male composition of the Board. To date, it is possible to deduce this common effort from the numerous tools that are made available to companies in terms of specific indicators and metrics. The main ones include, for example, the GRI 405 issued by the Global Sustainability Standards Board (GSSB), the SDG 5 issued by the United Nations in the 2030 Agenda, and finally the Gender Equality Index issued by the European Institute for Gender Equality (EIGE). As is evident, the right evaluation tools would not seem to be lacking, but on the contrary, we cannot say the same for the actual desire to focus the attention on gender equality at every employment level. Although, in fact, the female employment trend is constantly growing but, in our opinion, this is still insufficient especially in the top positions. Therefore, the problem that arises, in consideration of what has been found in the literature and also in practice, is to actually understand how much the concept of gender equality is really applied (García-Sánchez et al., 2022). In this scenario, speaking with reference to the Italian panorama, the concepts highlighted find confirmation in the facts.

After having reconstructed the literature background and having outlined the political and regulatory context, referred to female employment, we conducted a study based on empirical data of the top twenty Italian listed companies; collecting and analyzing some data, included the ESG (Environmental, Social and Governance) policies described in the strategic plans, it was possible to draw up a reference framework on the relationship between the ESG policies and the presence of female directors in key roles (such as the president of the board of directors and the chief executive officer). Thanks to the statistical analysis, it was doable, by bringing

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objective data, to emphasize the debate, already present in the literature, on female employment in top positions.

Despite the numerous limitations of our research, such as the fact of not being able to generalize the conclusions to the whole Italian reality, but rather exclusively to the analyzed sample, we are certain that this research can constitute a first step, with respect to a broader and certainly more complete study, on the path that unites sustainability and ethics in the composition of the Board of Directors.

Keywords Gender diversity · Sustainability · Corporate governance · Board of directors

1 Introduction

This study aims to link the concepts of gender and sustainability, to observe their connection and their relationship in the field of Corporate Governance (CG). The attention to environmental, social, and governance issues, which the world has seen intensify in recent years, is raising awareness on one hand toward issues related to sustainability and, on the other hand, to all those initiatives not strictly linked to sustainability, but rather connected to the broader concept of ethics. This last category includes gender identity among the most relevant factors (Nicolò et al., 2021).

In a society that is increasingly multicultural and attentive to ethical and environmental issues, the right tendency is for diversified governance to consider different points of view, especially when companies find themselves making critical decisions. The result of this approach, considering the literature analyzed and the empirical study conducted, is a reduction in the environmental and social risks to which the company is exposed, and which jeopardize its continuity in creating value for the future. Concerning the above, a key indicator of diversity is undoubtedly gender diversity. Diversity, in fact, is a driver capable of bringing different skills, experiences, and perspectives, aimed at solving complex problems, in a more efficient measure than when it is absent and not considered. In the presence of all these benefits, the effort that companies must necessarily make is to carry out a precise and objective evaluation system. Today, on the international scene, some standards can help in this sense, making it easier to convert concepts such as ethics and sustainability into something concrete.

The first part of the study retraces and investigates the reference literature related to this theme; the literature analysis is completed through an empirical study performed on a sample of companies. Particularly, in the second part, which is based on empirical data directly collected from the strategic plans of the top-listed companies on the Italian market, it was possible to draw up a reference framework for the use of ESG and the presence of female directors in key roles: members of boards of directors and chief executive officers (CEOs). The analysis of the data, carried out in the 3 years from 2020 to 2022, has certainly highlighted an increasing trend of female occupation but, in our opinion, still insufficient.

According to our thesis, in fact, within CG there is a direct and very strong relationship between ESG and gender employment but, nevertheless, the attention to gender equality at the level of top management is still underestimated if we compare this concept to the discourse on sustainability. It is now rare, if not impossible, to find a strategic plan that does not involve the use of ESG metrics, in reference to sustainable and ethical topics, but likewise it is frequent to note that ESG policies and, particularly, those regarding diversity, are rarely made concrete in practice (Cho et al., 2020).

2 Review of the Literature

Today, Corporate Governance cannot fail to focus on sustainability and ethical issues as key and essential elements on which to rely and integrate them into all its strategies with the aim of improving performance.

The literature of recent years indicates a change of direction in the relationship between CG, sustainability and ethics (Jain & Jamali, 2016). If until the end of the last century, in fact, this relationship was analyzed and studied in its generic and abstract aspects, today we speak, on the contrary, of tangible, well-defined, and objective elements (Naciti et al. 2021). One of the concrete examples supporting this link can undoubtedly be considered gender diversity, constituting a direct link between sustainability performance and ethical upgrade (Provasi and Harasheh 2021). Regarding these complex relationships, the CG has grown steadily in recent years, creating a new and varied field of analysis (Kitsios et al. 2020).

Only in recent times, and in a very slow way, has it been possible to understand how essential it is for CG to act strategically, and decisively, according to a sustainable path involving all components of the company as a whole (Baumgartner and Rauter 2017). Sustainability, which in its broadest meaning also embraces the concept of ethics, has therefore become a driving force in the search not only for profit, but above all for long-term value. This current and central theme, therefore, prompts us to ask ourselves not only how to “bet on the future,” but also how to integrate this driver into corporate strategy, to mitigate uncertainty and create a direct impact on the management and development of knowledge (Galbreath, 2018; Haessler 2020). Doing so is certainly complex and time-consuming, but it can and must be seen as a way to gain a competitive advantage now and in the future. In fact, following this logic, the integration of CG and sustainability allows companies to transform complex problems into economic opportunities.

According to some streams of research, the assumption behind this theory is the fact that the answer to many questions, and above all challenges, that companies face, often lies outside their organization: it is how every company deals with a problem and turns it into an opportunity. Losing this overview would certainly have a negative effect, as it would imply a lack of focus on the forces and individuals surrounding the company. Following what Hinz (2012) expressed, we can therefore affirm that the challenge of sustainability and ethics is none other than the

management of the various pressures on behalf of the stakeholders. Another current study, contrary to what has been said, states that when a company sees new opportunities, or unexpressed opportunities, the choice to change starts with itself (Lopes et al. 2017). In this scenario, gender diversity can be a fundamental tool for companies to resolve complex problems. According to Hong and Page (2004), from the perspective of Diversity Management (DM), groups that welcome different perspectives and characteristics within them surpass homogeneous groups in facing and solving complex problems.

Linked to the above, we will say that different people, based on indicators such as age, sex, ethnicity, disability, sexual orientation, and cultural background, bring with them different experiences and perspectives (Woolley and Malone 2011). According to Armstrong et al. (2010), in fact, diversity increases societal performance by increasing the positives and counteracting the negatives. Indeed, it is logical to conclude that, for a company, only by integrating these forces is it possible to make more informed and aware decisions.

Linking gender diversity to sustainability cannot refer exclusively to objective aspects, limited to numbers and norms, but rather must necessarily feed on broader and longer-term dynamics to be integrated into the strategy itself (Shakil et al., 2020). This effort is therefore aimed at understanding the needs and requirements of stakeholders, creating awareness of what is happening inside and around the company, and arriving at new opportunities for future growth, aimed at guaranteeing business continuity and development.

The path of gender matching equality, toward which companies are heading, represents a constantly growing topic, also in practical application (García-Sánchez et al. 2021). Speaking of gender equality means, according to the law, ensuring equality in terms of equal opportunities and consideration within a single company (Miles 2011). Briefly defining this concept, in line with the problems of integration in the strategy, the most complex activity is to quantify these aspects numerically and implement an evaluation process. Over the years, in the wake of non-financial reporting, the issue has acquired importance in companies, as has the communication of developments linked to gender issues, as well as those related to practices and their effects. This type of information is aimed at guaranteeing a certain standard of transparency, ensuring the sharing of information about the actions carried out by the company with the various stakeholders (Amorelli and García-Sánchez 2020).

In practice, this would allow, for example, to be able to communicate quantitative and objective data concerning the numerical reduction of inequality, fair pay for the sexes, and the absence of discriminatory behavior toward women (Cubilla-Montilla et al. 2019). The advantage of adopting these practices, as well as their correct evaluation and composition, has already stated numerous benefits. According to Hermalin and Weisbach (2001), the composition of the board, understood as diversity of gender, size, and independence of the members, influences the financial performance of the company.

It is worth highlighting that some studies show that the positive impact on firm's performance generated by the presence of independent directors may be enhanced by female directors (Terjesen et al. 2016), as women are flexible, collaborative, and able

to manage difficult situations; they are “more likely to take active roles on their boards” (Terjesen et al. 2016, p. 451), attending assiduously board meetings, asking questions, debating issues, supporting participative leadership, and holding higher ethical standards. Therefore, an adequate percentage of women on the board may improve public disclosure and earnings quality and “lead to better performance outcomes” (Terjesen et al. 2016, p. 452).

Some authors also tested the positive impact of female directors on corporate social responsibility reporting (Poucheta-Martinez et al. 2019) and concluded that the CSR disclosure improves if the presence of independent women directors on the board increases, within the limits of a percentage that marks the tipping point, beyond which the relationship assumes an inverse trend. On the same topic, further research, referred to the Chinese market (Sial et al. 2019) shows that female and independent directors play a moderating role on the two-way association between corporate social responsibility and earnings management.

Connected to this theme, in a common thread that still highlights the close relationship between ethics and sustainability, the evidence of numerous studies allows us to state that ESG orientation is one of the corporate actions that most influence financial performance (Friede et al. 2015). In addition to this, the actions that members take also have a direct effect on extra-financial performance and ESG orientation, concentrating attention and efforts toward the outside, in search of going concerns and competitive advantage. Based on the stakeholder theory, in fact, the interest of the shareholders is considered satisfied when the interest of all the stakeholders is satisfied (Donaldson & Preston, 1995; Freeman et al. 2004). In other words, the diversity of the type of board allows its members to activate different cognitive approaches; diverse cognitive approaches, indeed, may allow them to consider the interests of different people, in particular those of the shareholders (Freeman 1984).

Starting from the theories already mentioned, it is however appropriate to say that the link between diversity and sustainability does not correspond itself to the guarantee of obtaining better performance and new possibilities. The real competitive advantage, therefore, depends not only on the way in which this relationship is managed and integrated into the company strategy and structure, but also on the possibility of evaluating its impact.

The relevant factor, which involves the most important challenge in the relationship between these factors, is represented, in fact, not only by their complex integration and concrete implementation, but above all by their measurement. The difficulty that arises at this point, and which is certainly not irrelevant, is to find a tool capable of guaranteeing a quantitative analysis of these two drivers. Today a tool, useful to guarantee an accurate analysis of what is stated, is represented by the requirements determined by the Global Reporting Initiative (GRI). It is one of the most widely used reporting frameworks in the world panorama for the production, as well as for the dissemination, of the theme of gender equality.

Among the many metrics, the GRI proposes a series of indicators on the presence of gender diversity in corporate governance bodies. This behavior, in addition to

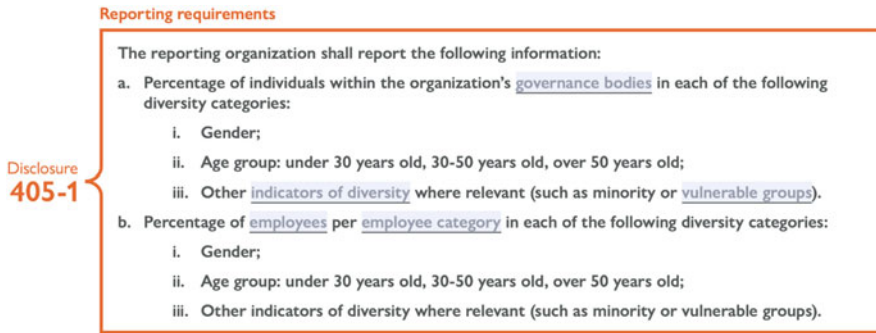


Fig. 1 GRI 405—diversity and equal opportunity 2016. Source: Global Sustainability Standards Board (GSSB) (2016)

positive results on these issues, facilitates the entry of companies into different reputation classes, as a consequence of a greater commitment to gender equality.

• GRI 405

GRI 405, produced by the Global Sustainability Standards Board (GSSB), falls into the category of “Social” standards, or class 400. The context in which it is inserted is exactly in the middle between GRI 404 on the theme “Training and Education” and GRI 406 on “Non-discrimination,” effectively creating a bridge between the two standards. As is directly apparent from the reference document, the GRI is structured in the following two parts:

- 405.1 “Diversity of governance bodies and employees” (Fig. 1).

This is the only GRI standard in which the GSSB, according to an accurate list, reports the distribution of different categories of diversity concerning the company structure (Yang et al. 2020). In this context, two well-defined categories have been painted, with three underlying common parameters. The first two parameters, gender and age, are easily understood. On the contrary, for the last category, the discourse is different as it embraces a very generic case history, supported in fact by two more concrete examples such as minorities or vulnerable groups. It is therefore evident that the discourse on diversity, according to what has already been said, can be represented according to objective parameters and classes (Mysaka and Derun 2022). According to the GSSB, diversity is designed in the GRI framework as the representation of women on the management team, or people of the general gender belonging to a minority group (Kincaid and Smith 2021). From the point of view of organizational and management strategy, diversity is a useful driver for exploiting human capital in all its conformations, that is, according to age, ethnicity, disability, and gender. Integrating diversity, therefore, means allowing the company to enjoy a mix of different resources, to guarantee business continuity (Sumira and Prihandini 2022). According to the guidelines, GRI 405 should guarantee an integrated presence of age, sex, ethnicity, disability, sexual orientation, and cultural background.

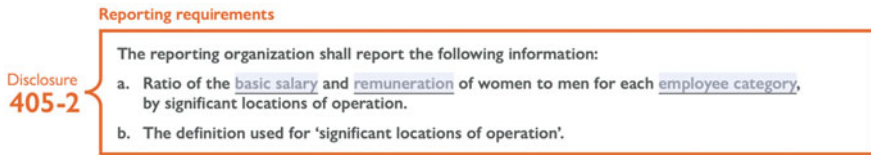


Fig. 2 GRI 405: diversity and equal opportunity 2016. Source: Global Sustainability Standards Board (GSSB) (2016)

These data, in line with the quantity measurement parameters, must therefore be collected within the governance bodies, separately for each category. Diversity cannot be represented as a generic concept but must be considered in its specific parts (Point and Singh 2003).

- 405.2 “Ratio between basic salary and remuneration of women compared to men” (Fig. 2)

Citing the GRI, we mean for the base salary “a fixed, minimum amount paid to an employee for performing his or her duties, excluding any additional remuneration, such as payments for overtime working or bonuses” and for remuneration “a basic salary plus additional amounts paid to a worker” (Global Sustainability Standards Board - GSSB, 2016). The synergistic use of these two classes of indicators, therefore, seems to offer, according to standard 405.1, a classification model, while according to standard 405.2, an objective measurement parameter.

• SDG 5

To reinforce the GRI metrics on gender equality, the Sustainable Development Goals (SDGs) issued in the United Nations 2030 Agenda, in particular with SDG 5, offer another evaluative approach. In this scenario, the relationship between gender equality, cited SDG 5, is directly related to the concept that the labor market is one of the dimensions in which women can improve their equality and emancipation. The labor market, in fact, is one of the engines of SDG 5: “Gender equality and women’s empowerment.” Furthermore, a high percentage of gender equality would also directly imply a positive impact on sustainable development (Castro Núñez et al. 2020).

Taking up the “G” (Governance) aspect of ESG metrics, in the field of non-financial reporting, gender equality at work is explicitly mentioned among sustainable issues and good practices. In support of this, the research results produced over the years suggest that women enjoy equal participation, if not even tending to the last majority, in societies more attentive to “governance” dynamics (Castro Núñez et al. 2020). This scenario, if followed correctly, will also guarantee the creation of fertile ground for SDG 5.5 in a broader context: “Ensuring the full and effective participation of women” and equal leadership opportunities at all decision-making levels in political and economic life (Utting 2018).

• Gender Equality Index

Although certainly older than the previous ones, a further indicator useful for evaluating gender diversity is also the Gender Equality Index. It was developed by the European Institute for Gender Equality (EIGE) in 2013, then modified in 2015, corresponding to a sophisticated statistical index made up of different drivers (Dilli et al. 2019):

- Work
- Cash compensation
- Competence
- Time
- Power
- Health
- Violence
- Inequalities

The combination of these indicators, according to a complex calculation, is able to process them in a single easily interpretable and usable quantity (Ivaškaitė-Tamošiūnė and Manca 2015). The characteristic element, and pertinent for our discussion, appears to be the “work” component, in the creation of a common thread between GRI 405 and SDG 5. This driver is also divisible, as expressed by Ivaškaitė-Tamošiūnė and Manca (2015), in:

- Segregation
- Participation
- Quality of work

As the aforementioned literature has never verified if listed companies, whose strategic plans are integrated with ESG goals, consider in practice gender diversity as a concrete output of sustainability, it is interesting to conduct an empirical study on a sample of Italy’s top-listed companies.

Therefore, we will try to answer the following research questions:

Are Italian listed companies considering gender diversity as a concrete output of ESG policies?

Is board gender diversity just a way to be compliant with the law on mandatory women quotas or is it a tool to improve the exchange of views in the board?

Is the position of the CEO interpreted as a male or a female role in Italy?

3 The Empirical Analysis

In Italy, gender equality within listed companies has been guaranteed by law since 12 July 2011, when the legislature with Law 210/2011 established that the board of directors should be formed by at least 20% of women for the office’s first term. Subsequently, starting from the second term, in 2015, Italian listed companies should reach at least 33% of female shares.

