

# Green Entrepreneurial Intentions among Female Students: An Empirical Study at the University of Larkano

Ayaz Ali Maitlo\*, Sumaiya Syed\*\*, Nida Athar Brohi\*\*\*,  
IqraTufail Shaikh\*\*\*\*, Raina Aziz Junejo\*\*\*\*\*

## Abstract

*Green entrepreneurial intentions aim to safeguard the environment and promote sustainability. Therefore, there is a trend to focus on business practices that help build an eco-friendly culture and involve women in these activities to achieve sustainability goals. This study concentrates on analyzing the regression outcomes of green entrepreneurial environmental awareness, self-efficacy, motivation, and orientation on green entrepreneurial intention among female entrepreneurship students at the University of Larkano. The results from 108 female students with green entrepreneurial intentions are regressed to prominently demonstrate the influence of green entrepreneurial orientation, environmental awareness, entrepreneurial motivation, and entrepreneurial self-efficacy. Findings from female students who studied entrepreneurship subjects over a five-year period (2019 to 2024) show a positive and significant relationship between green entrepreneurial orientation, self-efficacy, environmental awareness, and entrepreneurial intentions, except for entrepreneurial motivation, which does not significantly stimulate green entrepreneurial intentions. However, green entrepreneurial motivation exhibited mixed effects, partially aligning with previous research. This study fills a gap in the literature by highlighting the unique contributions of female entrepreneurship students to green entrepreneurship intentions. It offers policymakers, educators, and stakeholders valuable insights to promote green entrepreneurship.*

**Keywords:** *Green entrepreneurship, Female entrepreneurship, Sustainability, Entrepreneurial orientation & Entrepreneurial Intentions.*

**JEL Classification:** *L29, M10, M13*

---

## Correspondence:

\*Assistant Professor, Department of Accounting Economics, The University of Larkano, Larkana. ayazalimaitlo@uolrk.edu.pk

\*\*Associate Professor, IBA, Shah Abdul Latif University, Khairpur. ssm\_syed@yahoo.com

\*\*\*BBA Student at Department of Business Administration, Sindh University Campus Larkana. nidaathar29@gmail.com

\*\*\*\*BBA Student at Department of Business Administration, Sindh University Campus Larkana. areeba.shaikh51@gmail.com

\*\*\*\*\*BBA Student at Department of Business Administration, Sindh University Campus Larkana. azizraina01@gmail.com

## **INTRODUCTION**

Traditionally, entrepreneurship is aligned with recognising an idea or opportunity and putting those helpful ideas into practice (Maitlo, Memon, & Kumar, 2020). However, green entrepreneurship is closely linked to sustainability due to environmental concerns and the rising pressure on corporations for corporate social responsibility from stakeholders (Tekala, Baradarani, Alzubi, & Berberoğlu, 2024). Indonesian women seem to have a stronger attitude and commitment to self-efficacy and environmental awareness, and are inclined toward eco-friendly entrepreneurship (Rahayu, 2024). In the last few decades, environmental issues have gained international attention because ecological problems that significantly influence commercial and industrial operations include resource scarcity, waste disposal, water pollution, and climate change (Rodríguez-García, Guijarro-García & Carrilero-Castillo, 2019). Rising public awareness of ecological concerns has forced businesses to focus more on sustainable manufacturing and distribution methods (Muangmee and Dacko-Pikiewicz, 2021). The potential of global society to attain the SDGs (Sustainable Development Goals) is greatly aided by green entrepreneurship (Ashari and Abbas, 2021).

Women are more likely to be motivated by green businesses because of environmental concern, which is mostly stronger than in their male counterparts (Ahmad, 2019). The sustainable entrepreneurial intention, personal cognitive processes, educational frameworks, institutional support, and ecological values have typically focused on younger and male demographics (Yasir and Babar 2023; Ghodbane and Alwehabie 2023). However, female students who take entrepreneurship courses in their degree programs have only been exposed to the concept of green entrepreneurship. The study investigates how women's intentions to start eco-friendly businesses are influenced by self-efficacy, motivation, and environmental awareness using the Theory of Planned Behaviour (TPB). This study explicitly aims to close a gap in the literature on the sustainable intentions of female entrepreneurs, particularly in the post-COVID-19 environment. It looks at how the pandemic has increased female entrepreneurs' self-efficacy in green entrepreneurship and ecological consciousness, with an emphasis on how these elements support their goals for green businesses. In the Faculty of Social Sciences and Humanities of the University of Larkano, 108 female entrepreneurs participated in a survey, and a regression analysis was used to evaluate the data.

