

Gendered Perspectives on Sustainable Entrepreneurship: A Study of Finnish SMEs

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Abstract: The objective of this research is to understand how gender is related to opportunities of sustainable entrepreneurship. The data was gathered from Finnish SMEs, and it has responses from 202 SME owner-managers. Of the SME owner-managers, 28 % were women and 72 % male. Most of the SMEs were small sized and employed under 50 employees. First, we developed a taxonomy of green entrepreneurship by building an instrument with 10 items (7-point Likert scale) based on the definitions of green SMEs. For building the taxonomy, we performed an exploratory factor analysis, which produced three factors. The first factor was named as “green entrepreneurs”. This factor measures the behaviour related to seeking business opportunities from green transition and reducing the negative impact of SME’s operations. The second factor was named as “green missionaries”. This factor measures behaviour related to active promotion of green transition and the SME’s vision to improve the state of the environment. The third factor was named as “no concern for environmental issues”. SMEs with high values in this factor represent SMEs who think that environmental issues do not concern their business or industry. Based on these factors, scales were created with acceptable reliability (Cronbach’s alphas over 0,70). Secondly, we performed t-tests to test mean differences between men and women in these scales. Results show that women have higher mean values in the scale “green entrepreneurs” (4,9 vs. 4,3), and lower mean values in the scale “no concern for environmental issues” (2,8 vs. 3,2). No mean differences between men and women were found in the scale “green missionaries”. The results indicate that women approach the opportunities offered by sustainable entrepreneurship differently than men. They are more proactive in seeking new business opportunities and are more inclined than men to promote sustainability principles in their own business operations. This research sheds light on how women and men engage differently in green business initiatives, providing valuable insights for fostering gender-inclusive sustainability strategies.

Keywords: Sustainable Entrepreneurship, Gender, SME, Green Transition

1. Introduction

Entrepreneurs play a vital role in advancing sustainability. They are not only capable of meeting regulatory standards to enhance sustainability within their operations but can also integrate environmental and social considerations into their fundamental business strategies, capitalizing on opportunities to mitigate the impact on the natural environment (Saari and Joensuu-Salo, 2019; Cohen and Winn, 2007). Sustainable entrepreneurs are important actors in the society in solving social and environmental problems (Stubbs, 2017). According to Shepherd and Patzelt (2011) the aim of sustainable entrepreneurship is to safeguard the environment, sustain life support systems, and foster community well-being while actively seeking opportunities to create future products, processes, and services for various benefits. These benefits encompass a wide range, including both economic and non-economic gains for individuals, the economy, and society at large. Hence, entrepreneurship assumes a critical role in addressing the urgent crises of climate change and biodiversity loss, steering towards the creation of a more resilient and sustainable society.

Entrepreneurship is a gendered phenomenon. The prevailing stereotype, both in popular media and academic literature, portrays new venture creation as primarily a masculine domain (Gupta et al., 2008), and success factors are linked to driven personality, a high-status leisure activity, a supportive but invisible family, a focus on financial measures and a global outlook (Jernberg et al., 2020). According to Hmieleski and Sheppard (2019) this perception is attributed to a combination of factors, including differences in risk tolerance, access to startup capital, and access to entrepreneurial role models and has led to an undervaluation of feminine qualities in the entrepreneurial process and an overestimation of the importance of masculine traits in various entrepreneurial activities. Ahl (2006) showed in her wide analysis of female entrepreneurship research that there is an emphasis of the unintentional perpetuation of women's subordination to men within the realm of entrepreneurial pursuits.

The research on gender and sustainable entrepreneurship is still in its infancy, as is sustainable entrepreneurship overall (Otsios and Farooqi, 2017; Barrachina Fernández et al., 2021). Terán-Yépez et al. (2020) showed in their bibliometric analysis, that the number of articles related to sustainable entrepreneurship has grown since 2018,

and Mas-Tur (2022) showed that for example research on women social entrepreneurship did not start systematically until 2014. However, the findings of prior research reveal that awareness of women is relevant to sustainability and companies with women leaders are more sustainability oriented (Barrachina Fernández et al., 2021). In addition, Outsios and Farooqi (2017) found that female sustainable entrepreneurs have exhibited a more extensive utilization of their professional and social networks compared to their male counterparts. Hence, sustainable entrepreneurship might provide women entrepreneurs a unique space to challenge and overcome traditional masculine stereotypes.