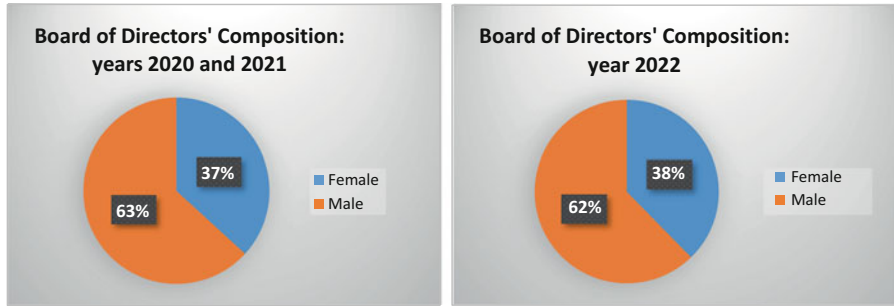


Fig. 3 Comparison of the board of directors' composition. Source: Authors

As an extension of the law, in 2020, the mandatory quotas for women in the composition of the board of directors rose to 40%. The law just described, also from how it appears concerning the empirical analysis previously conducted (Cerved, Bellisario Foundation and INPS 2020 report) has certainly produced the desired results in numerical terms. Compared to 2010, the presence of women on the board of directors reached only 7% and only 44% of the companies had at least one woman on the board. Since 2012, thanks to the application of Law 210/2011, the presence of at least one woman on the board of directors of listed companies has become an effective reality, that is, a quite adequate percentage of women is present in 100% of companies. Also starting from 2012, as a consequence of the foregoing, female representation has risen to 36%, aligning Italy with the rest of Europe.

Considering the above and to answer the aforementioned research questions, we selected a sample of top twenty listed Italian companies in the period 2020–2022.

The data we used for the sampling are available on the website of “Borsa Italiana” (Italian Stock Exchange, www.borsaitaliana.it).

For each company we collected the following information, drawn from the Annual Corporate Governance Reporting for the years 2020–2022:

- The number of directors and the number of female directors
- The eventual presence of a female president
- The eventual presence of a female CEO

Thanks to the consultation of the aforementioned documents and of the organizational charts, it has been possible to study the composition of the various boards of directors, as well as the gender diversity in the top positions, among all the presidents and the CEOs.

Regarding the application of ESG criteria and the metrics relating to sustainability, the study was conducted on the strategic plans published by each of the companies in the sample. In this way, in fact, ESG metrics have been considered exclusively only if they are really integrated into corporate strategies and, therefore, present in the last published multi-year strategic plan.

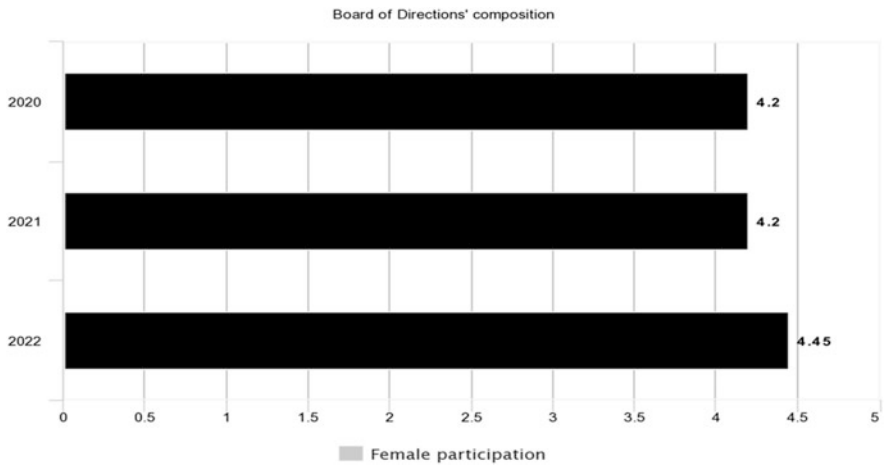


Fig. 4 Female participation in the board of directors. Source: Authors

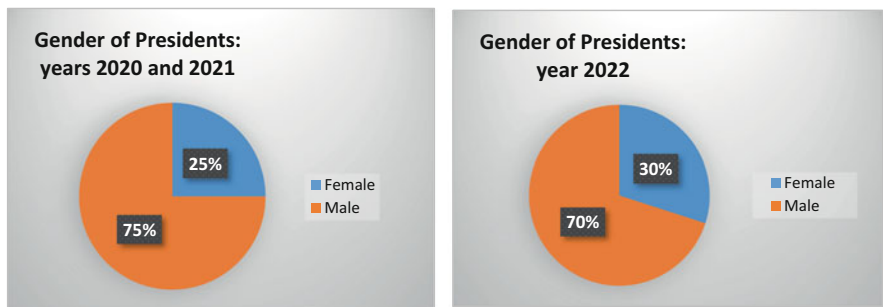


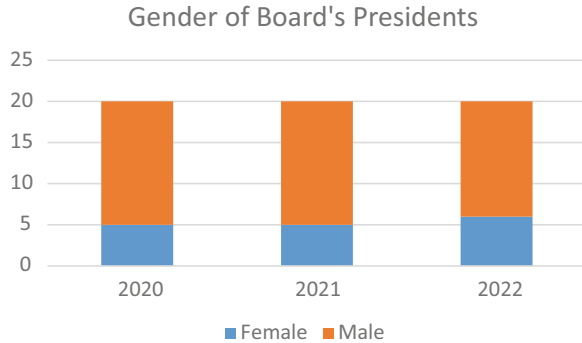
Fig. 5 Gender of the president in the board of directors. Source: Authors

From the empirical study we conducted on the 3-year period 2020–2022, for the top twenty companies listed on the Italian market, it emerged firstly that the statistics already reported are confirmed. In fact, studying the composition of the organizational charts of the sampled companies, it was found that women have an average representation within the board of directors equal to 37.1%.

The following aerograms (Fig. 3) synthesize the main results of the statistics about the presence of women on the boards of the top twenty Italian listed companies. Years 2020 and 2021 are represented in the same graphic, as the average composition of the boards of the companies in the sample is almost the same in the 2 years considered.

Even the rest of the statistics, cited in the background, are therefore confirmed. In fact, as we can observe in this sample of companies, in the 3-year period studied, in no case does female representation fall below 36%, but instead it is rather higher. Another encouraging fact, which is confirmed by the scenario just outlined, is that all

Fig. 6 Gender of the president in the sample companies. Source: Authors



twenty companies in the sample have female representatives on the board of directors.

We have observed an average representation of 4.28 women per company, as a result of the average of the following histogram (Fig. 4) relative to years 2020, 2021, and 2022.

The following aerograms (Fig. 5) synthesize the results of the statistics about the women presidents of the top twenty Italian listed companies. Years 2020 and 2021 are represented in the same graphic, as the number of the women in charge as president of the board in the companies in the sample is the same in the 2 years considered.

Unfortunately, the same optimistic scenario of the board diversity cannot be represented when we talk about the top positions held by women within companies. Women, in fact, rarely occupy top positions in the board of directors as president: only 26.7% of the sample companies has a woman president, against 73.3% of males employed in the same role, in the 3-year 2020–2022 timeframe.

From the histogram (Fig. 6), in fact, it is possible to see more precisely the number of companies where the role of president has been filled by a woman each year.

Linked to the latter data, no woman holds the role of CEO in the sample examined, with the consequent absolute lack of female presence in the decision-making and operational top figures. Out of the twenty companies analyzed in the 3-year period 2020–2022, in fact, none of these companies had a female CEO, bringing the percentage to 0% of the sample. These results also confirm previous studies on the role of women as lead independent directors (Arduini 2022).

This reference scenario appears to be disconnected from the ESG logic, handled by almost all (85%) of the sample. Listed companies, in fact, both for the benefits associated with the use of ESG metrics and for the pressures deriving from the external environment on this issue, are really starting to integrate these concepts into their strategies. From the most recent strategic plans analyzed, in fact, a declared trend of constant improvement in ethical and sustainable standards is evident.

In the situation described above, it is difficult to exclude that the growth in the number of women in Italian listed companies' boards is exclusively the result of the

application of the law and does not depend on a real development of diversity culture.

4 Conclusions and Implications for Future Research

The current study contributes to emphasize the literature debate on the role of women in leading corporations and to deepen the topic of relationship between the efforts declared by companies on ESG topics and the real development of the diversity culture (Velte, 2016).

As a direct link to what is expressed by the metrics examined, and certainly in line with what is stated by Diversity Management (DM), gender diversity implies two different methods of value creation: economic value and moral value (Köllen 2021). Economically, in accordance with the first of the two classes mentioned, diversity can have two different kinds of implications. According to a first approach, in line with the Ellis and Keys studies (2015), diversity would guarantee a diverse and heterogeneous workforce in its composition, implying the benefits discussed above. According to Chrobot-Mason and Aramovich (2013), on the contrary, diversity would already be present in any workforce and what a company would have to change would be its management only, to make it as profitable as possible. The two paths, as they have been described, can certainly move hand in hand without one excluding the other, to ensure maximum benefit. Differently, compared to the one already discussed for economic benefit, we find ethical motivation. This approach is based on considerations of moral and ethical values, embracing an approach to equal opportunities and aiming for a state of relative social equality, as the direct objective of ESG and SDG metrics as well. To date, even if the trend is changing, we live in a state of current inequality, which is mainly expressed in unjust representations at the different levels of the organizational hierarchy.

It is also clear, from our empirical analysis, that the leading positions of the corporate pyramid in Italy are mainly occupied by male executives. These data show how much the roles assigned to female representation are of lesser importance than those for males, resulting in low inclusiveness toward women compared to their colleagues. The women who manage to access and be accepted among the top management of different companies are few and are more than anything else exceptions. Hence, at least from a theoretical point of view, ethics and sustainability go hand in hand, but in practice the situation is quite different. This empirical analysis, therefore, prompts us to ask ourselves what kind of link there is between sustainability and ethics, and above all, if what is reported in the strategic plans and organizational charts of the companies is applied.

The neglect of gender equality in top positions is not only a truly discriminatory issue, but it also practically limits the logic of creating value through inclusion. Aside from the concept of sustainability, today's investors ask for even more precise assessments also concerning ethical issues. In this sense, gender diversity in companies corresponds in all aspects to a determining factor in assessing how they could

respond to ESG risks and opportunities. This double connection, fuelled by both factors, can influence if and how companies around the world will address diversity, inclusion, the gender gap and therefore sustainability in a broader concept.

To combat this ethical inequality, from a concrete point of view, there are two very different types of approaches. The first, according to a softer approach, states that inequality derives from the fact that there is a meritocratic system capable of allowing disadvantaged groups to compete with the same weapons for top positions (Gagnon and Cornelius 2000). Other scholars, in a certainly harsher vision, see the inclusion of mandatory quotas as the only possibility of fair representation, thus giving a quicker response to the problem (Lorbiecki and Jack 2000). What is certain is that losing the opportunity to ensure a correct, and also proper, representation of diversity on the board of directors is a losing practice. Companies, in line with the tools that have been provided in recent times, must certainly correct this practice, in order to guarantee a truly inclusive and sustainable development.

Therefore, we believe the current study can open the way for new strands of research for academics and for further lines of action for corporate governance's practitioners, concerning the relevance of the diversity in corporate governance (not only viewed in terms of gender but also declined in terms of age, cultural background, professional experiences) and the possibilities for women to be much more involved in leading positions. Indeed, the empirical study we conducted demonstrates that the number of women in leading positions in top Italian listed companies is slowly growing, even if the gap to fill (in terms of percentage of women presidents and CEOs) is still large, especially in the big corporations.

The current research also presents numerous limitations. The results cannot be generalized and the conclusions of the analysis should have to be compared to the outcomes of studies referred to the main developed countries. It could also be interesting to examine a much larger sample and to conduct different studies for listed and not listed companies.

We are confident this study represents a first step to develop gender studies in the companies' corporate governance, and, above all, to underline that the possibility for a company to develop truly useful ESG's policies cannot disregard the exigence to make the companies' value grow through a culture of inclusion.

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Challenges Working Mothers Face. A Discussion Exploring the Obstacles of Balancing Motherhood and Career Progression



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Abstract Existing literature suggests that progress has been made concerning women's access to managerial opportunities. However, few women are in top management positions. Moreover, scholars state that responsibilities from domestic obligations, primarily children and children caring duties, have a major influence on the positions women can accept. This study aims to investigate further how career progression is impacting women who choose to have children, by exploring society's perceptions of mothers, employers' perceptions of mothers, and a women's own perception of their role as a mother using a thematic approach, investigating both a western and non-western view.

A review of the current literature is followed by analysis of semi-structured interview questions. Five women with leadership positions in either entrepreneurial or managerial roles and three students from non-western countries were interviewed to explore the perceptions, barriers, and facilitators to merge motherhood and career progression successfully.

Results underline the strong impact of gender on the workplace or industry, with some sectors being more family-friendly than those massively populated by male workers. The general society and culture contributes with some contrasting views, seeing non-working mothers as lazy and working mothers as failing in looking after their children in a proper way as the female role would recall. All in all, the barriers that western and non-western working mothers face are similar, with a perceived

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positive trend in the perception of working mothers and mothers in leadership positions.

The article contributes to the literature on gender equality in the workplace, addressing the needs and concerns of mothers with entrepreneurial or managerial roles and aspirations.

Keywords Women entrepreneurs · Women managers · Motherhood · Gender equality · Career progression

1 Introduction and Aim of the Study

When evaluating women and career progression globally, the number of women in middle management positions is increasing (Langer et al. 2015; Minello 2020). However, the number of women holding CEO positions remains low (Jacobson et al. 2009; Paoloni et al. 2021a). This can partially be explained by the phenomenon known as the “Labyrinth effect,” which is the invisible barrier between women progressing to senior positions within their respective working environments (Ndweni and Ozumba 2021).

Hays (1996) expressed how there has been and always will be an expectation placed on women, to become mothers within their lifetime. Among scholars, it has been discussed that in a societal sense, it is believed for women to have fulfilment, they need to experience motherhood within their lifetime (Suppes 2020). Other reasons why women become mothers have to do with cultural and religious factors furthermore generational upbringing. Moreover, most women feel their own personal desire to start a family (McQuillan et al. 2008). However, when considering how motherhood and a women’s career intertwine, there is a complex discussion that can be had.

The purpose of this research is to help determine the specific obstacles women face when it comes to being a working mother in an authoritative position. However, existing literature is heavily influenced by westernised perspectives. Therefore, the aim is to explore both western and non-western beliefs of working during motherhood and the pursuit of gaining authoritative positions in these circumstances. An autoethnographic approach has been used alongside the literature and interviews to help explore this topic.

2 Literature Review

There is a plethora of reasons that prevent women from being promoted within an organisation. Cultural and traditional norms, for instance, regarding women’s roles, can prevent them from being promoted within a firm or company (Fels 2004; Ibarra et al. 2013). Other factors impacting a woman’s promotion can be the implicit bias regarding women and work with the notion that women must deal with family

'issues' (Ellemers 2014). However, Ibarra et al. (2013) suggest that this could also be due to a lack of role models of women in authoritative roles, with limited availability of resources, networks, and mentors. Moreover, the expected societal responsibilities placed on women do not concern their careers (Cho et al. 2019). Corinaldi (2019) discusses how unconscious and conscious presumptions made about motherhood lead to biases about a mother's commitment to her career and her employer. These assumptions can be referred to as 'motherhood penalties', for example, financial repercussions or career stagnation. Moreover, the idea of a woman being pregnant or having a future pregnancy can affect the trajectory of her being hired. This indicates that motherhood is seen as a 'status characteristic' which differentiates individuals based on personal attributes (Correll et al. 2007). Additionally, El-Far et al. (2021) suggest that women, mothers or not, are placed at a disadvantage due to the socially created views that women should be the primary caretakers for their family. Meaning, that women are typically the ones within the household who are expected to take on domestic responsibilities. These views perpetuate the idea that society sees women as less capable of taking on authoritative positions as they are often recognised as 'maternal' figures (El-Far et al. 2021). These perceptions from employers regarding motherhood could imply women are judged to a harsher degree, affecting their ability to succeed within their respective setting (Corinaldi 2019).

Westernised Workplace Perception of Motherhood

Magadley (2021) explains that women experience career interruptions more frequently than men due to family-related circumstances resulting in negative consequences for their financial gain and success, thus, stressing a woman's ability to progress within their respective field. McQuaid and Lindsay (2005) have also observed the correlation between career performance and motherhood, indicating that motherhood has a direct negative effect on a women's performance and limits the types of roles they can accept, again highlighting the impact it has on career progression. Furthermore, Gatrell (2011) shares a similar perspective, discussing how workplace perceptions can have negative implications on mothers, resulting in exclusion from developmental opportunities. Workplaces may deem motherhood to be disruptive to a women's commitment to the organisation or threaten the existing routine within the business. One study indicated that if women were 'ideal' workers, they were then considered to be 'negligent' mothers; conversely, if women decided to take time off due to mothering responsibilities, they were viewed as unproductive employees (Corinaldi 2019). When analysing this, something that should be considered within these perceptions is how westernised cultures define or deem something to be 'productive'. For example, in some countries, a productive employee may be seen as someone who consistently works overtime or devotes a large majority of their life to their career. The word productivity itself may be subjective to the profession, working environment, and respective country. If a woman is giving all she can in terms of availability, work ethic and time, whilst still responding to her mothering duties; and it is not deemed to be 'enough', it could then be suggested that the standard is unattainable for a working mother. In the western

society, quantity, such as time devotion, may be valued higher than the quality of work.