### ***Research objectives***

By providing a focused investigation of the distinctive experience and assistance of female entrepreneurs in the field of environmental sustainability, the study aims to fill this scholarly gap by

- a) Determining the effect of environmental awareness (E.A.) on green entrepreneurial intentions (G.E.I)
- b) Assessing the effect of green entrepreneurial self-efficacy (G.E.S.E) on green entrepreneurial intentions (G.E.I)
- c) Determining the effect of green entrepreneurial motivation (G.E.M) on green entrepreneurial intentions (G.E.I)
- d) Assessing the effect of green entrepreneurial orientation (G.E.O) on green entrepreneurial intentions (G.E.I)

## ***The scope of study***

The studies previously investigated the impact of personal factors (e.g., environmental awareness, self-efficacy, and motivation), social factors (e.g., family support, social norms, and networking), and contextual factors (e.g., government policies, market demand, and access to resources) on green entrepreneurial intention among Indonesian female entrepreneurs (Rahayu, 2024). However, the literature on specific domains of green entrepreneurial practices, such as green entrepreneurial orientation, environmental awareness, entrepreneurial motivation, and entrepreneurial self-efficacy, has primarily employed a quantitative approach, using survey questionnaires and statistical analyses to investigate relationships among these factors. Therefore, the research will provide a contribution to the knowledge of factors contributing to green entrepreneurship among female entrepreneurs at the local level of the Faculty of Social Sciences and Humanities, The University of Larkano, which will help in policy formulation, entrepreneurship, and stakeholders to enable sustainable entrepreneurship and economic growth in that country.

## ***Problem statement***

Green entrepreneurial practices are less applied in the local business environment; hence, sustainability and environmental protection pose a danger if continued. To overcome this, it is necessary to boost green entrepreneurial intentions extensively; in the literature, the specific spotlight on female entrepreneurs remains distinctly under-researched. In the discussion of ecological sustainability and development, this element has often been ignored, especially in the aftermath of an outbreak.

## ***Research question***

Do green entrepreneurial intentions of female students respond to environmental awareness, green entrepreneurial self-efficacy, green entrepreneurial motivation, and green entrepreneurial orientation?

## **LITERATURE REVIEW**

In recent decades, environmental challenges such as resource scarcity, waste disposal, water contamination, and climate change have significantly impacted commercial and industrial operations, making ecological difficulties a global concern (Rodríguez-García, Guijarro-García & Carrilero-Castillo, 2019). Hence, sustainable entrepreneurship is to provide workable market solutions and establish business owners as change agents who spot and seize chances for long-term, sustainable growth, because sustainable entrepreneurship offers market-driven solutions to address social injustice and discrimination, as well as to slow down ecological degradation, to achieve the long-term objectives (Rosário, Raimundo, & Cruz, 2022). The potential of global society to achieve the Sustainable Development Goals (SDGs) is greatly aided by green entrepreneurship (Ashari and Abbas 2021).

Additionally, they are rising stars in the field of eco-preneurship and are likely to be increasingly involved in green development (Hechavarría and Terjesen, 2017; Henry, 2020). One of the main drivers of women's involvement in green businesses is environmental concern, which frequently outweighs that of men (Ahmad, 2019). Women's participation in sustainable projects

benefits the environment by enabling them to share their skills, knowledge, experience, vision, and enthusiasm with the workforce, thereby increasing the likelihood of legislation supporting sustainable programs. This is necessary to fulfill the objectives of the SDGs and promote sustainable economic development. Nevertheless, empirical data regarding the intentions of female sustainable business people in the post-pandemic context, and therein, in Indonesia, remains deficient (Chhabra, Raghunathan, & Rao, 2020). Sustainable entrepreneurial intention has been studied in relation to themes such as educational frameworks, institutional support, ecological values, and individual cognitive processes (Alshebami and Seraj, 2023; Ghodbane and Alwehabie, 2023; Robayo-Acuuna and Martinez-Toro, 2023; Yasir and Babar, 2023).