In this study, we explore gender dynamics in sustainable entrepreneurship, with a specific focus on SMEs and their alignment with the green transition. Our primary goal is to investigate gender differences among entrepreneurs in their pursuit of business opportunities within this transition. To achieve this, we establish a taxonomy to categorize SMEs into different groups and then analyse how women and men entrepreneurs align with these categories. Our research contributes to prior entrepreneurship research by showing how women entrepreneurs differ from their male counterparts in respect to opportunity identification in green transition; women are more eager to find new business possibilities than men entrepreneurs, and they have higher concern for environmental issues than their male counterparts. This suggests that sustainable entrepreneurship might offer one way to overcome masculine ethos in entrepreneurship.

2. Theoretical Framework and Hypotheses Development

To ensure the viability of the planet, there is a recognized urgent need for green transition, referring to a shift towards a resource-efficient, carbon-neutral, and sustainable economy, where environmental challenges are transformed into possibilities (UNEP, 2011). Considering this need, coupled with recent technological advancements, opportunities for entrepreneurial ventures with a focus on sustainability have surged significantly (Di Vaio et al., 2022; Terán-Yépez et al., 2020; Dean and McMullen, 2007). In fact, entrepreneurship assumes a pivotal role in steering an economy through the transition from one epoch to another and catalyzing significant societal transformations as suggested already by Schumpeter (1934, 1942). Transition and the act of seizing the emerging opportunities demands that firms come up with innovative solutions for tomorrow's markets (Hart and Milstein, 2003). Through their innovations, entrepreneurs exert a significant influence on both markets and society (Eyraud et al., 2013; Malen and Marcus, 2017). As pointed out by Schaltegger and Wagner (2011), these innovations, comparable to transformative inventions such as automobiles, computers, and the internet in their respective times, have a more profound and wide-ranging impact on the world than many political programs.

Consequently, a substantial and expanding body of literature has delved into the concept of entrepreneurship aimed at addressing environmental challenges while being profit oriented (Gast et al., 2017; Hahn et al., 2018). This academic research has given rise to a variety of terms to describe and understand this phenomenon, including sustainable entrepreneurship (e.g. Dean and McMullen, 2007; Hockerts and Wüstenhagen, 2010; Di Vaio et al., 2022), environmental entrepreneurship (e.g. Anderson and Leal, 2001; Dean and McMullen, 2007) as well as green entrepreneurship (e.g., Potluri and Phani, 2020; Mrkajc et al., 2019; Silajdzic et al., 2015; Saari and Joensuu-Salo, 2019). The concept of sustainable entrepreneurship, which is seen as evolving, pertains to entrepreneurial endeavors that integrate economic, social and environmental considerations pursuing the triple bottom line (Binder and Belz, 2015; Hockerts and Wüstenhagen, 2010; Cohen and Winn, 2007; Dean and McMullen, 2007). According to Shepherd and Patzelt (2011), the fundamental principle underpinning sustainable entrepreneurship is that entrepreneurs' actions in the pursuit of opportunities must not erode the ecological and social environments within which they operate. From this perspective, sustainable entrepreneurs aim to blend the advantages of both realms, specifically by instigating actions and procedures that foster the creation of profitable prospects while simultaneously promoting sustainable development (Lans et al., 2014).

Within entrepreneurship literature, there is a tendency to associate entrepreneurial characteristics with traditionally masculine qualities, establishing a hierarchy where women may seem to be lacking in entrepreneurial potential, entrepreneurial traits, attitudes, and ambition (Jernberg et al., 2020; Bruni et al., 2004). In other words, in the discourse on entrepreneurship masculinity has taken precedence as the accepted archetype of an entrepreneur, consequently casting femininity as a departure from the norm (Ahl, 2006). This kind of gender-blind outlook, as highlighted by several scholars (e.g., Lewis, 2006; Gupta et al., 2013; Hamilton, 2014), has had an adverse effect on how society views women entrepreneurs. It positions them as subordinate to men and characterizes their businesses as less significant (Ahl, 2006). Although post-feminism is on the rise in both politics and entrepreneurship research (Meliou and Ozbilgin, 2023) many studies still confirm that entrepreneurship discourse is strongly masculine (Jennings and Brush, 2013; Henry et al., 2015; Marlow and