How Women Perceive Working Mothers

Women from older generations have more negative perceptions towards women choosing to be childless (Rybińska and Morgan 2019). Moreover, it can be established that for women who hold more egalitarian or feminist ideals, motherhood may be seen as less essential and see their careers as more important, as being childless is typically seen to be more accepting amongst women with these beliefs (Koropeckyj-Cox and Pendell 2007). Additionally, women without children are less likely to value motherhood, emphasising that these women are more likely to value career and recreation. Considering this, some childless women may have unrealistic notions of what parenthood would be like and hence place a higher value on motherhood (McQuillan et al. 2008). Discoveries have also recognised that individuals who have stronger associations with religion value motherhood more than those who do not (McQuillan et al. 2008). Therefore, there are a plethora of perceptions women have regarding motherhood which can be dependent on different factors such as personal beliefs, religion, culture, generational upbringing, and socioeconomic status.

How women perceive themselves as mothers in relation to careers slightly varies from how women perceive motherhood and career together. For instance, Wootton and Forrest (2021) and Hoffman and colleagues (Hoffman et al. 2021) highlight that women believed that motherhood does in fact have a hindrance on career progression, therefore the women within this study debate the rationale behind wanting to delay motherhood because prioritising their careers was of more importance. Additionally, the same women suggest that there are penalties before even having the child. Stating they are ‘frontloaded’ with additional work before going on maternity leave, in turn affecting their mental and physical wellbeing (El-Far et al. 2021). Being put under these circumstances that make the prospect of motherhood seem unappealing, especially when motherhood already comes with so many additional ‘stressors’; having workplaces not be accommodating may be the reason this negative correlation exists.

Moreover, Mills et al. (2011) suggest that in recent years, women are postponing having children, with reasons regarding an increase in education and labour participation, more gender equity, and the economic commitments motherhood brings. Moreover, evidence underlines that there is a lack of family policies.

While the previous scholars have indicated they believe motherhood is negatively perceived by employers and society’s view of women, in turn affecting women’s developmental opportunities; other literature suggests this is more of a choice for women themselves. A study conducted by Bertrand (2018) found that women who were previously in power positions decided to ‘step back’ from their careers after they had children, if they had a high-earning spouse. This study also suggested that women purposely chose jobs that were family friendly oriented, avoiding opportunities with long hours and career advancement potential. When viewing male-dominated professions such as law, accounting, and business, females without

children were twice as likely to succeed than those who had children (Eva et al. 2021). This suggests that the sector could play an influence on the results, which will be considered throughout the study. Other research implies that being a working mother gives women a sense of liberation. Still, issues like gender pay gap affect the matter (Hardoy et al. 2017).

Non-Western Views of Motherhood

To identify how women, who are mothers, progress in their careers in non-western cultures, it must first be understood how women themselves are viewed and what society sees their roles as within their respective countries or cultures.

Literature assessing women in the Arabic world mention that women within this region are underrepresented in governing and leadership roles and are primarily concerned with family and caregiving responsibilities. However, the scholars also suggest there has been an upsurge in developmental and educational opportunities for women during the last decade. Despite this, there has not been a significant growth in the number of women in positions of leadership in the academic and medical sectors (Salem et al. 2019). Women in this region in the medical sector were interviewed, specifically working in Oncology. Participants identified the following triumphs regarding progression. They established their beliefs with not progressing, as having trouble balancing between work life and family, barriers to travel to attend meetings, financial constraints related to a lower salary, additionally, difficulty spending time to do a fellowship whilst managing family commitments at the same time. Moreover, maternity leave and difficulties coming back to work after taking maternity leave were reported. Lastly, cultural and gender prejudices due to the pre-existing notion that women are supposed to adhere to domestic duties (Salem et al. 2019).

Despite the Middle East having differing governing bodies, religions, and cultural values, the findings regarding career progression corresponded with that of women within westernised societies. While involvement in leadership positions has increased, balancing family and career is the primary struggle (Paoloni et al. 2021b). However, the literature presented seems to heavily enforce those domestic duties and motherhood is something that is of utmost importance to Arabic women.

While women in Lebanon have the right to vote, obtain higher education, and freely participate in public life, economic equality between men and women has remained below desired levels. Despite advancements, most women in Lebanon only seem to be offered lower-level supervisory and management roles with only <5% of them holding top management positions. Moreover, they earn less than their male counterparts. However, embedded in Middle Eastern countries is a patriarchal structure that perpetuates the idea that men and women assuming to fulfil certain roles, such as women assuming domestic responsibilities. This literature suggests that due to the gender roles within the Middle East, women are considered inadequate by society to assume management roles as they lack the skillset needed (Tlaiss and Kauser 2011). However, while the patriarchal structure may seem more prevalent in Arabic society, the same notion that men deserve to be in power positions over women could be said for the west. The ‘think male’ mindset, stating

that masculine traits make for ‘better’ managers is prevalent in both Western and Asian cultures (Tlaiss and Kauser 2011). Therefore, while the numbers may indicate that in places like Lebanon women are ‘behind’ in terms of progression; similar findings can follow suit in western countries. Moreover, while the research indicates women are to assume these roles by society, the research lacks to reflect what women in Lebanon themselves want. Perhaps, committing to family structures and domestic responsibilities is valued higher by more women in Lebanon.

Understanding that the perception from many westerners of the ‘Arab woman’ may partially influence the literature. While this is referring to Arabic women, it is written from a western perspective. For many westerners, Arabic women are viewed as secluded, being primarily concerned with their children and homes.

Existing research indicates that while many women in south Africa are acquiring degrees and entering the workforce; this has not converted into professional advancement. Currently, women in South Africa only represent a third of the labour force and are primarily found in domestic and clerk roles; with men commanding the rest. South Africa specifically, has been named one of the highest unemployment rates among women; and one of the greatest for being inequal in terms of those in the workforce (Habanabakize and Muzindutsi 2016). Women in this region have stated that they are exposed to unfair working conditions in comparison to men. Moreover, they are paid less and less likely to receive promotions. Additionally, it has been stated that women leave their jobs as they are not able to progress; moreover, women who do get to senior ranking positions tend to not stay in these positions long. Women have expressed frustration regarding the lack of training and developmental opportunities within the organisations resulting in a lack of progression (Ndweni and Ozumba 2021).

3 Methodology

While exploring the research question (RQ), that being:

RQ: What are some of the barriers in terms of career progression whilst being a mother, and does culture have an impact?

A qualitative case study approach was used. Qualitative research uses a variety of empirical materials, for example, personal experiences, case studies, and observational measures. This approach helps researchers study things in their natural state to help interpret the meanings individuals bring to them (Aspers and Corte 2019; Massaro et al. 2019).

The aim of this research is to provide a discussion regarding working mothers, specifically, evaluating the challenges working mothers face concerning career progression. Furthermore, as previously discussed, the interviews followed a thematic approach, and a comparative analysis between western and non-western cultures was used. Within this study, women who are mothers and managers working and living in westernised countries such as the USA and the United

Table 1 Data collection sources

Methodology	Sector
Semi-structured interviews	Authority Position in the Banking Sector
	Managerial Role in the Insurance Sector
	Managerial Role in the Automotive Industry
	Top Ranking Managerial Position Fitness and Health Services
	Managerial Role in the Nursing Field
Semi-structured interviews more informal, conversational	Graduate Student
	Graduate Student
	Undergraduate Student

Source: Authors' elaboration

Table 2 Interview table for working mothers

Question	Source
Do you believe employers hold certain perceptions about working mothers?	Corinaldi (2019)
How do you feel society views working mothers?	Correll et al. (2007)
When starting your career, did you feel as if there was a 'right or wrong' time to start having children?	Bertrand (2018)
How do you feel having children has impacted your commitment to your profession?	McQuaid and Lindsay (2005)
Do you feel as if you had to work harder to progress within your career, in comparison to those who do not have children?	Eva et al. (2021)

Source: Authors' elaboration

Kingdom were interviewed; then comparing it to perceptions from graduate students from Africa and their take on motherhood and career progression. Table 1 reports the data collection sources used.

Data Collection

Semi-structured interviews were carried out following a rigorous methodology, with questions gathered from the relevant literature as gathered from Scopus (Dal Mas et al. 2022; Maurizio Massaro et al. 2016). Tables 2 and 3 display the five interview questions the participants were asked. These are combined with estimated responses based on existing literature. These questions were influenced by existing research; therefore, a corresponding author is designated to each question. The first table relates to women in westernised countries who are also working mothers; the second table is the questions corresponding to graduate students from non-western cultures and their perceptions of working mothers. The interviews were conducted using a virtual platform, with their audio recordings later transcribed. Five females, who are also mothers, between the ages of 25 and 55, were asked a series of questions, with these participants being from the USA and the United Kingdom. Moreover, these mothers hold managerial or authoritative titles within their respective sectors. Not

Table 3 Interview questions for graduate students

Question	Source
What is your perception regarding working mothers?	Correll et al. (2007)
How do you feel your culture views working mothers in comparison to other cultures?	Correll et al. (2007)
Do you have an interest in becoming a mother one day?	Suppes (2020)
Do you think that it is easier for women to progress in certain roles in comparison to others?	Salem et al. (2019)
How do you feel culture shapes one's view of motherhood?	Arrindell (2003) Bornstein (2010)

Source: Authors' elaboration

one specific sector will be used within this study. The questions, following the themes highlighted in the literature review, are outlined below.

Table 3 illustrates the questions to be asked to the graduate students from non-western cultures. The students ranging from the ages of 21–30 will articulate their feelings and perceptions about motherhood and working mothers; having experienced a culture outside of westernised views. While all students currently live in the United Kingdom, their perspectives allow for them to compare the two experiences they have had of living in a western society, with non-western upbringing and ideologies. Two of the students will be discussing motherhood, having grown up in Nigeria, and one student will be discussing how her Indian culture has influenced her perception of motherhood.

Ethical Consideration

An ethical forum was done to assess how each participants' information would be used, with approval from the Research of Ethics Committee at the University of Lincoln, United Kingdom [2022_8449]. Moreover, participants were provided with a 'participants information sheet' which highlights how their contributions to the study would be used with appropriate contact information. Lastly, an 'informed e consent' document was provided to participants using concise language to confirm they were fully aware of their participation in the study. Confidentiality of all women is maintained throughout the course of the interviews as all data provided will keep anonymity. Moreover, all participants were at an appropriate age where they could understand the magnitude of the study and the depth in which their involvement will be utilised.

4 Results

After evaluating the answers from respondents about the research, it can be established that some of the results correlate with the existing literature. However, there is not a consistent link throughout the entirety of the data collection. The following section will provide clarity between the similarities and differences.

Question One: Motherhood Perception by Employers

When answering question one, a similar notion was shared from participants regarding how they feel employers perceive them. Each participant acknowledged to some degree that they felt it could be dependent on the type of role they had, the sector the career was in; or if the workplace was primarily male or female. For example, one participant, being a nurse manager, explained that she felt her organisation was more understanding of her mothering commitments outside of work since she worked in a highly feminised sector, and most of the women were also mothers. On the contrary, a participant who worked in the automotive industry explained that she believed it took more time than her colleagues to be seen in an authoritative role, especially new coming employees, or those that she managed whom were in a younger age group. The other respondents discussed working policies within the USA, where they work, and the difficulty this presents with being a working mother. One participant working in the insurance industry explained there were currently no mandates regarding paid sick leave within the USA. Meaning, that not only does she need to be mindful of the days she takes off work, but if her children are sick, that adds more complexity. This means that sometimes she uses her paid holiday leave for the days her children need her to maintain financial stability. Overall, the participant indicated that employers do not see women as mothers in addition to their work responsibilities, devaluing their other role as a caretaker and making it much harder than for those who do not have children. Therefore, from question one, we can assume the following themes: dependence on career sector, male or female domination within the sector, existing mothers in the workplace are all factors that contribute to how the workplace perceives and treats mothers.

Question Two: Motherhood Perception by Society

The second question was a unanimously similar response-wise amongst participants. All stated that society often has harsh perceptions surrounding motherhood, with each participant explaining in their own forum that regardless of what they do, there is no 'winning' and that mothers are held to a standard that is unattainable. Commonly expressed amongst participants was the notion that if you decide to be a stay-at-home mother, you are seen as 'lazy' by societal standards for not 'working'. On the contrary, if you are a working mother, society deems you to be negligent to your mothering duties. Overall, each participant shared that society holds high standards amongst mothers and that working mothers can often be seen in a negative light.

Question Three: Time to Have Children

Regarding question three, on the timing of having children, and if the women believed there was a 'right or wrong time' within their career; a variation of answers

succeeded. Three of the participants explained that having children was not a 'conscious' decision, however, upon bearing their children, it motivated them to try and progress within their careers quicker due to the economic costs associated with having children, and some participants noted the quality of life for their children would be 'better' having more established and prominent roles within their respective organisations. Another participant noted that when she and her husband had figured out how they would work around their current schedules and had reached a level of financial stability within their careers, they felt collectively it was the right time to try for children as starting a family was a desire of theirs. Lastly, the other respondent explained that although she knew it would be difficult, due to the training she was pursuing at the time, being a demanding role (physically and mentally) being a mother was another part of her life, outside of her career she wanted to experience. The themes presented in question three can be categorised into economic costs, quality of life, and desire to start a family.

Question Four: Professional Commitment

Question four discusses how having children has an impact on a career. Again, participants provided a variety of responses, with some individuals sharing similar stories. For example, the participant in the insurance industry noted that having children impacted her progression differently at different points in her life. Alluding to the fact that mental and physical exhaustion were prevalent in her children's early years of life, however, it was necessary to work overtime hours as to when she started her motherhood journey, she was extremely young and dependent on the income.

Question Five: Career Progression for Mothers

When responding to question five about career progression for mothers, participants seemed reluctant to answer straight away, with most of them pausing before approaching the question. One participant noted that it would be unfair to say she had to work 'harder' as other individuals have responsibilities and hardships outside of their normal working day. Three participants proclaimed in their own way, that while balancing both motherhood and their careers was not necessarily easy, it was not an obstacle that made progression more difficult for them in comparison to others. Observing from the researcher view, it seemed like individuals were apprehensive to say motherhood was difficult or had feelings of guilt after establishing that it was difficult. The body language amongst participants seemed nervous in comparison to the other questions.

Table 4 summarises the themes presented from the above data collection concerning the working mothers.

After interviewing the working mothers, the graduate students were interviewed. The conversations allowed for a power dialogue regarding culture and how their cultures specifically aid in their perceptions of working mothers.

Question One: Motherhood Perception by Foreign Students

When answering question one, all respondents explained that being a working mother is difficult regardless of what country she lives in, and the culture she has.

Table 4 Analysis of common themes—working mothers

Interview question	Common themes/answers
Do you believe employers hold certain perceptions about working mothers?	<ul style="list-style-type: none"> • Employers see mothers in a negative light • Employers often do not make any special accommodations for mothers • Sectors seem gender-dependent: highly feminised sectors are more understanding of mothering duties than male-dominated sectors • Number of existing mothers present in the workplace
How do you feel society views working mothers?	<ul style="list-style-type: none"> • Most participants answered that society holds unattainable standards for mothers and working mothers • Many respondents reiterated that working mothers are seen as negligent to their mothering duties and stay-at-home mothers are lazy
When starting your career, did you feel as if there was a ‘right or wrong’ time to start having children?	<ul style="list-style-type: none"> • Desire to start a family • Economic costs • Life quality • Scheduling alignment with partner
How do you feel having children has impacted your commitment to your profession?	<ul style="list-style-type: none"> • Time constraints • Scheduling difficulties
Do you feel as if you had to work harder to progress within your career, in comparison to those who do not have children?	<ul style="list-style-type: none"> • Participants seemed reluctant to answer • Participants discussed that other individuals have commitments outside of work; therefore, mothers are not at a disadvantage

Source: Authors’ elaboration

Moreover, all participants shared similar thoughts that women who can handle the task of holding a career and being a mother are ‘incredible’ and ‘amazing’. Each participant agreed this task at hand is challenging and demanding to one’s livelihood. As these participants are not yet mothers themselves, they used their own mothers, sisters, and extended family to explain personal experiences in relation to the question. For instance, participant one from Nigeria explained that her sister, who is also a mother, became a widow. The participant further explained that her nieces and nephews’ school was shocked to find out the mother was doing this all on her own, because commonly, it is said that the family structure ‘breaks down’ when a male is not a part of the picture. The participant also indicated this happened many years ago and that these thoughts are not as prevalent in society now. As time has passed, progression has helped women be seen as more than just the caretaker. Participant explaining her Sikhism background had opposing but also similar perspectives. Explaining that working mothers in her culture is seen as a mother who is selfish. Moreover, the participant indicated that this perception is not seen in men/fathers. However, the interviewees also noted that the older generation primarily establishes these views. Especially now, with her family living in a westernised society, the perception amongst her culture has become more progressive, and many

women within her family and community describe working mothers as resilient and organised to handle both duties.

Question Two: Motherhood Perception by Society

Regarding question two, about how students believe society views working mothers, answers were varied. Two of the respondents from Nigeria emphasised that their generation is changing the narrative of what it means to be a working mother, but in past generations, it may have been regarded as mothers being negligent to mothering duties. Continuing, both students made it evident that in Nigeria, regardless of if you are working or not women are seen as the main caretaker of their children. The third student answered the question with a different approach explaining that in general, she believes society holds negative perceptions of working mothers. Reiterating what the women in the previous group already expressed, mentioning that society devalues women by placing unrealistic expectations and standards on them. It was also mentioned that these unattainable standards are placed on women but not given to men, and in her eyes, this is a reoccurring theme in all cultures, not just prevalent in her own. This response was similar to what the working mothers expressed; meaning that it is evident societal views of working mothers are most prevalent in both the literature and the women's perceptions.