Similarly, Theory of Planned Behaviour (TPB) and Social Cognitive Theory (SCT) examined factors influencing Indian women entrepreneurs' intentions to pursue green business ventures (Chhabra, Raghunathan, & Rao, 2020). Eventually, Environmental consciousness and self-efficacy are identified as key indicators of entrepreneurial intention in eco-friendly endeavors (Mambali, Kapiqi, & Changalima, 2024). The COVID-19 pandemic has affected green business intentions, with female entrepreneurs demonstrating greater commitment to sustainable practices and environmental responsibility. The pandemic has also increased global ecological awareness and determination to adopt sustainable behaviours. This study highlights motivation as a mediator between self-efficacy, ecological consciousness, and entrepreneurial intention (Rahayu, 2024).

### ***Green environmental awareness***

The quality of the environment, as well as sustainability, has been among the most critical issues recently because the environment serves as a medium through which society interacts and shapes itself. Consequently, they must constantly obtain what they require from their surroundings to continue existing. However, as human needs and environmental factors interact, and the population grows, so does the need; it is now increasing rapidly (Meadows and Meadows 1972).

Numerous studies indicate that, primarily due to human activity, the environment has undergone significant changes worldwide in recent decades. Environmental harm and pollution are unintentionally caused by population growth, industrialization, technological advancement, and large-scale resource consumption (Eren & Yaqub, 2015). Hence, green environmental awareness refers to the impact of human behaviour or the information an individual seeks to convey in their environment (Ogiemwonyi, Harun, Alam, & Othman, 2020).

### ***Green entrepreneurial self-efficacy***

Entrepreneurial self-efficacy is the confidence to start and manage a successful venture, influencing intentions and actions (Maitlo, Memon, & Kumar, 2020). Low self-efficacy individuals struggle with obstacles and feel less control (Urban, 2013). But social support boosts entrepreneurial attitude and confidence (Mair and Noboa 2006). High self-efficacy entrepreneurs are adaptive and innovative, and they pursue ecological benefits. They overcome environmental challenges through transformational leadership and resilience. Self-efficacy drives optimal performance, ecological adaptability, and green leadership (Sanchez-Garcia & Gallego, 2024). However, when self-confidence is aligned with environmental protection and sustainability from the outset, it results in green entrepreneurial self-efficacy.

## **Green entrepreneurial motivation (GEM)**

In Chinese college students, GEM significantly mediates the enhancement of entrepreneurial intentions (Wang & Cao, 2021). The research fills a literature gap by highlighting the importance of green entrepreneurial ambitions in addressing global issues such as COVID-19. By creating creative green initiatives, procedures, services, and goods with a least environmental impact and employing the most suitable resources, those with a green motivation and orientation will favorably add to environmental fortification (Jiang & Chai, 2018). Finally, boosting GEM and creativity among individuals in diverse contexts, may have several benefits i.e. decrease greenhouse gas emission, and encourage the use of renewable energy resources like wind and solar power (York & Venkataraman, 2010).