McAdam 2013; Hamilton, 2014; Swaila and Marlow, 2018). In fact, post-feminism can even be thought to reinforce the masculinity of entrepreneurship by labeling feminism as outdated and unnecessary (McRobbie, 2004; Gill, 2007; Meliou and Ozbilgin, 2023). However, a prevailing research consensus indicates that gender assumes a multifaceted and substantial role in the entrepreneurial process (Gupta et al., 2009; Outsios and Farooqi, 2017). Therefore, we adopt a social constructionist feminist viewpoint, in which we view gender as a consequence of societal construction. This socially constructed concept of gender can hinder women's access to and engagement in specific socio-economic contexts (Ahl, 2006; McRobbie, 2009) such as entrepreneurship.

While research in sustainable entrepreneurship has explored a diverse range of topics, it has thus far overlooked the role of gender (Hall et al., 2010; Outsios and Farooqi, 2017). However, increasing body of research starts to recognize the interplay between gender considerations, entrepreneurial actions, and sustainability (Braun, 2010; Figueroa-Domecq et al., 2020; Hechavarria, 2016; Outsios and Farooqi, 2017; Vatansever and Arun, 2016; Kutlu and Ngoasong, 2023). Braun (2010) examined business sustainability through a gender lens and examined variations in attitudes and behaviours within the Australian context. The findings from that study indicated that female-led ventures exhibit a stronger inclination toward environmentally responsible practices, primarily guided by broader ethical considerations related to sustainability when compared to their male counterparts. Vatansever and Arun (2016) in turn suggest that female and male entrepreneurs may exhibit variances in their implementation of green entrepreneurship practices. According to Outsios and Farooqi (2017) the environmental and social objectives involved in sustainable entrepreneurship make it a more attractive business option for potential women entrepreneurs. In the study by Figueroa-Domecq et al. (2020), it was observed that women placed significant emphasis on particular facets of sustainability, especially the social and environmental aspects, in their involvement in tourism entrepreneurship. Likewise, Kutlu and Ngoasong (2023) found strong evidence that women entrepreneurs are more likely than men to consider the environmental and social implications of their businesses. Barrachina Fernández et al. (2021) found in their literature review that women typically establish businesses grounded in their knowledge, experience, the added value they bring, the quality of services provided, and their consideration for the environmental impact while men often build businesses with a focus on the potential benefits that can be gained. They also confirmed that women engaged in entrepreneurial activities play a pivotal role as catalysts for a nation's economic development and socio-economic endeavours. Hence, the integration of environmental and social objectives within the domain of sustainable entrepreneurship amplifies its attractiveness as a viable business option for women entrepreneurs seeking to embark on their entrepreneurial journey.

Thus, the following hypotheses are proposed:

Hypothesis 1: Women entrepreneurs have more concern for environmental issues than men.

Hypothesis 2: Women entrepreneurs seek more business opportunities from green transition compared to men.

3. Data and Method

3.1 Data Collection

The survey data was collected in October 2021 from small and medium-sized enterprises (SMEs) located in the South Ostrobothnia region of Finland. This data collection was part of the GreenGrow project, which received funding from the European Union (the recovery assistance for cohesion and the territories of Europe, REACT-EU). The survey was administered via the internet, with SME owners and managers receiving it through email. Additionally, these individuals were reached by phone. The dataset comprises responses from a total of 204 SME owners and managers. These SMEs operate across various sectors, with the following distribution: trade (15%), manufacturing (32%), expert services (9%), other services (18%), construction (6%), and other (20%). The size of these SMEs ranged from one-person enterprises to those employing up to 240 people, with an average of 17 employees. The majority of the SMEs were classified as small-sized, employing fewer than 50 individuals.

3.2 Variables

To create a taxonomy for classifying SMEs in respect to green transition, we devised a measurement tool consisting of ten items. These items were formulated based on the definitions of green small and medium-sized enterprise (SME) growth as outlined by Koirala (2018). The primary aim was to establish a system for categorizing SMEs into distinct groups: those without any interest in green transition, those actively seeking business opportunities within this transition, and those whose vision is centred on building a greener society. Therefore,

these items drew inspiration from Koirala's definition of green growth. Initially, respondents were given an understanding of green transition with the following statement: "Green transition involves, for instance, an increased focus on environmental aspects in consumption and production, heightened environmental regulations, and the pursuit of carbon neutrality." Respondents were then asked to rate their agreement with these statements on a scale from 1 to 7, with 1 signifying complete disagreement and 7 signifying complete agreement. Four researchers and three entrepreneurs participated in the expert panel evaluating developed items related to green transition. In addition, the relevance of the scales was assessed and tested with a group of respondents. The items for measuring SME's position in green transition were:

1. Our company's operations have no environmental impact.
2. In our industry there is no need to think about environmental effects.
3. In environmental matters, we only do what the regulations require.
4. As far as possible, we reduce the negative environmental impact of our operations.
5. We have not sought/do not seek new business opportunities from the green transition.
6. We seek/have sought actively new business opportunities from the green transition.
7. We develop/have developed our current products/services/processes to be greener.
8. We develop / have developed innovative products and services that promote the green transition in society.
9. Our business is based on promoting the green transition.
10. The main reason for our company's existence is to improve the state of the environment.

In the next phase, we used exploratory factor analysis to find factors in green transition.

4. Results

4.1 Factor Analysis

To construct the taxonomy, we conducted an exploratory factor analysis. The suitability of the data for factor analysis was verified using the Kaiser-Meyer-Olkin test of sampling adequacy, which yielded a value of 0.82. We employed Principal Axis Factoring with Varimax rotation, which produced three factors with eigenvalues exceeding 1 (first factor 4.528, second 1.476, third 1.097), collectively explaining 59 percent of the variance extracted (the first factor accounted for 23 percent of the variance). These factors, their highest factor loadings, and communalities are presented in Table 1. The first factor was designated "green entrepreneurs," measuring behaviours associated with seeking business opportunities in the green transition and mitigating the negative impact of SME operations. The second factor was labelled "green missionaries," capturing behaviours related to actively promoting green transition and the SME's vision to enhance environmental conditions. The third factor was termed "does not concern us," indicating SMEs with high scores on this factor believe that environmental issues do not pertain to their business or industry.

Table 1: Factor loadings and communalities.

	Factor loading			Communality
	1	2	3	
1. Our company's operations have no environmental impact.			0.75	0.58
2. In our industry there is no need to think about environmental effects.			0.74	0.62
3. In environmental matters, we only do what the regulations require.	-0.53			0.41
4. As far as possible, we reduce the negative environmental impact of our operations.	0.52			0.27
5. We have not sought/do not seek new business opportunities from the green transition.	-0.53			0.41
6. We seek/have sought actively new business opportunities from the green transition.	0.69			0.69

		Factor loading	
7.	We develop/have developed our current products/services/processes to be greener.	0.65	0.65
8.	We develop / have developed innovative products and services that promote the green transition in society.	0.64	0.71
9.	Our business is based on promoting the green transition.	0.77	0.73
10.	The main reason for our company's existence is to improve the state of the environment.	0.93	0.89

From these factors, we derived variables for "No concern for environmental issues," "Green entrepreneurs," and "Green missionaries." Table 2 provides information on means, standard deviations, minimum and maximum values, and Cronbach's alphas for these variables. Reliability scores of 0.70 or higher were deemed acceptable, following the suggestion of Nunnally and Bernstein (1994). All the variables displayed satisfactory reliability ratios.

Table 2: Correlations, mean, minimum and maximum values of the variables.

Variable	Cronbach's alpha	1	2	Mean (sd)	Min/Max
1. No concern for environmental issues	0.71			3.1 (1.7)	1.0/7.0
2. Green entrepreneurs	0.84	-0.31***		4.5 (1.4)	1.0/7.0
3. Green missionaries	0.83	-0.23**	0.61***	2.8 (1.7)	1.0/7.0

Note: ** $p < 0.01$, *** $p < 0.001$

4.2 Gender Differences

We conducted t-tests to analyse gender differences among entrepreneurs in the constructed variables. Table 3 presents the results. The first variable "No concern for environmental issues" shows that women have slightly lower mean value (2.8) compared to men (3.2). The p-value (0.09) suggests weak evidence of a difference. In the variable "Green entrepreneurs" the difference is greater and statistically significant ($p=0.01$). The mean value for women is 4.9 and for men 4.3. However, no differences between men and women entrepreneurs were found in the variable "Green missionaries". Our first hypothesis receives support. First, the difference in "No concern for environmental issues" is weak but noticeable – women entrepreneurs identify the need to think about environmental issues in their company a bit more than men entrepreneurs. Second, women have higher mean values in the "Green entrepreneurs" variable, which includes both items measuring opportunity seeking from green transition and reducing negative environmental impact of their company's operations. Thus, this indicates that women have more concern for environmental issues if they are more willing than men to do more than regulations require and minimize the adverse environmental effects of their company's activities. Our second hypothesis is supported. Women entrepreneurs seek business opportunities from green transition more than men entrepreneurs, and they have developed products and services to promote the green transition in the society.