Question Three: Interest in Becoming a Mother

Question three entertained very similar responses from all participants. When asking the students if they had desires to be a mother one day, they discussed their desire to become a mother once financial independence has been achieved. All respondents in different variations explained that it is easy to fall into the 'trap' of reliance on a partner; with the two participants from Nigeria emphasising this has occurred with individuals they knew and having the freedom of no reliance on a man, or partner is top priority for them. Additionally, all participants noted that as they have all pursued higher education, having a career that correlates to the degree they have attained is important to them before committing themselves to motherhood. However, another element that participants reiterated is that becoming a mother is something that is often vocalised by their own families and mothers.

Question Four: Career Progression According to the Role

Following with question four, concerning career progression, the answers varied. One participant noted that progression is dependent on the sector, but also the atmosphere of the team. If the working conditions overall are positive, and work-life balance is seemingly 'healthy', then this should follow suit with team members being understanding about one's mothering duties. The other respondents proclaimed that progression might be difficult for mothers as there are other individuals who do not have the 'constraints' of duties outside of work and, therefore, more time can be devoted to their career. Lastly, the idea that men may be seen as more capable of holding authoritative positions was also expressed. Therefore, participants said men already have an advantage over women, before even considering motherhood as a limiting factor to women not progressing within their careers.

Table 5 Analysis of common themes—students

Interview question	Common themes/answers
What is your perception regarding working mothers?	<ul style="list-style-type: none"> • Being a working mother is challenging • Working mothers are strong and resilient for taking on both roles • Demanding to one’s life and well being
How do you feel your culture views working mothers in comparison to other cultures?	<ul style="list-style-type: none"> • Men are seen as the primary breadwinner, although these thoughts are changing • Women are seen as the primary caretaker of children regardless of if they work or not • As time has progresses, it is becoming more encouraged
Do you have an interest in becoming a mother one day?	<ul style="list-style-type: none"> • Establishing financial independence first is of importance • Important to their families
Do you think that it is easier for women to progress in certain roles in comparison to others?	<ul style="list-style-type: none"> • Dependent on the sector they work in • Dependent on if they have help outside of work
How do you feel culture shapes one’s view of motherhood?	<ul style="list-style-type: none"> • Some women’s cultures are very closely associated with religion which is usually associated with motherhood • Family values integrated into one’s respective culture can impact how motherhood is viewed/valued

Source: Authors’ elaboration

Question Five: Culture

To conclude with question five, again similar conceptions were shared amongst participants. The common responses indicated that culture could have significant impacts on one’s outlook on motherhood. However, this is purely dependent on the culture, religion, and the beliefs and values associated with that culture. The participants noted that in the United Kingdom, for example, there are differences in terms of how working mother’s live day to day.

Table 5 summarises the themes presented from the above data collection regarding the students.

5 Discussion

Analysing the common themes presented between the research and the literature results, it emerges how the studied literature was valuable in formulating the basis for developing the research question. Still, while some of the literature was consistent with the research results, however, not all the literature reviewed was harmonious with that of the data.

Regarding the workplace’s perception of mothers, the literature and answers from the first group of interviewees slightly corresponded with one another. However,

noticeable differences were conceded. One quote obtained from the working mothers included:

I would say this is a complicated answer. Over the past twenty years, I have seen how the company policies have evolved to minimise that impact from that initial perception. However, it's one thing with companies are supposed to be like and what you see in real life. The subconscious bias will always exist regardless.

Gatrell (2011) discussed that workplaces could view motherhood in a negative light, as it can be something that could be disruptive to women's careers. The other literature from McQuaid and Lindsay (2005) suggests that there is a link between career performance and motherhood, and this is what negatively impacts women's ability to progress. While the research was not completely synonymous with the data presented; it does not devalue either finding. One participant stated:

I think in nursing it is a little bit different because it is a female dominant career, so I think I am lucky in that sense; as many nurses are mothers, so I don't think I get treated much differently. . . .in my instance I don't feel it's too much of an impact. However, once in management when you do level up you have other responsibilities that are time-sensitive, where you can't just clock out. This makes it difficult when you have mothering duties at home but the obligations to fulfil the responsibility of your role adequately.

Eva et al. (2021) discussed how women in male-dominated sectors were twice as likely to succeed than those who did have children. This implies that there is a relation to what the interviewee suggested regarding the industry being more feminine or masculine. Interrupting this, we could say the results indicate that gender does play a role.

Discussing societies perceptions regarding motherhood, the literature was consistent with that of the answers from the respondents. One participant highlighted:

I think there is a perception that you cannot win, you are never doing enough for your career or your family. You just can't win; you are either choosing the mom life and putting your career on hold or choosing your career and then being judged for having someone else help raise your children

with another participant agreeing.

Corinaldi (2019) implied that if women were strong workers, they were negligent to their mothering duties. However, if women decided to take time off to pursue their mothering responsibilities, they would then be viewed as ineffective employees in their organisations. The above quote was commonly expressed amongst the group, suggesting that society perpetuates a belief that a women can not be both successful in her career, and a good mother.

However, opposing perspectives resonated from one participant stating

I think society sees working mothers as superheroes! The upswing of women's rights and feminism has given women the ability to be independent and care for themselves and their children without much support, if any. I personally received a lot of praise from so many people in my life because I have a full-time career and care for my two children on my own with very little financial and support and even no financial support from time to time.

This suggests that there were mixed views on how the women believed society perceived working mothers.

Regarding deciding when to have children, had mixed responses from participants. For instance, one working mother stated:

For me, I managed my life around having children before having them. My husband and I figured out our schedules so I could maintain full-time work after maternity leave

Another participant argued:

I've started with the company I've been with for eight years after I had both of my children and prior to that I didn't have a job that I felt to be career-worthy, so I don't feel that this question applies to me. However, I have witnessed women weighing the pros and cons of having children once their career has taken off, specifically with having the ability to lend time to family while being in a career role that can be time consuming

These responses help identify the obstacles of time commitment that motherhood could be a barrier too, in terms of one's career. Still, another interesting matter arises. Those who are self-employed, namely, they are their own bosses, may find a better work-life balance, at least, concerning how society views them.

About career progression comparing mothers and those without children, one participant stated:

I feel that I had to work harder to progress but not in a way that would be measured by the company. Again, I had to sacrifice a lot outside of work that very well may be easier for those without children

with another saying,

It has affected time I've been able to commit, I also think its slowed down progression, being out of work for 4 and a half months, coming back with an infant has affected the time I've been able to commit to the role for sure.

And again, another participant claiming;

I think it's less about me having children and being a mom but more about the fact that I think I've had to work harder being female in a male-dominated industry. It was very difficult building a customer base that was trusting of me at the beginning.

These responses are alike with the literature presented by Hardoy et al. (2017) regarding women having to be cautious with the positions they accept because of domestic obligations outside of work, such as child caring duties. Many of these quotes emphasise how time constraints have implications on their ability to commit to the role; therefore, time commitment again should be considered as an obstacle to progression. Interestingly, one participant discusses the difficulty of creating trust between herself and her male customer base; therefore, gender and sector will again be marked as an obstacle to progression. These results are interesting as it seems like women should choose those professions where females are more present, for example, in non-executive positions in healthcare (Isaac 2011; Kalaitzi et al. 2017). Still, this contrasts with the policies that promote an increasing presence of women in STEM, namely, Science, Technology, Engineering, and Mathematics (Sassler et al. 2017). Policymakers should therefore be aware that women may decide to pursue a different type of career in a more family-friendly environment than those most populated by men.

The views of students not coming from the western world also give some interesting insights.

About the perception regarding working mothers, one participant stated

The perception in Nigeria, is a bit taxing, because juggling between motherhood and work and versa, that kind of thing, is very difficult. . . The structural units the mother has put in place has to be strong, because juggling the two is not easy, especially if the husband is somewhere that is not around. Most Nigerian families have maids if they cannot do it. In this case scenario the bond is not formed because the maid is taking care of the child. Therefore, there needs to be a balance between mothering and going to work.

Another student shared a similar perspective, by arguing:

If they can still put in the effort for her children, this is what I advocate for, because being a working mother is good for her.

It was not easy finding literature regarding working mothers outside westernised society. However, the relevance of what Nigerian women are explaining their perception of working mothers to be is very similar to western mothers. Moreover, Hsin and Felfe (2014) argue that mothers being employed reduce time spent with the child, affecting child outcomes. For example, scholars suggest that time spent away from children can then take away from the children's developmental opportunities and, in turn, affect them in the long term.

When asked about how they believe society perceives motherhood and working mothers in relation to their culture, some responses included:

Society, in the world of women and men is difference—a man thinks a women should sit home and take care of the kids, because the man is out there working. In the world of women, they believe they need to have their own financial standing, which is valid. Many times, if a woman loses her husband in Nigeria, the family dynamic goes down

with another student stating

A woman is constantly asked this question, but why not men? why do we not ask how society views working fathers? Society believes that a hard-working career driven woman, consequently, doesn't want, or doesn't take care of her children, which is completely ignorant. A woman can have it all, and they can be successful in their occupation, as well as motherhood.

The thoughts expressed again intertwine with the literature present, for example, El-Far et al. (2021) suggest that women, mothers or not, are placed at a disadvantage due to the socially created views that women should be the primary caretakers for their family. Meaning, that women are typically the ones within the household who are expected to take on domestic responsibilities. These views perpetuate the idea that society sees women as less capable of taking on authoritative positions as they are often recognised as 'maternal' figures.

About the students willing to be a mother some day, they argued that they wanted to gain their financial independence first, also considering their efforts in studying business in a foreign university. One of them claimed:

'I want to be a mother, but I want financial independence first. I have worked hard to finish up my degree and with this degree I want to utilise a career. . . . however, being a mother is

something my mom is really pushing for me to be, although being in my early 20's I feel nowhere near ready' with another student proclaiming similar thoughts explaining, 'I want to be a mother, but first I want to get to a point in my career I feel safe or satisfied with, this way I know I will not need to depend on someone else. However, I think my family will be happy to see me carrying on our family line'.

The literature supports these statements, in recent years, there is evidence to suggest that women are postponing having children, with reasons regarding an increase in education and labour participation, more gender equity, and the economic commitments motherhood brings. Moreover, evidence highlights that there is a lack of family policies (Mills et al. 2011). Lack of adequate family policies was also mentioned as an issue previously by some of the participants living in the USA, calling so differences in the welfare policies of different countries, affecting the choices of women in pursuing their motherhood.

Regarding cultural factors, one student underlined:

My culture believes the work of the woman is to sit at home, take care of the children, to cook- and when the husband comes home, he provides in the other ways. This restricts women to their own life and individuality. Most women who are in this situation are not living their own life, because they are restricted to what society wants of them

with another student stating:

Whilst my perception varies amongst my culture with many traditional/old school people believing 'less progressive' views, being in a westernised society has altered my families' perceptions.

Amongst the group of working mothers, culture was not heavily discussed as a reason for women halting career progression. However, as assessed by the students, culture can have a major impact on one's ability to progress, or even decide to be a working mother. This looks then like one more relevant obstacle that should be considered.

Conclusions

Motherhood and career progression are topics that are widely discussed amongst scholars, with differing opinions, data, and perspectives.

When reviewing a women's perception of herself as a working mother, the common objective seemed to be that women are reluctant to say negativities but do admit the challenges present, particularly for these women holding managerial and authoritative roles. When establishing how the workplace views these mothers, it can be evaluated that the sector, gender ratio, and workplace environment are all factors that could have a bearing on how a working mother is perceived. Nonetheless, most participants found that over time, their workplaces have progressed, and the perception is less negative than it was previously, even in non-western environments. In terms of determining how society views women, it can be established that society holds very high standards that are unattainable, and most of the time, perceptions are more negative than positive.

The literature discusses how motherhood from non-western countries heavily implies that women from these places are limited due to lack of progression.

Moreover, the man is exclusively seen as the primary breadwinner. However, the literature is not conclusive to the perceptions of women of non-western background as identified within the data. In fact, perceptions from individuals of non-western backgrounds were very similar to women of western descent. For both cultures, as time has gone on, progression for women has increased, and the ability to move up in managerial roles has also risen opportunity. Still, both societies see women as the main individual responsible for caring to be mothering duties. Therefore, we can conclude that despite the way existing literature portrays it, non-western and western women hold similar obstacles regarding being a mother and career progression.

Lastly, career progression while being a mother is not limited to one reasoning, as established multiple challenges such as time commitments, culture, gender present in the workplace, the sector, and developmental opportunities all play a part in the triumphs to progression.

Limitations and Future Research

Several limitations can be identified with the above research. Although most results are consistent with the major literature, and new insights are identified, the sample size of participants was small. Considering the working mothers, it should be highlighted that four of the women were from New York and one from the United Kingdom. New York is a small representative of the USA, as different States typically host different views, beliefs, and ideologies.

Concerning the non-western view from students coming from non-western cultures, it should be highlighted that all of them were studying and living in a western country. So, their views could be biased by the diverse environment they were living in and the (open) culture of their hosting country. Moreover, being all of them university students, their personal situation is different than probably the majority of the female population of their countries of origin. These issues may have biased some of the results of the research.

Additionally, the male counterpart was not strongly considered in this piece of research. Due to all the other elements already needing to be evaluated, implementing gender comparisons would have made the aim too complex for the scope of this study. In the future, or in the continuation of this research, considering the male perception and fatherhood may add value to the discussion.

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A Quantile-Based Composite Indicators Approach on Woman's Entrepreneurship as measured by Google Search Activity



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Abstract Women's entrepreneurship research has exploded in popularity in recent decades. Therefore, women's entrepreneurship is considered a critical component of economic growth. Women's entrepreneurship faces many barriers. However, research shows that women's entrepreneurship is successful. Given this, we predict the future intentions of women entrepreneurs. Online search activity also provides relevant information about entrepreneurial intentions. Examining the entrepreneur's interactions with the government sheds light on how the government has supported her. So we investigated search patterns for female entrepreneurs through relevant Google queries for 2021 at the regional level for Italy. In this sense, we compared approaches and strategies by analyzing search trends in each region. Using Google searches, we produced a composite indicator based on quantiles and compared it with an interval-based composite indicator. The outcome is an indicator of women's interest in entrepreneurial activity. According to our analysis, interest in women's entrepreneurship is greater in four Italian regions, possibly due to better dissemination of helpful information. Interest in women's entrepreneurship has increased, and Google search activity is a predictor or "thermometer" of female entrepreneurship. The relevance of this work is also comprehensive of the possibility of exploring how the interest changes, varying the informational environment in which the woman entrepreneur works. At the same time, we can also generalize these results to understand women's entrepreneurial activities in different regional contexts. For example, Google searches may show greater engagement and interest in potential government help initiatives at the national or regional level. Finally, analyzing and assessing a woman's entrepreneurial activities based on search activity can be a valuable predictor of entrepreneurship. Identifying four well-performing regions means observing the decision-making process that leads to practical entrepreneurial decisions. In addition, the research can identify challenges, barriers, and solutions for women entrepreneurs to overcome and build their entrepreneurial projects. In this

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respect, examining the interaction between women entrepreneurs and institutions is crucial.

Keywords Women's entrepreneurship · Entrepreneurship · Composite indicators · Quantile-based composite indicator

1 Introduction

According to statistics,¹ the number of women starting a business has increased dramatically in recent decades (Wang 2013; Mayer 2008; Carranza et al. 2018). In addition, there is a growing literature on women entrepreneurs (Paoloni and Demartini 2016; Minniti 2010; Cardella 2020). Several studies prove this tendency and help women better understand the difficulties of becoming self-employed. Therefore, we can conclude that women's entrepreneurship is crucial for promoting economic growth in developing countries (Minniti 2010; Sharma 2018) and in general. Unfortunately, many obstacles, such as the business climate, stand in successful women's entrepreneurship (Dal Mas et al. 2019; Bianco et al. 2017). However, many problems and challenges can be overcome, such as the lack of know-how and business networks (Moletta et al. 2021). In this sense, relational and human capital is fundamental to successfully conducting entrepreneurial projects (Paoloni and Dumay 2015; Demartini and Paoloni 2011; Paoloni and Demartini 2012). Furthermore, in a growing economy, women need equal opportunities to start businesses since many businesses rely on outside capital to survive. Therefore, women should be allowed to succeed in a growing economy.

In this context, the intention and the interest in starting a business are fundamental. So the paper aims to measure women's entrepreneurial intentions in Italy, comparing the different regions. The comparison is performed by tracking Google Trends data to measure the relevant interest considering related queries useful to predict and forecast the economic phenomenon we are trying to measure (see Nagao et al. 2019; Choi and Varian 2012).

In several different ways, this study contributes to the literature. First, we explore composite indicators to measure women's interest in entrepreneurial activities. This indicator can have significant business implications because it can show relevant barriers to entrepreneurship and how they can be overcome. Secondly the analysis can also show relevant experiences which can help the women's entrepreneurial activity. Thirdly, an approach based on quantile composite indicators is relevant because it allows more robust measurements related to classical composite indicators. For the rest of this article, we will follow the structure below. The following section reviews and discusses the literature on Google Trends data and latent phenomenon prediction. In the following part, we describe the methodology of

¹We are grateful to Carlo Lauro for the interesting discussion and two anonymous reviewers who contributed with suggestions and comments.

quantile-based composite indicators. Then, we discuss the results and identify some relevant policy implications. Finally, we review and discuss the approach's weaknesses and future developments. In order to measure the entrepreneur's intentions and interests, we have used Google Trends, which allows us to predict social phenomena (Cockcroft and Russell 2018).