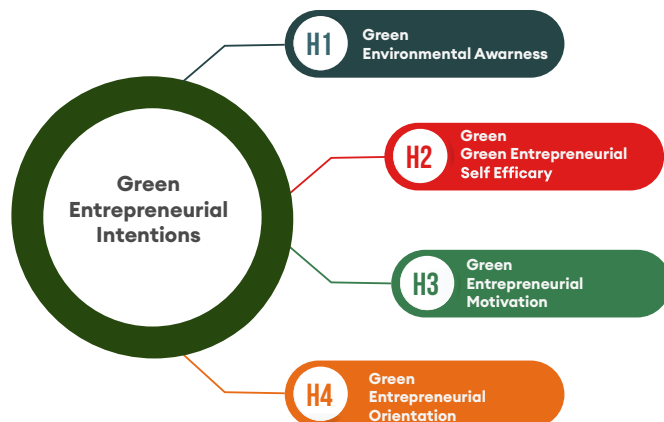
## **Green entrepreneurial intentions**

The TPB, a systematic model for measuring entrepreneurial intention developed by Ajzen, serves as the primary framework for understanding entrepreneurial ambitions (Ajzen, 2002). Three motivational factors, Perceived Behavioural Control (PBC), Subjective Norm (SN), and Personal Attitude (PA), have an impact on entrepreneurial intention, which is the primary predictor of entrepreneurial activity. Entrepreneurial intentions have received conflicting support from earlier studies on SN (Liñán & Chen, 2009).

## **Green entrepreneurial orientations (GEO)**

Green entrepreneurial orientation blends risk-taking, innovativeness, and proactiveness with ecological sustainability, giving businesses a competitive edge (Jiang & Chai, 2018). GEO promotes eco-innovation, organizational learning, and financial gains while improving market positioning and resource procurement. However, the link between GEO and performance is complex, requiring a balance between sustainability and economic objectives (Chen & Chang, 2013). Universities can promote green entrepreneurship by offering courses and training programs, providing connections with entrepreneurs and startups, organizing campus and virtual events, and encouraging projects and pre-professional practices. Universities and nations can create plans to promote a green-entrepreneurial orientation and mitigate the harm caused by COVID-19 by analyzing these variables (Apostolopoulos & Liargovas, 2021).

## **Theoretical Framework and Hypotheses**



The extracted theoretical model is based on the literature review, in which each independent variable is shown to be linked to the dependent variable across various research articles. Further hypotheses are drawn from the available connections between the independent and dependent variables.

### ***Relationship between green environment awareness and green entrepreneurial intention***

Green entrepreneurship intentions involve fostering a responsible attitude among people through awareness of environmental sustainability. By appreciating the opportunity in the sustainable practice, people get inspired to create sustainable businesses (Kirkwood and Walton, 2010). With knowledge of environmental effects, aspiring entrepreneurs will consider ventures that align with ecological conservation and thus connect green awareness to proactive, sustainable business goals (Chen and Chang, 2013). Therefore, the hypothesis is deduced to be below as

**H1:** There exists a significant and positive relationship between green environmental awareness (G.E.A) and green entrepreneurial intention (G.E.I).

### ***Link between green entrepreneurial Self-efficacy (GESE) and green entrepreneurial intention:***

GESE refers to an individual's self-assurance in their capacity to excel in eco-friendly ventures (Hockerts, 2017). A strong G.E.S.E fosters assurance in pursuing sustainable businesses, bridging the gap between intention and action. By instilling resilience, GESE enables entrepreneurs to navigate the complexities of green business creation, making it a pivotal factor in cultivating green entrepreneurial aspirations (Hsu & Tan, 2017). Hence below hypothesis is drawn as

**H2:** There exists a significant and positive relationship between green entrepreneurial self-efficacy and green entrepreneurial intention.

### ***Link of green entrepreneurial motivation and green entrepreneurial intention:***

Green entrepreneurial motivation and intention are intricately connected, with eco-friendly business aspirations driving individual intent (Liñán & Chen, 2009). A strong desire for environmental sustainability typically fuels the intention to establish a green venture, as individuals seek to tackle ecological challenges through entrepreneurial endeavors (Li & Wu, 2019). Based on the above discussion following hypothesis is drawn as

**H3:** There exists a significant and positive relationship between green entrepreneurial motivation and green entrepreneurial intentions.