Table 3: T-test results.

Gender	No concern for environmental issues mean (sd)	Green entrepreneurs mean (sd)	Green missionaries mean (sd)
Women	2.8 (1.5)	4.9 (1.3)	2.8 (1.7)
Men	3.2 (1.7)	4.3 (1.4)	2.8 (1.7)
F-value	3.276	0.911	0.006
Sig. (two-sided)	0.09	0.01	0.92

5. Discussion

The objective of this research was to understand the relationship between gender and opportunities in sustainable entrepreneurship, particularly in the context of the green transition. Firstly, the results indicate that women entrepreneurs exhibit a greater concern for environmental issues compared to their male counterparts as they have higher values in green entrepreneurship which includes reducing the negative environmental impacts of operations and doing more than regulations require. Secondly, women actively seek more business opportunities arising from the green transition, and they are more involved in developing green products, services, and processes compared to male entrepreneurs. Our findings align with Braun's (2010) and Barrachina Fernández et al.'s (2021) research, which both highlighted women entrepreneurs' stronger inclination towards environmentally sustainable practices. Our results also resonate with the findings of Outsios and Farooqi (2017), who demonstrated that women entrepreneurs view sustainable entrepreneurship as a more attractive business option than their male counterparts. Furthermore, our results are consistent with the research by Kutlu and Ngoasong (2023), providing strong evidence that women entrepreneurs exhibit greater concern for the environmental and social implications of their businesses.

An intriguing question arises: why do women demonstrate a stronger inclination towards sustainable entrepreneurship both in their practices and in their pursuit of new business opportunities? Previous research has shown that socially constructed gender norms can limit women's access to and engagement in specific socio-economic contexts (Ahl, 2006; McRobbie, 2009), including entrepreneurship. Our results suggest that sustainable entrepreneurship is a distinct arena in this regard, and it might offer a means to overcome the masculine ethos prevalent in traditional entrepreneurship. Sustainable entrepreneurship includes practices that promote the common good in society, and this may resonate especially with women. It is possible that expectations of entrepreneurship differ between men and women. For instance, Martiarena (2022) emphasizes that gender stereotypes can influence growth expectations. Women entrepreneurs who identify with feminine traits while perceiving entrepreneurship with high masculine characteristics may expect their businesses to grow at a lower rate. The traditional masculine characteristics associated with entrepreneurship might not be as prominent in sustainable entrepreneurship. Our results suggest that incorporation of environmental and social goals into the realm of sustainable entrepreneurship enhances its appeal as a viable business option, particularly for women entrepreneurs.

6. Conclusions

This research has several contributions and implications. Although research in sustainable entrepreneurship has delved into various topics, it has neglected to address the role of gender (Hall et al., 2010; Outsios and Farooqi, 2017). This research sheds light on this phenomenon. The taxonomy for classifying SMEs in respect to green transition can be used in future research in examining different aspects in sustainable entrepreneurship. As a practical implication, we suggest that emphasizing the potential of sustainable entrepreneurship can enhance the appeal of entrepreneurship to women, thereby increasing the number of women entrepreneurs in society. This consideration could be incorporated into entrepreneurship education across various school levels.

This study has certain limitations. Firstly, the data collection was confined to a single country, and the homogeneity of the cultural and temporal setting may restrict the generalizability of the results. Future studies should explore whether similar findings emerge in diverse settings. Additionally, our research primarily focuses on the green transition and its opportunities, neglecting other sustainability dimensions such as social and economic aspects (Cohen and Winn, 2007). Subsequent research could dissect these dimensions separately, examining potential gender differences. Qualitative research is also essential to comprehend the underlying reasons for these gender disparities. Despite these limitations, this study contributes to the understanding of gender effects in sustainable entrepreneurship, expanding on prior research that explores the intricate relationship between gender considerations, entrepreneurial actions, and sustainability.

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