Since its introduction, Google Trends has provided a new way of looking at search data that may show societal changes (Matias 2013). Furthermore, new research papers have shown the use of Google Trends to predict upcoming events successfully (Choi and Varian 2012; Matias 2013). Google Trends provides information on various topics and is a nowcasting tool. In this respect, following Donadelli and Gerotto (2019), it is possible to observe that specifically can exist a relationship between the frequency of Google searches and economic activity. In this respect, it is possible to observe also in Choi and Varian (2012) that there is an implied impact of the searches on the economic phenomena. So, it is possible to forecast different economic phenomena (the authors, for instance, predict unemployment claims). This work uses the different searches performed to evaluate the interest in entrepreneurial economic activities and predict women's entrepreneurial intentions in this context.

2 Methodology

In order to measure the entrepreneurial economic interest, we consider different searches on Google. Google Trend proved to be very useful for tracking economic activity (Donadelli and Gerotto 2019; Gómez Martínez 2015), so we concentrate on the different Google searches related to women's entrepreneurship. More specifically, the different queries are chosen to evaluate the relevant ones that can be searched by a woman entrepreneur or relevant in this context.

Furthermore, the searches cover widely the phenomenon we try to measure (interest in woman entrepreneurship in Italy). Of course, the choice of searches is an essential part of the analysis, so the highest number of searches is considered for constructing the composite indicator. The queries performed are enumerated in Appendix. The search period is from 2021-01-01 to 2021-12-31, so we covered the year 2021. The data considered covered Italy and considered queries in the Italian language. The data source in this sense is Google Trends (Google Trends 2022).

In order to combine the information related to the different searches over time, we have considered a composite indicator allowing for the use of all the different measurements using different queries. For example, the composite indicator measures the extent of interest in women's entrepreneurship and the related regulations or financing aspects. A composite indicator allows combining the information related to different variables, which are the different queries (related to different aspects of the phenomenon we are investigating). Composite indicators are essential statistical tools that can be used to measure complex phenomena. They also allow us

to construct rankings that can be used for policy purposes (see Joint Research Centre-European Commission 2008; see Saisana et al. 2005; Becker et al. 2017; Saltelli 2007).

The relevant problem here is that we need to consider different specifications of our composite indicator. Since a composite indicator is open to various possible specifications, queries concerning the final measure of interest can be made. Therefore, considering an equal weight is only an option that should be considered. Moreover, the choice of a single specification is typically subjective (Greco et al. 2019; Stefana et al. 2021). So in this respect, a different approach was proposed by Drago (2017). In this context, the idea is to obtain a comprehensive composite indicator using a Monte-Carlo simulation by applying different parameterizations of the initial specification (see Drago and Gatto 2022a, b; Drago 2021; Drago and Gatto 2019; Gatto and Drago 2021 for a different approach based on the ranks). For instance, it is possible to simulate the different weighting structures of the composite indicator. This approach also allows for evaluating the robustness of the initial results (see Gatto and Drago 2020). In this sense, it is usually said that the interval-based composite indicators tend to endogenize the sensitivity analysis typically performed on constructing a composite indicator (Gatto and Drago 2020). In this work, the innovation is related to using a different approach than intervals in constructing the final indicator. Here the final indicator is constructed utilizing a quantile indicator. Here the different descriptors are relevant quantiles obtained from the original indicator.

In this respect, the quantiles allow for an alternative representation to intervals (see for a different approach Davino et al. 2018). In this sense, the quantiles can show the entire data structure. They can allow us to understand better the structure of the Monte-Carlo simulations obtained if necessary (see the relevance of the understanding of the underlying simulations on the construction of interval-based composite indicators Drago 2019). In particular, their use can be interesting when we want to observe and compare the single quantiles in the different simulations and not explicitly an interval center. In this respect, the median of the indicator in their use is equivalent to the center computed using the intervals.

The two approaches are complementary because they are returned and can give different relevant information. In order to construct the composite indicator based on quantiles, we consider by simulation different specifications of the composite indicator and a single weighting of the composite indicator. In the end, we compute 2000 different simulations of the composite indicator. This result allows the construction of the final indicator based on the quantiles, computed considering all the outcomes obtained by simulation. The second composite indicator is based on the interval computed from the original simulation and the center and radius computed from the procedure. The center is the final value of the composite indicator, and it is typically used to compare the different regions (excluding extreme evaluations, which can be analyzed considering the lower bounds), where the range between upper and lower bound represents the variability of the different measurements.

3 Results

In order to interpret the results, we need to take into account the two different representations. In particular, we obtain two different tables to compare the results for the two composite indicators in Tables 1 and 2. We have considered the quantile and interval-based composite indicators approach to compare the different results.

We can observe higher ranks for Sardinia, Lombardy, Lazio, and Veneto from the quantile approach. First, we consider the median as the central value of the Monte-Carlo simulations. The result means a higher interest for the different queries in general, so there is a higher interest in entrepreneurial activities as financing a business in these regions. This result can also be due to the regional support for entrepreneurial activities. Interestingly, Veneto shows a substantial difference in their results considering each quantile. For instance, in the 10th quantile, Veneto performs worst than Lazio and Piedmont.

The result means a higher variability in the different results considering the different queries. So, Veneto performs better on some queries (showing attention to some approaches to women entrepreneurship in the region) than others. On the other hand, the Lazio, Lombardy, and Sardinia results are more consistent with their positions. That means that there is less variability in the different queries. In order to compare Table 1 with Table 2, the quantile-based composite indicator with the

Table 1 Quantile approach: ranking by 50th quantile

Region	q10	q25	q50	q75	q90
Sardinia	0.17	0.68	1.3	1.96	2.46
Lombardy	-0.07	0.11	0.86	1.69	2.38
Lazio	-0.04	0.23	0.58	1.19	1.69
Veneto	-0.23	0.05	0.45	1.33	2.08
Piedmont	-0.17	-0.03	0.2	0.65	1.04
Emilia-Romagna	-0.33	-0.13	0.19	0.54	0.87
Tuscany	-0.15	-0.01	0.13	0.3	0.42
Sicily	-0.17	-0.07	0.13	0.42	0.69
Apulia	-0.41	-0.25	-0.09	0.13	0.29
Campania	-0.41	-0.28	-0.15	0.2	0.47
Calabria	-0.54	-0.45	-0.31	-0.21	-0.05
Abruzzo	-0.63	-0.52	-0.36	0.31	0.8
Basilicata	-0.64	-0.53	-0.39	-0.16	0.07
Liguria	-0.65	-0.55	-0.44	-0.33	-0.24
Friuli-Venezia Giulia	-0.65	-0.57	-0.46	-0.36	-0.28
Marche	-0.67	-0.59	-0.49	-0.4	-0.32
Aosta	-0.9	-0.74	-0.58	-0.45	-0.34
Molise	-0.9	-0.74	-0.58	-0.45	-0.34
Trentino-Alto Adige/South Tyrol	-0.9	-0.74	-0.58	-0.45	-0.34
Umbria	-0.9	-0.74	-0.58	-0.45	-0.34

Source: Authors

Table 2 Ranking by the center of the interval-based composite indicator

Region	Lower bound	Center	Upper bound
Lombardy	-0.16	1.32	2.81
Sardinia	-0.1	1.31	2.72
Veneto	-0.37	1.05	2.48
Lazio	-0.15	0.9	1.96
Piedmont	-0.23	0.52	1.26
Emilia-Romagna	-0.41	0.32	1.04
Sicily	-0.23	0.29	0.81
Abruzzo	-0.69	0.17	1.04
Tuscany	-0.21	0.13	0.47
Campania	-0.47	0.07	0.6
Apulia	-0.47	-0.05	0.37
Basilicata	-0.69	-0.26	0.17
Calabria	-0.6	-0.3	0.01
Liguria	-0.7	-0.45	-0.2
Friuli-Venezia Giulia	-0.7	-0.48	-0.26
Marche	-0.71	-0.49	-0.28
Aosta	-0.97	-0.63	-0.29
Molise	-0.97	-0.63	-0.29
Trentino-Alto Adige/South Tyrol	-0.97	-0.63	-0.29
Umbria	-0.97	-0.63	-0.29

Source: Authors

interval-based composite indicator, we observe the general robustness of the different results obtained. It is relevant to note that the 0.01 and 0.99 quantiles in the intervals are used to evaluate the more extreme values of the composite indicator based on the different specifications sampled. Considering these results and interpreting them makes it possible to observe economic activity or interest in financing business, regulations, or economic opportunities.

Furthermore, it is possible to note from the results that where there is a higher volume of searches from public institutions, there is a higher volume of searches. That means the role of institutions in spreading the relevant information on women's entrepreneurship is very relevant. Also conceivable is the differentiation and evaluation of the many gaps between multiple organizations and institutions. In order to close these gaps, one must first identify what can be accomplished through effective communication tactics to raise awareness of the entrepreneurial potential of women (see, for instance, Hunt and Aghazamani 2017). Overall, better institutional communication can improve the interest and awareness of empowering women entrepreneurs. At the same time, the role of social media and good institutional communication cannot be under-evaluated.

In this sense, communication that uses different media channels can better empower women. Following Dewi (2020), evidence exists that social media may empower women in political, social, cultural, and economic arenas worldwide,

expanding in quantity and quality of evidence. In addition, the Internet and social media have a relevant role in collecting and exchanging information throughout the entrepreneurial process.

Social media has become an essential source of inspiration, empowerment, and networking for women entrepreneurs and professionals (Secundo et al. 2020; Khan et al. 2021). Users can share information, participate in debates, and communicate via social media platforms (Dewi 2020). The final effects of good communications and proper channels empower women's entrepreneurial process. Finally, it is also essential to consider the role of a clear and well-written text in the diffusion of information. This fact shows the difficulty of the process of institutional communication.

It is also interesting considering the worst results are for Aosta, Molise, Trentino-Alto Adige, and Umbria. Here, the result can be explained by a lower attraction of results in Google for the considered topics in these regions. It may result from women's entrepreneurial activities differing from searching for information online or less interest than in other regions.

The use of the quantiles is essential to identify some regions performing better on some specifications than others. The usefulness of the quantiles can become clear if we consider that some regions can perform better than others (as in the case of Veneto and Abruzzo). Abruzzo is an interesting case because it shows how the region is highly focused on specific queries. Generally, there is a bad performance on the indicator showing lower interest.

The interval-based composite indicator considers a different approach based on different quantiles. In this sense, the quantiles considered emphasizing the role of the extreme scenarios. These scenarios are helpful in economic policy where there is a difference in these rankings, meaning higher vulnerability or higher capacity to perform better considering specific specifications.

The results related to the interval-based composite indicator show strong robustness. The results seem consistent as rankings considering both the interval-based and the quantile-based composed indicator. The results are consistent in both methodologies, which means consistency in the evaluations.

4 Conclusions

We have considered a new approach for measuring women's entrepreneurship and economic activity in this work. Google measures the interest queries to track the interest in 2021 for the Italian regions. Furthermore, where research papers have shown the use of Google Trends to predict upcoming events successfully, it could be helpful to use this tool to track the economic activity of women's entrepreneurship interest.

The construction of a composite indicator is based on quantiles (a quantile-based composite indicator in which we also consider the interval between quantiles) and on intervals (interval-based composite indicator). The results show that four regions

perform better: Sardinia, Lombardy, Lazio, and Veneto. Furthermore, these regions show a higher interest in the considered queries, so in general, an higher interest in women's entrepreneurship. The data gathered shows that the number of searches is higher in areas with a greater level of activity by public entities disseminating information in this context. This suggests that the role of institutions in spreading pertinent information about women's entrepreneurship to the public may be of great importance. The limitations of this work are related to the fact that we have used only Google Trends as a source. In this respect, it is possible to consider more approaches to measure the interest in women's entrepreneurship. Future extensions can be devoted to exploring more aspects of women's entrepreneurship, which can be explored both considering web and social data.

Appendix: Queries Performed

“Imprenditoria femminile,” “Impresa donna,” “Fondo impresa donna,” “Imprenditoria femminile 2021,” “Bando imprenditoria femminile 2021,” “Finanziamenti imprenditoria femminile,” “agevolazioni imprenditoria femminile”

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Increasing the Participation of Women in Aviation. Analysis and Strategies in a Male-Dominated Industry



Federico de Andreis

Abstract Women's contributions to aviation have been long overlooked even if they have been involved in the sector since its initial days.

Since the early period of flying, women have been active participants even opportunities in the industry did not come easily. Nevertheless, from its initial days, aviation appeared to be a male-dominated industry, where female employees have been objectified for a considerable time.

During the last two decades of fight, determination and perseverance, the number of women involved in that industry has steadily increased and they can be found in nearly every aviation occupation today. Despite this quantitative increase and the amplified awareness of gender and race equality movements, today's population of women in aviation is still underrepresented.

The purpose of this research is to explore the lack of female representation in commercial aviation, in which women still do not benefit from the same professional opportunities as men and to provide a better understanding of this gap in the workforce in a variety of fields, also identifying which are the boundaries and trying to find possible approaches for greater inclusiveness.

There are, in fact, several campaigns, started in the last few years, representing an initial step to make the aviation industry more gender balanced but it appears necessary to understand how to support these initiatives which, although voluntary, represents an important contribution in a sector where women are often left behind.

Despite the importance of the topic, there is not enough research surrounding the minority women in aviation. Therefore, this research aims to bridge the existing gap in the literature and to raise awareness for gender equality in the industry.

The research, carried out through a qualitative descriptive analysis, focused on the gender gap in aviation, aiming to investigate the gender distribution of aviation personnel, what factors affect female underrepresentation, what tools have already

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been put in place to increase female participation in the sector and which future strategies could be implemented.

Summarizing the aim of the paper is to answer the following issues:

RQ1. Investigate the gender numerical presence in aviation industry.

RQ2. Which factors influence women underrepresentation?

RQ3. How could strategies be implemented to involve more women, reducing the gender gap?

In order to answer these questions, the phenomenon and its causes were observed, using data provided by the International Civil Aviation Organization and existing literature, then an interview of 50 women with different job positions in aviation organizations, was used in the form of an extended conversation.

The findings of this explorative research showed that the female marginalization is caused by cultural factors and not by industry-related dynamics.

The studying, contributing to the literature on gender studies, has some managerial implications which refer to what possible strategies could be helpful in fostering the greater integration of women in air transport.

Keywords Aviation · Aviation culture · Employment context · Inclusion strategies

1 Introduction

Aviation has created by man and its history is often told as a chronicle of the achievements of men.

In 1903, and precisely on December 17, 1903, the Wright brothers in the USA discovered how to sustain controlled flight in an aircraft powered by engine, realizing the first flight with a vehicle equipped with a petrol engine. Seven years later, the French-man Louis Blériot made an aerial sea crossing of the English Channel in a powered aircraft.

Such events marked the beginning of flying and, certainly, almost everyone is able to remember the brothers Orville and Wilbur, but how many know of the existence of their sibling Katharine and her support to this deed so that her heroic brother Wilbur Wright was even recorded as saying, “If ever the world thinks of us in connection with aviation, it must remember our sister.”?

Flying in these days was hazardous and the pioneer of aviation needed determination and courage, qualities that, at least in the past, that is to say for a good period of the twentieth century, seemed to belong to men and that have long influenced the role of women in air transport (Lomax 1986).

In its early days, aviation appeared to be a male-dominated industry, where female employees were considered to be dedicated to attracting customers and often used to lure them on board aircraft. Women have been objectified for a long time and, even today, more than 79% of flight attendants are women.

During the last 20 years, the air transport sector has finally begun to create more opportunities for women and the number of female professionals involved has

steadily increased. However, the numbers are small by comparison with men. It is widely agreed among a range of sources that women represent only 6% of pilots working in airlines worldwide and only 3% are airline CEOs (Seligson 2019).

According to a study of Business Report (IBR)—Women In Business 2020 by Grant Thornton International, women will hold 29% of corporate leadership positions in 2020, confirming stable numbers compared to 2019. Therefore, the number of companies with women in the role of CEO, increased by 5–20% globally in 2020, compared to 15% the previous year. Despite these results, although still far from a perfect balance between men and women in top positions, showing a slight increase in numbers, it seems necessary to analyze why in some sectors, such as aviation, the percentages are much lower and what can be done to counter this trend.

Given these appropriate assumptions, the research aims at analyzing which action can be taken to involve women in aviation and at arising new points of view based on how it is possible to change the organizational culture in air transport organizations, by placing women at the center of strategies, providing for greater professional development.

From here, the aim of this paper is to carry out a literature review to investigate the presence of women in different roles in aviation industry, also by using empirical data, to analyze the factors leading to poor female participation in the industry and to promote possible strategies and actions useful to increase the number of women in the various roles in air transport organizations

To summarize, the aim is therefore to answer the following issues:

RQ1. Investigate the gender numerical presence in aviation industry.

RQ2. Which factors influence women underrepresentation?

RQ3. How could strategies be implemented to involve more women, reducing the gender gap?

This paper contributes to expand the literature on connection between gender studies and aviation and is structured as follows. In the following Sect. 2, the method of the research is set out. Next, the findings of the literature analysis are shown in Sect. 3 and the data on female employment are reported in Sect. 4. In Sect. 5, the results of the interviews conducted are analyzed and discussed. Furthermore, conclusions are offered in Sect. 6.

In the study, in fact, important aspects emerge that are not only economic but also cultural. From the point of view of the organizational cultures, it is therefore possible to highlight that cultural and human factors have always been taken into particular consideration in aviation and since the late 1980s numerous studies have been dedicated also to better understanding how humans can most safely and efficiently be integrated in organizations.

It follows that an incorrect perception of the role of women in air transport and the consequent lack of full inclusiveness has consequences not only of an economic nature but also of an organizational nature, especially in aviation where companies can be considered as HRO—High Reliability Organizations, i.e., those that have managed to drastically reduce or eliminate accidents and disasters despite operating in complex and risky domains (Inan 2020).

Thus, it is necessary to investigate if this important integration of individuals and of their organizational attitudes, considering also examples of incorrect perception of the female role in aviation, has included a greater emphasis on women or not.