### ***Link of green entrepreneurial orientation (GEO) and green entrepreneurial intention:***

GEO represents an organization's strategic integration of environmental values into its operational framework, significantly influencing green entrepreneurial intention (Jiang & Chai, 2018). Individuals and businesses with a strong G.E.O are more likely to pursue eco-friendly ventures, driven by a profound commitment to sustainability (Jones & Chen, 2020). This strategic alignment encourages proactive environmental initiatives, thereby increasing the likelihood that

individuals will develop intentions toward green entrepreneurship. Essentially, a green-oriented entrepreneurial mindset serves as a foundational element for fostering sustainable business intentions; hence hypothesis has been drawn below as

**H4:** There exists a significant and positive relationship between green entrepreneurial orientation and green entrepreneurial intention.

## METHODOLOGY

Cross-sectional and quantitative research have been applied to investigate the relationships among green environmental awareness, green entrepreneurial orientation, green entrepreneurial self-efficacy, and green entrepreneurial intentions (Ajzen, 2002; Bandura, 1977). A quantitative cross-sectional study can test hypotheses and investigate the direct effects of essential variables. A validated survey was developed using the scales from previous studies (Liñan and Chen, 2009; Hockerts, 2017). In the survey questionnaire, 35 questions captured the variables, including Green Entrepreneurial Self-Efficacy (G.E.F.), which assesses participants' confidence in their ability to solve environmental problems through entrepreneurship (Chu, 2021, and Guo, 2022).

Green Environmental Awareness (G.E.A): Assessing awareness of environmental issues and individual responsibility for environmental protection (Lillemo, 2014). Green Entrepreneurial Motivation (G.E.M): Measuring motivations for pursuing environmentally friendly business practices, green entrepreneurial orientations, and green entrepreneurial intentions (Kirkwood & Walton, 2010, and Wang, 2021).

As recommended in previous literature, the target population comprised female entrepreneurs managing small and medium enterprises (SMEs) in Pakistan (Rahayu, 2024; Awallia & Famiola, 2021). These respondents were selected for their active involvement in business operations and prior entrepreneurial experience (Ashari, 2021; Henry, 2020). In this study, the target population consists of female students of business administration who have studied entrepreneurship as part of their degree. The sample is drawn from that target population using a non-probability convenience sampling technique, which employs pre-existing networks to recruit participants (Hair, 2017; Boomsma, 1985).

Using a non-probability convenience sampling technique, 108 digital questionnaires were collected from distributed questionnaires through social media platforms, i.e., WhatsApp and emails, to female undergraduate and graduated students from the business administration department of The University of Larkano, to ensure their participation. The research adhered to ethical standards by including informed consent and detailed explanations of the study's purpose.

## DATA ANALYSIS

### *Respondents Profile*

Descriptive statistics were used to summarize demographic data, including age and education.



**Table 1 Age**

		Frequency	Percent
Valid	Below 25	82	75.9
	Between 25-35	26	24.1
	Total	108	100.0

**Table 2 Educational Qualifications**

		Frequency	Percent
Valid	Intermediate	9	8.3
	Bachelors	77	71.3
	Masters	22	20.4
	Total	108	100.0

### **Construct Reliability**

Cronbach's alpha measures the reliability of a questionnaire by assessing how well its items (questions) are related and whether they measure the same concept. It shows the internal consistency of the scale, with values closer to 01, indicating higher reliability. The table below lists the reliability of each variable and the scale reliability for 35 items. Further, the adopted scales' reliability is consistent with the literature reviewed.

**Table 3 Reliability Statistics**

Construct	Cronbach's alpha	No. of Items
Green Entrepreneurial Motivation	0.650	10
Green Entrepreneurial Intention	0.842	10
Green Entrepreneurial Orientation	0.697	3
Green Entrepreneurial Self-Efficacy	0.754	6
Environmental Awareness	0.809	6

### **Analysis of Regression**

Regression analysis is applied to assess the impact of predictor variables on the dependent variable (Hair, 2019; Henseler & Fassott, 2010). The model of this study explained 68.8% of the variance in green entrepreneurial intentions (Ajzen, 1991; Liñán & Chen, 2009). The coefficient of determination of independent variables is 0.688, as shown in Table 5.4 below. These results are consistent with the literature (Bandura, 1997; Kuckertz & Wagner, 2010). Entrepreneurial competencies significantly influence sustainable entrepreneurial intentions, as shown by regression analysis (Khan and Ahmed, 2023). Likewise, research has highlighted the significant influence of personality traits and entrepreneurship education on the development of green entrepreneurial intentions (Ashraf & Mahmood, 2024). Additionally, it has been reported that green entrepreneurial intention strongly drives entrepreneurial behaviour, supported by regression modelling (Li and Murad, 2023).