2 Research Approach and Methodology

The paper is the result of a combination of industry and worker inputs and it has benefitted from information and data provided by the International Civil Aviation Organization, with the aim of identifying the situation and underlying strategies of promoting, establishing, and implementing policy choices that advance gender equality.

The present study, focused on the percentage of female employment in aviation, is the result of qualitative research aimed at providing a contextual analysis and it uses the tool of an interview.

Through a literature review the research, in fact, highlights the underestimated contribution of women in aviation and it offers, by administering an interview to 50 women coming from European countries and with different professional profiles in aviation, some recommendations to the industry to actively promote the representation of female workforce.

The interview methodology was that of extended conversation, asking interview participants, after preliminary discussion, a series of informal questions to obtain knowledge and with the intention that the participant could remain flexible and responsive.

3 Literature Review

Tracing briefly the history of aviation, close to the successes of men, also important landmarks, represented by women, appear.

For example, E. Lillian Todd, a self-taught inventor passionate for mechanical devices, could be identified as the first woman in the world to design airplanes, which she started in 1906 or earlier, or Elise Raymonde de Laroche, from France, known as the first female-pilot, which obtained her license in 1910.

Moving forward in time, in 1929, the first organization opened to any pilot-licensed woman, later taking the name of the “Ninety-Nines,” was created to let them networking with each other and a total of 99 women pilots took part in it, with Amelia Earhart—the first woman to fly across the Atlantic Ocean in 1928—elected as first President in 1931 (Cooper and Rajnus 2008).

Helen Richey was a pioneering female aviator and the first woman to be hired, in 1934 by Central Airlines, as a pilot even if after making her first regular civil flight from Washington to Detroit she was forced to step down from the cockpit by the all-male pilots’ union (Pelletier 2012).

Later, with the application of aircraft and aeronautical technology in the military field, in the USA (within the Women Airforce Service Pilots—WASP and the Women's Auxiliary Ferrying Squadron—WAFS) and in the Soviet Union (within the 588th Night Bomber Regiment), women pilots were recruited to serve during the Second World, although in the USA, with the introduction of the Civilian Pilot Training program (CPT) in 1938, they were limited to fly ferry flights because the army was faced with a severe shortage of pilots, and leaders gambled on an experimental program to help fill the void, training women to fly supportive military aircraft, so male pilots could be released for combat duty overseas (Cole 1992).

It is important to note that despite this fundamental contribution to the war effort, women pilots were only paid two-thirds of the wages received by men for work of equal value and that, even though the 90% of the women pilots wished to stay in the military after the war, the WASP and the WAFS were deactivated, since male pilots protested against military and veteran status for female pilots (Merryman 1998), in fact, it was not until 1973 that women were permitted to join the US Navy as pilots and until 1976 when they could once again join the US Air Force.

The war had also taken women into the air on the other side of the globe and, as mentioned, the Soviet Union formed several battalions of women combat pilots, including bomber units and fighter plane squadrons, while England's Air Transport Auxiliary—ATA had women pilots who ferried planes under combat conditions.

In 1973, a commercial US airline, American Airlines recruited Bonnie Tiburzi as its first woman pilot, although Dan-Air in the UK had already been recruiting women pilots since 1965.

Thereafter, from the late 1970s onwards, the development of the aviation industry resulted in more opportunities for women.

Civil aviation, in fact, was a highly regulated industry until 1978 when, the USA, with the Airline Deregulation Act, signed by President Carter, liberalized the airline industry, removing federal control over such areas as fares, routes, and market entry of new airlines (Belobaba et al. 2011).

Following the lead of US experience, many countries started to deregulate the civil aviation market through a reorganization of the industry, with new business models, a sustained fall in prices, an increase in the offer, and the growth of passenger and freight traffic. Overall employment in civil aviation also increased and this allows us to reflect on how this growth has involved women.

The effects of sector liberalization began to be visible first in the USA towards the end of the 1980s and then in Europe since the 2000s, reaching a global number of air passengers doubled between 2005 and 2017, from 1.97 to 3.98 billion, causing a need of more staff that has seen women always underrepresented as pilots, as well as in maintenance, in air traffic control and in directive positions, as result of stereotyped views that women do not have the abilities needed to fly or repair an aircraft or running an airlines and the lack of encouragement for women to choose careers in aviation (Houston 2018).

Based on an investigation of the University of Westminster, UK, taken in 2019 in order to identify and understand the causes underlying female minority in commercial aviation, it emerges that there are some obstacles to women's participation and

representation in commercial aviation, which have been summarized in the three main themes: challenges and gender issues, support and role models and, finally, family and education (Ferla and Graham 2019).

Regarding the first theme, the research provided evidence of such discrimination, which mostly came from passengers, rather than instructors, male colleagues, or management, showing that part of the prejudice towards women in the industry also extends to the categories better represented and derives from cultural difference.

In general terms, the cited research suggest that also support and role models discourage girls and women from pursuing a career in commercial aviation.

In fact, it is not simply the anxiety of a discriminatory and/or hostile environment, of prejudices and stereotypes, but rather the lack of support towards those both wishing to start a career in aviation and already working in the field, as a result in a serious lack of role models and mentors in the industry.

Finally, the research also highlights an issue related to an absence of support by family and educational establishments, not only due to financial concerns but also due to the idea of mobility, uncertainty and long and unsociable working hours.

4 Analysis

The question then arises about the cultural aspects being so central to the role of women in aviation.

For which reason then more than 79% of flight attendants are women? Why do the points made above not seem to apply when the role that is assigned to women is dedicated to attracting customers and often used to lure them on board aircraft?

The issue seems to be related to the organizational culture in the aviation world, where cultural limitations, in some cases, have had important consequences.

Going back to the past we can analyze, for example, what happened to a Saudi Arabian flight in 1980.

Briefly the plane, after an in-flight cargo hold fire, performed a successfully emergency landing at Riyadh airport, followed by a failure to evacuate, resulting in the deaths of all 287 passengers and 14 crew.

The investigation of the disaster showed that, despite having landed at the airport, the captain did not understand the urgency of opening the doors and evacuating all those on board and he did not give the command for evacuation to the crew, not perceiving that the flames were spreading in the aircraft cabin.

The aircraft equipment records demonstrated a deficiency in the crew resource management, such as communication gaps, which prevented the crew from initiating the evacuation of the plane. These “gaps” were enabled by so-called “cultural power distances” between superiors and subordinates (Gosh 2011), in this case female.

The analysis of the accident, in fact, showed several attempts by the female-flight attendant, both in flight and on the ground, to urge the captain to initiate the evacuation procedure as soon as possible, but the Cockpit Voice Recorder, a device used to record the audio environment in the flight deck for accidents and incident

investigation purposes, confirmed that he ignored her valid concerns, replying her more than once that he had the situation under control and asking her to “take her position,” considering her too emotional (Thomson 2013).

Following this discussion, it seems important to reflect on a key point that has emerged during the review of the current literature and the brief analysis of the case study.

The academic community generally acknowledges gender equality and diversity issues in commercial aviation and concentrates mostly on general discriminations and sexism, not adequately assessing the potential main causes and consequences of underrepresentation.

It could be believed that the case highlighted is from several years ago and, therefore, it might not happen nowadays, considering the greater attention given, since the late 1980s, to human factors, to human resource management and to interactions between individuals in organizational contexts, leading to greater safety in aviation environments (Dumitru and Boşcoianu 2015); then why did the International Air Transport Association—IATA find it necessary to set up a voluntary initiative for aviation to improve female representation in the industry, i.e., Advancing Gender Balance by 2025?

The campaign was set up to raise awareness of the need to improve female representation in the aviation industry, as an initial step in making the aviation industry more gender balanced, recognizing female talent, and creating opportunities for women in which they can thrive.

In aviation, in fact, women represent around 5% of the global pilot population, 3% of CEOs and around 8% of CFOs; consequently, the gender imbalance in the sector is clear (IATA 2018).

The first panel (Fig. 1) shows that the share of women holding CEO, CFO, and COO roles in the world’s Top 100 airline groups is low. Female CEOs, COOs, and CFOs represent a smaller percentage than other industries, while the situation is reversed, analyzing HR Directors, in fact around 1/3 of airline HR Directors are women, against 23% in the broader sample.

Figure 2 adds the gender split in senior roles at the leading airline groups, classified by their geographic region and as result North America and Europe are the best performers on this measure, compared with Africa, Asia-Pacific, Middle-East, and South America (Harper 2017).

Despite some cases of best practice and some roles that, compared to other sectors, include more women, the data clearly indicate that, although the increased awareness and progress, the issue of gender diversity in the air transport industry remains very much a work-in-progress.

The commercial aviation industry, in fact, is under pressure due to the lack of gender diversity and equality from social and ethical points of view, especially in an era of increased awareness of women’s rights and participation.

Despite a few improvements and advancements, the industry still seems slow to address the gap of female participation and the need for gender and equality as a fundamental issue to tackle, as it still tends to lack concrete efforts and actions to guarantee equal access and career development opportunities (Ferla and Graham 2019).

Fig. 1 Share of women in senior executive roles.
Source: Harper (2017)

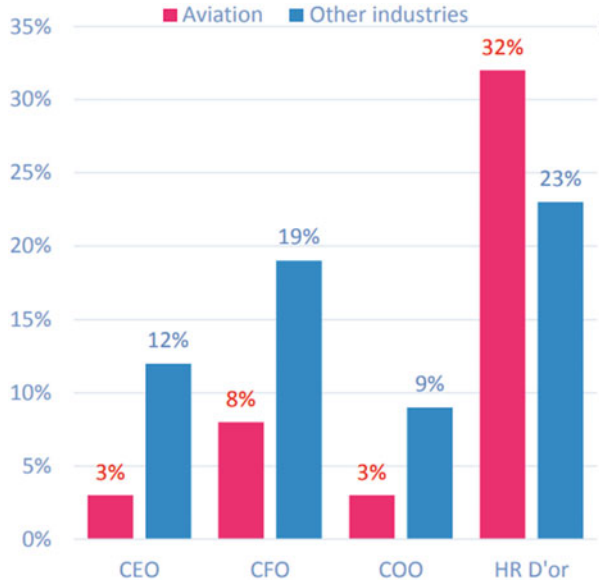
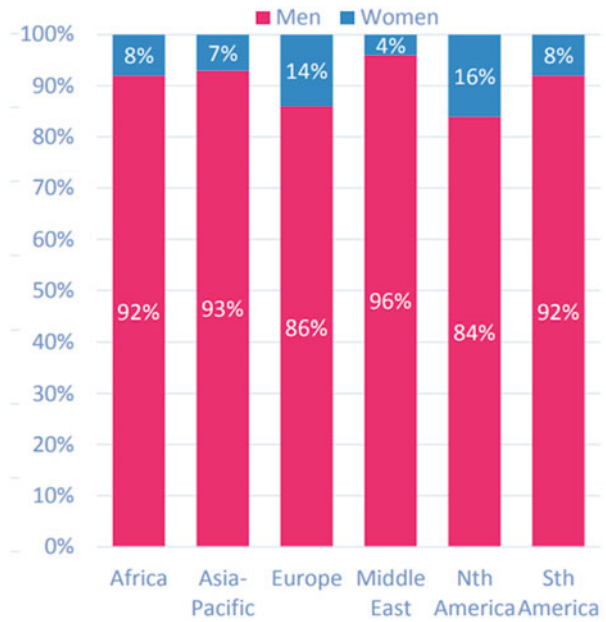


Fig. 2 Senior executive roles in aviation, divided into geographic areas.
Source: Harper (2017)



5 Discussion

There are many benefits to increasing diversity and inclusion in aviation and aerospace workforce, since both values create diverse representation of thoughts resulting in enhanced safety, innovation, and profitability. If, as known, humans need to be safely efficiently be integrated in organizations, how it will be possible include a greater emphasis on women?

The research has been conducted with an interpretivist approach, which aims to understand the role of women in aviation through people, empathy, shared experience and culture.

The interview has been administered to 50 women, selected according to their professional background in air transport and coming from European countries but mostly working in Italy, with different positions in air transport organizations, such as airlines, aviation agencies, air traffic management companies, regulatory authorities and aviation consulting companies.

The interview was structured in the form of an extended conversation, not reflecting any preconceived theories or ideas and with open-ended questions, in order to explore research subjects' opinions, behavior, experiences, phenomenon, etc.

Interview questions are usually so that in-depth information will be collected.

The participants to the survey were asked to be questioned either by phone, with a face-to-face meeting or through an email interview. The interviews were administered for 1 month, precisely between November 30, 2021, and December 30, 2021. Before submitting this instrument, it has been explained that the survey was anonymous and used only to collect data for the purpose of the study.

In the first part of the survey, the respondents were asked about their perceptions of discrimination and prejudice and which the reasons might be. It turns out that despite recognizing that issues based on gender have affected their careers to a minor extent, they acknowledged that discrimination and prejudice towards women working in commercial aviation, are still present, confirming what is already in the literature (Ferla and Graham 2019).

The cause can be traced back to psychological, organizational, cultural sociological, and physical factors, therefore related to the perception that, particularly in aviation, certain occupations are off-limits to women, attributable to female role models, early education and patriarchal culture. This attitude contributes to the creation of the assumption according to which, for example, women can become "airline stewardesses, but never pilots" (Cox 1977).

Moving on the possible strategies of inclusion to set up, the results showed us that the considerations previously analyzed are shared by those working in the industry and that the best practice seems to be those focusing on the organizational culture.

The interviewed highlighted the need of a creation of a more equal and diverse workforce, through CSR programs and initiatives committed to gender inclusion with detailed targets and through initiatives of good practice which could adopted as model.

An example of these first moves could be the Women in Aviation and Aerospace Charter, established by the UK Government, in 2018, with the aims of improving the gender balance of the industry workforce and fair possibilities, to which the majority of British airlines, airports, aerospace companies are committed, to provide impartial work opportunities and promote gender diversity and inclusion (Department for Transport 2018).

Further examples are provided by airlines embedding gender equality and diversity in their CSR programs, such as, among the different, Air France-KLM (programs developed in 2017 and 2018), with a program promoting gender diversity, formalizing commitments (such as the work-life balance), increasing the number of women in committees and supporting initiatives aimed at female students or American Airlines (program developed in 2018), working on gender diversity and inclusivity through the implementation of nondiscrimination policies and the increase of female representation in boards (directors, managing directors and officers), as well as EasyJet (programs developed in 2015 and 2019), encouraging equal opportunities through several initiatives and campaigns, also with regards to recruitment, retention, pay and promotion of women, in order to reduce gender gap.

The results of the survey demonstrated also that the women are aware of these initiatives, recognize their usefulness, and point out their lack in many countries and organizations, believing them to be a valuable tool for promoting a less sexist and more inclusive organizational culture.

Concluding the analysis of the interviews, when women were asked to propose strategies and suggestions, which are well supported by the literature, for increasing female participation in the aviation industry, it emerges that the following are considered useful:

- Providing more female role models in order to give women already working in the industry more visibility, also through social media
- Engaging more women to take into consideration the aviation careers
- Establishing financial aid schemes for aviation education and training
- Creating mentoring programs able to support professionally the female workforce
- Promoting communication and information about gender diversity and role bias
- Increasing awareness about the industry
- Acting proactively against any discriminatory behaviors, in order to contribute to the eradication of sexist stereotypes and discriminations

6 Conclusions and Implications for Future Research

The main objective of the present research has been to investigate the underrepresentation of women in a male-dominated industry, such as commercial aviation.

The picture that emerges, also through the literature analysis, is that female marginalization is caused by cultural factors and not by industry-related dynamics.

The study shows us a significant analysis of the women's status in aviation, both from a quantitative point of view, through the data, and from an empirical point of view, through the interviews that show us the perception of the issue. As well, there are some limitations; a bigger-sized and diverse sample could have provided the research with more validity and quality and future researches could cover different geographical areas, where not only the organizational cultures but also the local cultures have an influence on women's working conditions.

Although there are women who obtained their flight licenses in the early 1900s, who contributed in World War II, or who were commanders of the space shuttle, as the astronaut Eileen Collins in 1999, commercial aviation is still believed to be a men's field, due to the influence of gender roles and bias on the society and culture.

Limits to women in aviation careers are represented by a male-dominated environment, stereotypes and prejudices, discriminations, work-life imbalances and low visibility in media and popular culture, which are among the first causes of female underrepresentation in the industry.

Management, organizational behaviors, but also families, education and societies are to blame of this underrepresentation, but, certainly, some best practices initiatives have been put into effect and, as emerges also from the analysis of the interviews, these could become models to be followed and implemented.

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Board Gender Diversity, Female Leaders and Corporate Environmental Responsibility: A Structured Literature Review



Federica Ricci, Vincenzo Scafarto, and Gaetano della Corte

Abstract Purpose—Nowadays, there is an increasing social, economic, and regulatory pressure on firms to improve their corporate environmental performance (CEP). CEP is an important subset of the overall corporate social responsibility and refers to the specific efforts firms undertake to save energy and decrease pollution as well as to the activities geared towards promoting environmental protection.

In view of the increased attention to corporate environmental responsibility, scholars have begun to explore the potential drivers of CEP including board gender diversity (BGD) and female representation in management. Researchers assume that female directors and managers are more sensitive to environmental issues and care more about the needs of other stakeholders beyond shareholders. However, the empirical research has yielded mixed results. Some studies show that firms with greater BGD or female leadership have a better CEP, while others find no significant association or even a negative one.

The purpose of this chapter is to review and systematize the empirical literature on board gender diversity, female leaders and CEP and to outline an agenda for future research.

Methodology—We first conducted a Scopus search to take stock of the empirical works on gender diversity and CEP, then we analyzed relevant articles using the SRL methodology combined with an in-depth content analysis, in order to identify the main research topics and the major existing gaps.

Findings—The existing research has focused on four main thematic areas: (1) Board gender diversity, female leaders and environmental performance;

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(2) Board gender diversity, female leaders and environmental disclosure; (3) Board gender diversity, female leaders and environmental innovation; and (4) Board gender diversity and female leaders as moderating factors between corporate environmental performance and corporate financial performance. This literature has tended to focus on the direct effect of gender diversity on CEP, but relatively few studies have investigated the contingencies factors that may affect this association. Future research should explore the boundary conditions of this linkage at different levels of analysis (i.e., at organizational, institutional, and individual levels) so as to reconcile previous inconsistent findings. Also, research has not thoroughly analyzed the mediating mechanisms of the effect of gender diversity on CEP. Further studies should fill this void as well. In terms of empirical strategies, the vast majority of studies employ quantitative research methods and assume a linear relationship between gender diversity and environmental performance. Future research should also explore the potential curvilinear effects of gender diversity and employ more qualitative and mixed-methods approaches.

Originality—To the best of our knowledge, there are no structured literature reviews that comprehensively examine this empirical literature.

Keywords Board gender diversity · Female leaders · Corporate environmental responsibility

1 Introduction

In recent years, firms have been increasingly pressured by stakeholders to improve their corporate environmental performance (Saeed et al. 2022). In response to this increased demand for environmental sustainability, a growing number of firms have developed environmental strategies to guide and report their environmental-friendly vision, employing various mechanisms, including the implementation of gender diversity in board and management.

Previous studies have shown that the involvement of women in board and management positions is a corporate governance mechanism that can affect several corporate outcomes. For example, Jurkus et al. (2011) concentrated on the relationship with agency costs, Srinidhi et al. (2011) and Strydom et al. (2017) focused on earnings quality, while Arun et al. (2015) and Sial et al. (2019) examined the association with earnings management. Gul et al. (2011) examined the impact on the informativeness of stock prices, and Al-Shaer and Zaman (2016) on sustainability reporting quality.

Studies have also investigated the relationship between gender diversity and financial performance reporting either a positive (Erhardt et al. 2003; Carter et al. 2010; Galbreath 2018), negative (Adams and Ferreira 2004; Ahern and Dittmar 2012), and even no association at all (Farrell and Hersch 2005; Rose 2007; Adams and Ferreira 2004).

Recently, research has also begun to examine whether that female representation in board and management can affect corporate non-financial performance,

particularly social and environmental performance (Jia and Zhang 2013; Azmat and Rentschler 2017; Rao and Tilt 2016; Nekhili et al. 2017; Wang et al. 2021). Scholars argue that female directors are more likely to apply ethical standard in decision-making (Ambrose and Schminke 1999; Pan and Sparks 2012), because females are more democratic and participative than men (Ray 2005). Larkin et al. (2013) and Landry et al. (2016) found that the higher the percentage of women on the board of directors, the more likely the company is to appear on lists of the most admired companies, the most ethical companies, the best companies to work for and the best corporate citizens. Women are also expected to be more environmentally concerned than men and to adopt pro-environmental behaviour (McCright and Xiao 2014; Kennedy and Dzialo 2015; Atif et al. 2020). However, this assumption has yet to receive unanimous empirical support.

Harjoto et al. (2015) and Elmagrhi et al. (2019) showed that the presence of female directors has a positive impact on the overall corporate environmental performance whereas other studies have failed to find any significant association between the presence of women in the boardroom and corporate environmental performance (Alazzani et al. 2017).

Research has also focused on assessing the influence of BGD on corporate environmental responsibility disclosure, again with mixed results. For instance, Hollindale et al. (2019) found that companies with more female executives on the board provide higher quality greenhouse gas emissions information. Jizi (2017) and Katmon et al. (2019) found a positive association between board gender diversity and the quality of corporate environmental responsibility disclosure. On the contrary, Prado-Lorenzo and Garcia-Sanchez (2010) and Cucari et al. (2018) reported a negative association.

The purpose of this chapter is to provide a comprehensive and critical review of the existing research on board gender diversity, female leaders and CEP. In order to do so, this paper employs the structured literature review (SLR) methodology following previous studies (Di Vaio et al. 2021; Secundo et al. 2020; Paoloni and Demartini 2016; Jesson and Lacey 2006). It also extends the SRL methodology by performing an in-depth content analysis to further develop findings.

Our findings indicate that the existing research focuses on four main thematic areas:

- Board gender diversity, female leaders and environmental performance (A1)
- Board gender diversity, female leaders and environmental disclosure (A2)
- Board gender diversity, female leaders and environmental innovation (A3)
- Board gender diversity and female leaders as moderating factors between corporate environmental performance and corporate financial performance (A4)

This paper contributes to the ongoing discussion on whether gender diversity promotes positive corporate outcomes, through systematizing and summarizing the existing research on board gender diversity, female leaders and corporate environmental responsibility. Combining the structured literature review and content analysis methods, this paper identifies the trending topics, highlights research gaps and methodological issues and suggests avenues for future research. To the best of our

knowledge, there are no review studies that systematize and summarize the empirical research linking gender diversity to corporate environmental performance.

The remainder of this paper is structured as follows: Sect. 2 presents the main theoretical frameworks that inform the existing research on gender diversity and corporate environmental responsibility; Sect. 3 describes the research methodology; Sect. 4 presents and discusses the results obtained from our SRL; Sect. 5 suggests future research directions and concludes the paper.

2 Theoretical Perspectives on Gender Diversity and Corporate Environmental Performance

The role of board gender diversity and female leadership in promoting corporate environmental responsibility has been explained from different theoretical perspectives that partly complement each other and partly overlap, such as the stakeholder theory, the agency theory, the resource dependency theory, the diversity theory and the critical mass theory.

The stakeholder theory (Freeman 1984) focuses on how firms manage to address the competing needs of their different stakeholders. Firms and their stakeholders are bound in a reciprocal dependency network, such that firms can only create value if they manage to strike a balance between the competing priorities of (different) stakeholders.

In recent years, the growing concerns of stakeholders over environmental issues have led firms to engage in voluntary pro-environmental initiatives these including environmental governance initiatives such as the establishment of gender diverse boards (Tingbani et al. 2020). The involvement of women as an environmental governance mechanism is based on the assumption that women have a more positive attitude towards environmental issues than men (Fukukawa et al. 2007; Jones et al. 2017; McCright and Xiao 2014).

Diversity on corporate boards is necessary for a better understanding and alignment of different stakeholder groups. Research suggests (Nadeem et al. 2020a) that board group diversity is more likely to improve stakeholders value by bringing different perspectives concerning wider stakeholders' interests, which enable boards to formulate policies in favour of multidimensional performance indicators. Empirical studies show that firms with a high number of women on board are more likely to build a strong stakeholder orientation (Hillman et al. 2002) including the orientation towards environmental sustainability (Hussain et al. 2018; Issa and Zaid 2021).

According to the agency theory (Jensen and Meckling 1976), agents (managers) tend to prioritize their own interests to the detriment of principals (shareholders) and other stakeholders alike. From this perspective, board gender diversity and female leaders may represent an effective means to improve managerial commitment towards the environment and society at large, by bringing various experiences,

skills, and competences to corporate decision-making (Gull et al. 2018; Adams and Ferreira 2004; McGuinness et al. 2017). However, the usefulness of agency theory in explaining the effect of board gender diversity on corporate environmental performance is limited because it tends to assume that agents (managers) mainly focus on maximizing their financial benefits, but this is not always true, as managers are often motivated (at least partially) to act in the interest of shareholders as well (Van Slyke 2006).

Resource dependence theory (Pfeffer 1972; Pfeffer and Salancik 1978) can help explain the strategic importance of a (gender) diversified board. This theory views firms as operating in an open system and needing to exchange and acquire resources to survive. Along this view, Hillman and Dalziel (2003) suggest that an important function of the board, beyond monitoring managers, is to provide critical resources, such as counsel and advice. Hence, from a resource dependence perspective, board gender diversity is viewed as enriching the stock of board resources and capabilities, providing unique information, experience and knowledge to management that improve corporate decision-making (Cordeiro et al. 2020; Wang et al. 2021; Haque and Jones 2020; Shaukat et al. 2016).

In a similar vein, diversity theory suggests that the process of corporate decision-making can benefit from different backgrounds and perspectives among the decision makers (Siciliano 1996; Erhardt et al. 2003). Liu (2018) argues that board gender diversity should improve the quality of corporate decision-making with respect to environmental issues for two reasons. First, female directors can bring different perspectives in relation to managing environmental exposure, as they are more concerned about the welfare of third-party stakeholders (e.g., local communities). This leads to evaluating a broader range of environmentally friendly options to minimize litigation's risk. Secondly, greater female representation can disrupt existing trust relationships among directors (Cumming et al. 2015), reducing the level of "complacency" regarding environmental policies and practices, which again leads to higher quality decision-making to avoid environmental violations and consequent litigation.

Nevertheless, proponents of the critical mass theory argue that female directors cannot come to the forefront of firm decision-making until they reach a certain threshold, that is, at least three directors (Konrad et al. 2008). Research supporting the critical mass theory shows that one female director is often a token, two is a presence, and three a voice (Torchia et al. 2011). The explanation for this is twofold. First, once they reach a critical mass, female directors would feel less constrained by male-dominant norms becoming more vocal and interactive (Torchia et al. 2011). Second, they are no longer seen as a minority and consequently male directors may be more willing to consider their point of view in decision-making (Kanter 1977). The critical mass theory has been extensively used to investigate how female presence affects board activeness (e.g., Schwartz-Ziv 2017), firm innovation (e.g., Torchia et al. 2011) and financial performance (e.g., Joecks et al. 2013), but the effect of a critical mass of female directors on corporate environmental responsibility has been investigated to a lesser extent (e.g., Post et al. 2011; Gong et al. 2021).

The surveyed articles employ these theories, either individually or in combination, to explain the potential association between BGD and corporate environmental responsibility. While each theory provides some useful insights, no single perspective is dominant or capable of excluding others. This may be the reason why we observe a tendency to use a multi-theoretical approach in the bulk of the reviewed papers.

3 Research Methodology

This research employs the SLR methodology. SLR is an approach that can help identify research trends and future research directions (Di Vaio et al. 2021; Secundo et al. 2020; Jesson and Lacey 2006).

This method has successfully been used in several interdisciplinary fields as well as in accounting, intellectual capital and knowledge management research (Massaro et al. 2015; Massaro et al. 2016; Paoloni et al. 2020a, b). Compared to traditional narrative reviews, SLR has the following advantages: (1) a higher quality of the review process and outcomes (Danese et al. 2018); (2) minimizing bias and errors (Dada 2018); (3) a greater validity of the process through the possibility to replicate the steps of the review process (Wang and Chugh 2014); (4) the mapping of specific research areas and data synthesis (Kauppi et al. 2018); (5) it offers a framework that makes existing knowledge available for researchers and practitioners (Dada 2018; Nofal et al. 2018).

To perform a transparent and replicable study, the SLR needs to follow some specific steps, such as the definition of the: (1) Research Questions, (2) Research Protocol, (3) eligible papers and coding framework as well as the type of analysis to perform (Secundo et al. 2020; Massaro et al. 2016).

With respect to (1) the main research questions driving this analysis are the following:

RQ1. How is research on gender diversity and corporate environmental responsibility developing?

RQ2. What are the main topics covered by the existing research?

RQ3. What are the possible future directions of this research?

Regarding the Research Protocol (2), the research develops through the identification of the reference database and the definition of the inclusion and exclusion criteria for selecting papers to be submitted to the quality assessment process.

Relevant articles were extracted from SCOPUS, which is the largest available database for the multidisciplinary scientific literature (de Moya-Anegón et al. 2007). Specifically, the research and subsequent extraction were done during the month of March 2022. As a first step, we used “Gender diversity” as the main keyword to find in the “Paper title”, “Abstract” and “Keywords”. This first step of SLR produced 18,222 results. Then, in order to focus the search on the specific purposes of this paper, one additional keyword has been added: “Board*”. Combining “Gender

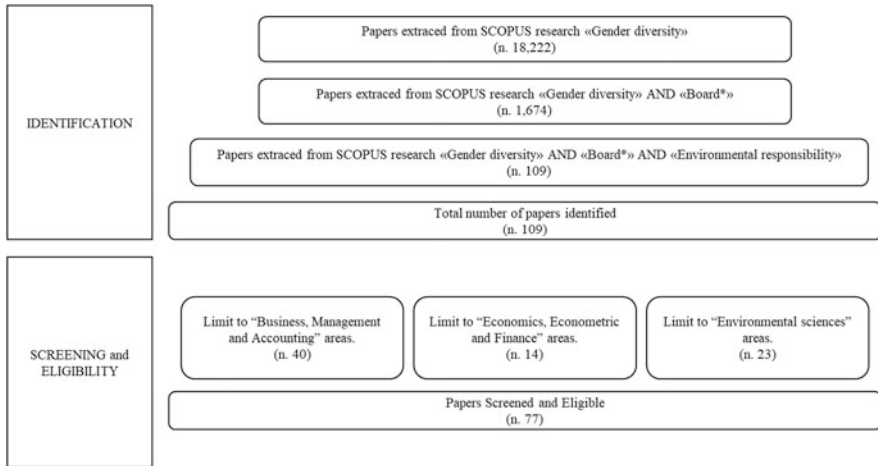


Fig. 1 The procedure for selecting the eligible papers. Source Authors

diversity” with the keyword “Board*” (to include gender diversity within company boards in the results), this second research step produced 1,674 results. After that, we introduced a third keyword, “environmental responsibility”, and thus came up with a total of 109 papers.

The Scopus string used to extract the contributions is: (TITLE-ABS-KEY (“Gender Diversity”) AND ALL (“Board*”) AND ALL (“Social Environmental responsibility”). Afterwards, we defined the inclusion and exclusion criteria pertaining to the study focus and the type of document. The study field was limited to “Business, Management and Accounting”, “Economics, Econometric and Finance” and “Environmental sciences” areas. With these filters, the total number of the results was reduced to 77, of which 40 were from the “Business Management and Accounting”, 14 from the “Economics, Econometric and Finance” and 23 from the “Environmental sciences” research area.

Finally, regarding the type of document, we narrowed down the search to empirical articles that reached the final stage of publication excluding conceptual papers and review articles. As a result of these search criteria, the final number of academic contributions available for the SLR analysis is 79.

Figure 1 depicts the process used to identify the eligible research.

3.1 Coding Framework

Regarding the coding framework (3), the present research follows with some adaptations previous work by Paoloni and Demartini (2016), and proceeds to code the selected articles with respect to three main dimensions:

- (A) Article focus
- (B) Research method
- (C) Geographical area

Regarding the article focus (A), we classified the reviewed articles into four groups:

- **A1.** Board Gender Diversity, female leaders and corporate environmental performance
- **A2.** Board Gender Diversity, female leaders and corporate environmental disclosure
- **A3.** Board Gender Diversity, female leaders and corporate environmental innovation
- **A4.** Board Gender Diversity and female leaders as moderating factors between corporate environmental performance and corporate financial performance

With respect to the research method (B), we categorized the reviewed articles as follows:

- **B1.** Quantitative analysis: analysis carried out with statistical techniques (e.g., Ordinary Least square (OLS) regression, Generalized Method of Moment (GMM), Partial Least Square Technique (PLS), Probit and Tobit regression, and Structural Equation Modelling (SEM))
- **B2.** Qualitative research: research employing case studies, surveys, etc.
- **B3.** Mixed-Methods research: research employing both qualitative and quantitative methods

Regarding the geographical distribution (C), we grouped the articles based on the country of affiliation of the authors. Specifically, we considered the involvement of a country (by university/research institution) in the articles' authorship: if an article was developed by cooperation of different countries, each country received one point.

Finally, we performed a deep content analysis of the 79 articles in order to gain a more thorough understanding of the main emerging research areas and to identify major gaps and methodological issues.

4 Results

This section presents the results obtained from our analysis, organized into a descriptive and content analysis, in order to answer RQ1 ("How is research on gender diversity and corporate environmental responsibility developing?") and RQ2 ("What are the main topics covered by the existing research on gender diversity and corporate environmental responsibility?").

4.1 Descriptive Analysis

4.1.1 Number of Publications Over Time

Figure 2 displays the number of empirical articles on gender diversity and corporate environmental responsibility published during the 2011–2022 timeframe. Noticeably, the number of empirical studies has grown over the considered timeframe, although at different paces. As shown by the figure, the first empirical article dates to 2011 and between 2011 and 2016 scholars only published four articles. By contrast, from 2016 onwards the number of articles per year has continuously grown with a first “peak” in 2020 and the highest (provisional) number in 2022. This shows a mounting interest of the research community in this potential association.

Overall, the graphic shows that this empirical literature is relatively young as contributions began to flourish from 2011 onwards with a more pronounced growth in the last 4 years.

4.1.2 Geography of Articles

This geographical investigation just helps understand which countries have ever shown interest in studying the association between board gender diversity, female leaders and corporate environmental responsibility. Figure 3 depicts the geographical distribution of articles considering the top 15 countries by number of articles.