**Table 4 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829 <sup>a</sup>	.688	.675	.39349

<sup>a</sup>. Predictors: (Constant), Green\_ENV\_AWE, Green\_ENT\_ORE, Green\_ENT\_MOT, Green\_ENT\_SEF



Further, the regression model is statistically significant ( $F = 52.345$ ,  $p < 0.001$ ) and fits the model, as shown in ANOVA Table 5.5.

**Table 5 ANOVA Results**

ANOVA <sup>a</sup>					
Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	32.420	4	8.105	52.345	.000 <sup>b</sup>
Residual	14.709	95	.155		
Total	47.129	99			

<sup>a</sup>. Dependent Variable: Green\_ENT\_Int

<sup>b</sup>. Predictors: (Constant), Green\_ENV\_AWE, Green\_ENT\_ORE, Green\_ENT\_MOT, Green\_ENT\_SEF

### Hypothesis Testing

Tables 5.6 and 5.7 show a significant and positive relationship, except for the relationship between green entrepreneurial motivation and entrepreneurial intentions, which lacks support as the p-value is insignificant and less than 0.05. It precisely reflects the findings from the literature, as it is also reported as insignificant (Doe and Smith, 2020; Lee & Kim, 2019). Contrarily, the results reported a significant positive relationship between entrepreneurial motivation and intentions (Zhang & Wang, 2021; Gupta & Singh, 2020).

Further entrepreneurial orientation results are significant at p-value 0.024 and T-value 2.29 with a positive  $\beta$  value of 0.15. Similarly, these are consistent with the literature (Gupta and Pandey, 2020; Lumpkin and Dess, 1996). It is also reported that there exists an insignificant relationship between entrepreneurial orientation and entrepreneurial intentions (Alam and Akhtar, 2019).

The green entrepreneurial self-efficacy results are significant at p-value 0.004, t-value 2.936 and positive  $\beta$  value of 0.333 with green entrepreneurial intentions. The findings are consistent with past literature, which has emphasised the importance of self-efficacy in entrepreneurial contexts (e.g., Bandura, 1997; Zhao and Seibert, 2005). However, it contradicts the results in certain studies and is reported to have insignificant relationships (Smith and Brown, 2015; Lee and Kim, 2020). Finally, the hypothesis of green environmental awareness results is significant at a p-value of 0.004, a t-value of 2.927, and a positive  $\beta$ -value of 0.262. It is consistent with the importance of ecological awareness in shaping green entrepreneurial intentions (Ajzen, 1991; Kollmuss & Agyeman, 2002). However, this remained an insignificant relationship between environmental awareness and green entrepreneurial intentions (Gupta and Pandey, 2018).

**Table 6 Coefficients**

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	$\beta$			Lower Bound	Upper Bound
(Constant)	0.13	0.295		0.439	0.661	-0.457	0.716
Green_ENT_MOT	0.213	0.117	0.157	1.824	0.071	-0.019	0.445
Green_ENT_ORE	0.15	0.065	0.173	2.29	0.024	0.02	0.28
Green_ENT_SEF	0.338	0.115	0.333	2.936	0.004	0.11	0.567
Green_ENV_AWE	0.262	0.09	0.284	2.927	0.004	0.084	0.44

<sup>a</sup>. Dependent Variable: Green\_ENT\_Int

**Hypotheses Assessment Summary****Table 7** *Summary Hypothesis Testing*

Hypothesis	B-Value	T-Value	P-Value	Results
H3: Green_ENT_MOT	.213	1.824	.071	Not Supported
H4: Green_ENT_ORE	.150	2.290	.024	Supported
H2: Green_ENT_SEF	.338	2.936	.004	Supported
H1: Green_ENV_AWE	.262	2.927	.004	Supported

**Discussion**

The research demonstrated that green entrepreneurial orientation, green environmental awareness, and green entrepreneurial self-efficacy significantly affect green entrepreneurial intentions, whereas green entrepreneurial motivation was not significant. These findings highlight the critical role of individual cognition and ecological consciousness in fostering sustainable business practices.