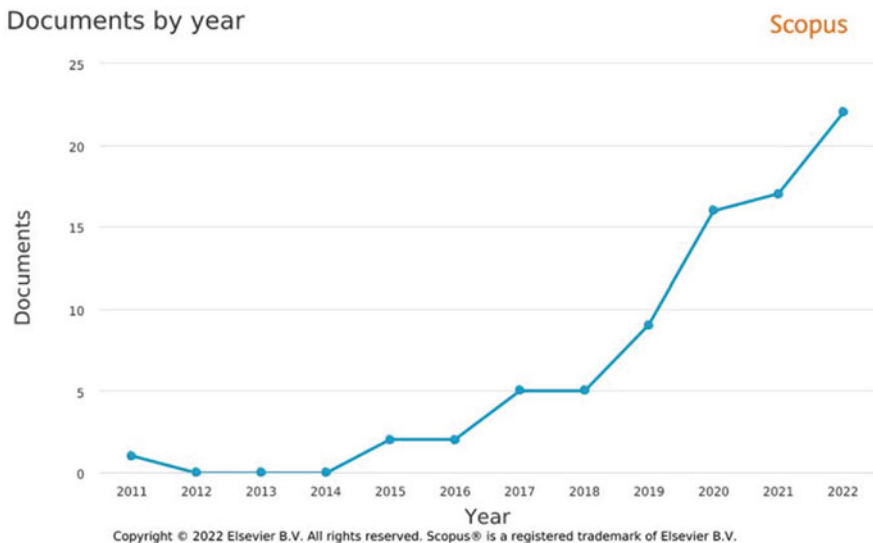


Fig. 2 Number of publications over time. Source Authors

Documents by country or territory

Compare the document counts for up to 15 countries/territories.

Scopus

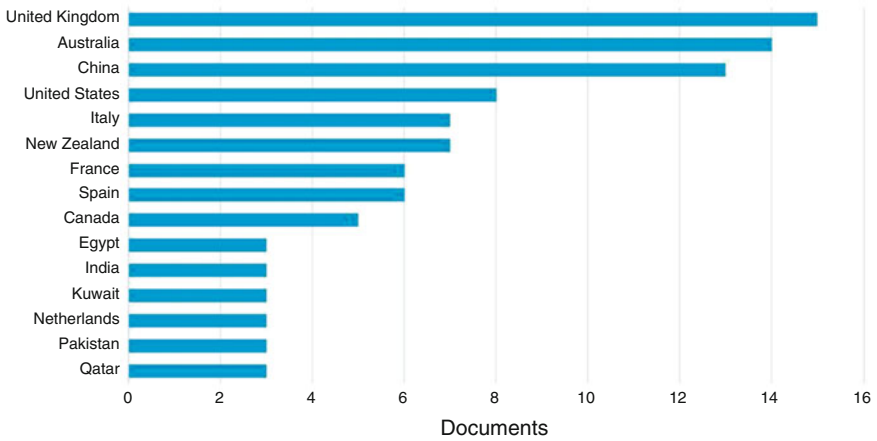


Fig. 3 Geographical area of publications. Source Authors

The top three countries are UK (15), Australia (14), and China (13). Other countries (not tabulated) such as Bangladesh, Germany, Kazakhstan, Norway, Switzerland, Thailand, Tunisia, United Arab Emirates have two articles each and still others have only one article: Bahrain, Belgium, Brazil, Brunei Darussalam, Cyprus, Ghana, Hungary, Israel, Japan, Jordan, Kenya, Libyan Arab Jamahiriya, Malawi, Malaysia, Nigeria, Poland, Saudi Arabia, South Africa, and Turkey.

These findings indicate that the existing studies are highly fragmented among countries and that, to date, no single country is specialized in this area.

4.1.3 Research Methods

The vast majority (77) of the reviewed articles employ quantitative research methods such as OLS regression, probit, fixed-effects, or random effects estimations as well as GMM and other techniques (e.g., instrumental variables estimators) to control for potential endogeneity. Out of 79 articles, we found only one article that employs a qualitative research method (Islam et al. 2022) and one employing a mixed-methods approach (Bananuka et al. 2022). In particular, Islam et al. (2022) carried out in-depth interviews of 19 board of directors from 14 Australian organizations to investigate the relationship between board gender diversity and corporate environmental performance based on the experiences and perceptions of directors; the authors state that the choice of qualitative research is more able to understand the meaning of the social world from the experiences of individuals, including their interpretations and understandings (Creswell 2013; Mason 2002). Bananuka et al. (2022) use a questionnaire survey submitted to 121 manufacturing firms in Uganda

to find out managerial perceptions of compliance with the Global Reporting Initiatives (GRI) environmental reporting standards and then they use multiple regression to verify the impact of board gender diversity.

We reckon that the lack of qualitative research derives from the difficulty to collect direct evidence on how female leaders and directors influence corporate environmental responsibility, particularly by observing their factual behaviour.

4.2 Content Analysis

This section provides a detailed discussion of the four thematic areas into which we have classified the existing studies by summarizing their findings and suggesting avenues for future research.

4.2.1 Board Gender Diversity, Female Leaders and Corporate Environmental Performance

This first research “cluster” comprises studies that examine the impact of board gender diversity or female leadership on corporate environmental performance. Corporate environmental performance is described as a company’s capacity to reduce environmental emissions, to implement efficient use of natural resources in the production processes, and to support the research and development of eco-efficient products and services (Birindelli et al. 2019; Muhammad and Migliori 2022).

Many studies in this group find a positive relationship between gender diversity and corporate environmental performance. For example, Biswas et al. (2018) show that firms with higher board gender diversity along with higher director independence and sustainability committee tend to have better corporate environmental performance, in a sample of Australian firms. Similarly, García Martín and Herrero (2020) find that board gender diversity and the existence of a corporate social responsibility committee are positively associated with corporate environmental performance. Based on in-depth surveys of 19 board directors from 14 Australian organizations, Islam et al. (2022) show that board gender diversity, in combination with age diversity, enhance corporate social investments and improve the corporate social responsibility performance of firms. Orazalin and Mahmood (2021) find that board gender diversity has a positive impact on environmental performance but also show that country governance quality is positively related to environmental performance as well.

Nevertheless, other studies fail to show any significant association and still others even find a negative association. Gallego-Sosa et al. (2020), using a sample of 52 banks from the polluting Western regions, find no significant differences between banks’ commitment to reduce their environmental impact on the basis of board gender diversity, while Fernández-Torres et al. (2021) report that greater gender

diversity in corporate boards is associated with poorer environmental performance and a weaker implementation of policies and practices to reduce resource use and emissions for firms in the tourism sector. These conflicting findings suggest that contingency factors may be at work that either strengthen or weaken the linkage between gender diversity and environmental performance.

Recent research has begun to explore the boundary conditions of this linkage. For instance, research by Wei et al. (2017) and Gong et al. (2021) show that female directors have a positive impact on environmental performance only when they reach a critical mass of (at least) three female directors. Studies also suggest that the influence of female directors is contingent on their personal attributes and may also vary between the specific positions they occupy on the board. Saeed et al. (2022) show that when female executives have personal power (e.g., due to higher education, longer tenure and professional experience), are members of CSR committees and work in gender-egalitarian countries firms are more likely to adopt environmental management systems (i.e., ISO 14001 certification). Using a comprehensive sample of US firms, Atif et al. (2020) find that female independent directors have a stronger impact on environmental responsibility than female executive directors. Similarly, Wang et al. (2021) show that the positive impact of board gender diversity is heightened when female board members hold positions of authority such as independent directorship and membership on board committees. They also show that the broader societal gender attitude of female discrimination hinders female directors from influencing a firm's environmental management.

Extant research has also examined the role of firm-level variables in the relation between gender diversity and CEP. Cordeiro et al. (2020) show that the effect of BGD on CEP is higher under majority ownership structures such as family ownership and dual-class ownership. Kuzey et al. (2022) suggest that the presence of a corporate social responsibility strategy may enhance the positive effect of board gender diversity on eco-friendly practices (e.g., eco-innovation). Sampling 296 US publicly listed firms, Kassinis et al. (2016) find that firms with a high percentage of women on their boards and gender diversity policies throughout the organization will exhibit a higher degree of environmental responsibility.

Other studies highlight the moderating role of formal and informal institutions. Marchini et al. (2022) show that under a coercive legal approach (i.e., mandatory gender quotas regime) a high percentage of female directors is the main determinant of firms' GHG performance and waste reduction, as compared to voluntary adopters and firms in the pre-implementation period with a low female representation. Gong et al. (2021) find that government monitoring (as a formal institution) and religious ideology (as an informal one) strengthen the influence of female directors on corporate environmental actions. Using Chinese listed manufacturing companies, Hu and Yang (2021) find that the effect of board gender diversity on annual environmental investments among Chinese listed firms is positively associated with the strength of the legal environment at regional level. Kamran et al. (2022) show that national culture (tender versus tough societies) moderates the impact of BGD on environmental performance with a more pronounced association when firms operate in tender societies.

Overall, these findings suggest the need to investigate the boundary conditions that moderate the effect of gender diversity on environmental performance at different levels of analysis (i.e. at organizational, institutional, and individual levels).

Another limitation of this literature is that most studies assume a linear relationship between gender diversity and corporate environmental performance neglecting a possible curvilinear relation. Few notable exceptions exist however. A study by Graafland (2020), which is among the few ones that focus on small and medium-sized enterprises (SMEs), indicates that the effect of women leaders on environmental sustainability is curvilinear reaching its maximum when the proportion of women is 54% while decreasing beyond this threshold. In the banking sector, Birindelli et al. (2019) find that when boards of directors include a large number of women (which exceeds the critical mass), environmental performance does not correlate with the percentage of women on the board, or eventually declines (inverted U-shaped relationship). Muhammad and Migliori (2022), using a quantile regression approach, show that the impact of BGD may vary across different levels (i.e., 25th, 50th and 75th quantiles) of environmental performance with a more pronounced association in upper quantiles. These findings also offer scope for further research.

4.2.2 Board Gender Diversity, Female Leaders and Corporate Environmental Disclosure

This group is comprised of studies that focus on the association between BGD and environmental disclosure practices. Environmental disclosure is an accounting reporting practice by which firms signal their commitment to reduce or compensate the environmental impact of their activities (Atif et al. 2020).

Studies in this area aim to verify the impact of BGD on the extent and quality of environmental disclosure (e.g., Baalouch et al. 2019, Akhter et al. 2022) or focus on particular aspects of environmental disclosure such as information on greenhouse gas (GHG) emissions, biodiversity protection or energy consumption. Liao et al. (2015), Al-Qahtani and Elgharbawy (2020) and Tingbani et al. (2020) find a significant and positive association between gender diversity and the propensity to disclose GHG information using samples of UK firms. This positive association has been verified across different national settings such as Australia (Hollindale et al. 2019), Brazil (Fabrício et al. 2022), Canada (Ben-Amar et al. 2017), India (Charumathi and Rahman 2019) and Indonesia (Saraswati 2021).

Other studies such as Jibril et al. (2022) show that board gender diversity is positively related to energy disclosure, while Carvajal et al. (2022) document a positive impact on biodiversity disclosure.

Additionally, a study by Pucheta-Martínez et al. (2021) suggests that BGD may affect the impact of other governance mechanisms such as audit committees on corporate environmental disclosure. They find that the presence of female directors on boards increases the positive impact of financially expert membership of audit committees, and moderates the negative effect of independent directors on audit committees on Corporate Social Responsibility reporting.

Other studies, however, fail to confirm any significant association between gender diversity and environmental disclosure (e.g., Ararat and Sayedy 2019, Bananuka et al. 2022; Kumari et al. 2022; Lahyani 2022).

4.2.3 Board Gender Diversity, Female Leaders and Corporate Environmental Innovation

This research area is highly topical and encompasses some recent studies that investigate the potential association between board gender diversity and environmental innovation.

Environmental innovation, also known as green innovation, is generally categorized into manufacturing functions, technology, production process, and design (Tseng et al. 2013).

Environmental innovation may also have a positive impact on firm profitability by enabling innovative ways of production and a more efficient use of resources. As such, environmental innovation is argued to have a positive impact on a firm's competitive position (Nadeem et al. 2020a).

Studies in this group assume that board gender diversity favours green innovation due to a superior attitude of women in promoting environmental activities (e.g., Jain and Zaman 2020). Empirical findings lend some support for this assumption. For example, Nadeem et al. (2020a) find a positive and statistically significant association between board gender diversity and environmental innovation in a large sample of US-listed firms. They also show this association is more pronounced in less profitable firms and in environmentally sensitive industries. Konadu et al. (2022), based on a sample of companies listed on the Standards & Poor's 500 index, find a statistically negative relationship between board gender diversity and carbon emissions and this relationship is enhanced in the presence of environmental innovation, especially for carbon-intensive firms.

Using panel data of Chinese public companies in the manufacturing industry, He and Jiang (2019) show that board gender diversity can exert a sizable and positive effect on green innovation (i.e., green patents and green process certification), once they enjoy at least two seats on the boards.

In a similar vein, a recent study by Xia et al. (2022) finds that board gender diversity promotes corporate green innovation (i.e., green patent applications) in the Chinese new energy vehicle (NEV) industry. Accordingly, these authors argue that policymakers should incorporate such diversity indicators as the proportion of female directors into investment evaluation standards (e.g., corporate governance, environmental, social and governance, and sustainable investment), in order to promote environmental benefits and societal equality and enhance women's empowerment.

Wang et al. (2022) also find a positive association between female directors and environmental innovation (green patents) and, perhaps more insightfully, they show that the degree of stakeholder orientation is a significant mediating factor of this association. They conclude that female directors promote environmental innovation

by including more stakeholder-oriented values and beliefs in firm decision-making. It is to note that this study is among the few empirical studies that explore the underlying mechanisms through which gender diversity influences environmental performance.

4.2.4 Board Gender Diversity and Female Leaders as Moderating Factors Between Corporate Environmental Performance and Financial Performance

In this group, we have included papers that investigate the role of BGD and female leaders as moderating factors in the relationship between corporate environmental performance and corporate financial performance. Research in this area is still in its infancy with only a handful of studies available to date. Shahab et al. (2018) find that BGD has a positive moderating role between corporate environmental performance and firm financial distress. This would mean that firms which have superior environmental performance and involve more women in their top management teams (TMTs) are more likely to reduce their financial distress in comparison with firms without females in their TMTs.

Shakil et al. (2022) examine the influence of corporate environmental performance on corporate financial performance in a cross-country sample of 56 transport and logistics firms. They found that corporate environmental performance has a significant negative effect on corporate financial performance, but board gender diversity moderates this adverse effect. These authors conclude that transport and logistics firms should maintain their board gender diversity to achieve a positive outcome of their investments into environmental performance.

Similarly, Li et al. (2022) explore whether female board representation moderates the effect of corporate social responsibility performance on financial performance. They find that female board representation positively moderates the effect of corporate environmental responsibility strengths on financial performance as measured by return on assets (ROA) but does not affect the impact of corporate environmental responsibility concerns on ROA.

Atif et al. (2021) show that BGD has a positive interaction effect with renewable energy consumption on financial performance (i.e., ROS and ROA). This would suggest that firms that both use more renewable energy and have gender diverse boards enjoy better financial performance. Previous research by the same authors (Atif et al. 2020) shows that BGD has a positive moderating effect between investments in environmental responsibility and stock market valuation (Tobin's Q).

5 Conclusions

Based on an SLR, this chapter has analyzed a sample of empirical studies on board gender diversity, female leaders and corporate environmental responsibility, with the aim to systematize this literature and suggest avenues for future research.

The SLR results can be summarized as follows. Regarding RQ1 (“How is research on gender diversity and corporate environmental responsibility developing?”) we find that (1) this research is relatively young because it has flourished in this last decade from 2011 onwards with a more pronounced growth between the years 2019 and 2022; (2) that studies are geographically dispersed but some countries are (e.g. UK) more prolific than others; and (3) that studies primarily employ quantitative methods while there is a dearth of qualitative and mixed-methods studies.

In response to RQ2 (“What are the main topics covered by the extant research?”), we have categorized the reviewed articles into four groups dealing with:

- A1. Board Gender Diversity, female leaders and corporate environmental performance
- A2. Board Gender Diversity, female leaders and corporate environmental disclosure
- A3. Board Gender Diversity, female leaders and corporate environmental innovation
- A4. Board Gender Diversity and female leaders as moderating factors between corporate environmental responsibility and corporate financial performance.

Regarding RQ3 (“What are the possible future directions of this research?”), based on the in-depth content analysis of the selected articles, we offer the following proposals for future research. First, in view of the conflicting results of prior studies, research should investigate the boundary conditions that moderate the association between BGD, female leadership and corporate environmental performance. The existing studies have just begun to uncover the boundary conditions that moderate this association. Specifically, a few studies have revealed that the personal attributes (e.g., education, prior professional experience) of female leaders affect the impact of gender diversity on CEP. Accordingly, research should no longer limit to consider the “extent” of female participation in leadership positions but should extend the empirical investigation to the “quality” of female presence, notably by examining the human and social capital (Hillman and Dalziel 2003) that women bring to the boardroom or other leadership positions. Studies have also shown that firm-level factors (e.g., ownership structures, CSR strategy) and institutional factors both formal (e.g., Government intervention) and informal (e.g., societal culture, gender egalitarianism) exert a moderating effect on the relation between BGD and CEP. These all represent potentially fruitful avenues for future research. Also, research has not thoroughly analyzed the mediating mechanisms that explain the positive relationship between gender diversity and corporate environmental responsibility. Finally, more research is needed that examines the interplay between BGD, corporate environmental responsibility and corporate financial performance as we retrieved only a handful of studies on this topic.

From a methodological viewpoint, we signal the need for more qualitative research (e.g., surveys, face-to-face interviews, quasi-experiments, or case studies) and mixed-methods studies. The vast majority of surveyed articles employ quantitative (econometric) techniques and, with a few notable exceptions, assume a linear relationship between BGD and corporate environmental performance neglecting a possible curvilinear relationship. Furthermore, most studies employ large and listed

companies as their research setting, overlooking small and medium enterprises, which represent the vast majority of businesses worldwide. Future research should fill this void as well.

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