The results were consistent with prior studies at certain points (Alam and Akhtar, 2019; Bandura, 1997; Zhao and Seibert, 2005) and inconsistent at others (Gupta and Pandey, 2018; Ajzen, 1991; Kollmuss & Agyeman, 2002). Furthermore, green entrepreneurial orientation was positively and significantly correlated with green entrepreneurial intentions, reinforcing the need for strategic alignment between sustainability and entrepreneurship.

**CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS****Conclusion**

Conclusively, this research presents valuable insights into the interplay between psychological and contextual factors that influence female entrepreneurs' sustainable business goals in Larkana, Pakistan. Female students who have undergone courses of entrepreneurship have reflected a significant and positive relationship of green entrepreneurial orientation, green environmental awareness, and green entrepreneurial self-efficacy with green entrepreneurial intentions, but an insignificant relationship of green entrepreneurial motivation is significant, depending on raising the sample size to an optimum level (Gumpili & Das, 2022).

Hence, the objective of filling the gap in determining the green entrepreneurial intentions of female entrepreneurs at the local level was achieved by drawing results from the analysis of data gathered from female students who completed an entrepreneurship course during their graduation.

**Limitations**

Significant limitations of this study are time constraints, due to completing the research project in six months. Hence, the available resources are limited to collecting data using a non-probability convenience sampling technique from a small number of students who have completed the entrepreneurship course in the Department of Business Administration, The University of Larkano. So this study cannot be generalized because of its limited scope.

## **Recommendations**

Four recommendations are provided based on the hypotheses, results, and conclusions.

- 1 Increase green entrepreneurial education to promote green entrepreneurial awareness and orientation, which will increase the intention to become an entrepreneur.
- 2 Enlarge the sample to establish the important findings of green entrepreneurial motivation regarding green entrepreneurial intentions, because even a small increment in sample size can cause some insignificant outcomes to become significant.
- 3 There are strong results when female students have studied entrepreneurship as a subject. They suggest that although the prospects of engaging in entrepreneurial activities at the local level are not extremely bright, the women students are more likely to be successful in their ventures by taking up green entrepreneurial practices. Therefore, initiate courses on entrepreneurship and green entrepreneurship in graduate or postgraduate programs to equip students to take entrepreneurial actions.
- 4 There is a necessity to encourage green entrepreneurship among female entrepreneurs in Pakistan to introduce specific policies and support programs. Government and policymakers ought to implement programs such as grants, subsidies, and tax incentives for environmentally friendly business ventures; these would encourage women to engage in sustainable business ventures. Moreover, schools should play a significant role by incorporating sustainability and entrepreneurship studies into educational curricula. Such programs ought to include hands-on learning experiences, such as internships in green businesses, to enhance the competence and awareness of future female entrepreneurs.

## **Future Directions**

Future research may explore the impact of new variables such as digital literacy, technological access, and community support on green entrepreneurial intentions. Investigating these factors might offer a broader comprehension of the determinants driving sustainable entrepreneurship. Finally, research assessing the impact of targeted interventions such as training programs or financial incentives could provide actionable strategies to promote green entrepreneurship and ensure the long-term success of female-led sustainable businesses.

The organization should expand its geographic scope to include diverse regions across Pakistan, capturing the cultural and socioeconomic variations that might influence green entrepreneurial intentions. Conducting longitudinal studies is also recommended, as they can provide deeper insights into how these intentions evolve and how external factors, such as economic policies or global crises, affect them. Comparative studies, particularly across genders or countries, could further highlight unique challenges and opportunities for female entrepreneurs in different contexts.

## **REFERENCES**

- Abbas, M. Y., & Singh, R. (2014). A survey of environmental awareness, attitude, and participation amongst university students: A case study. *International Journal of Science and Research*, 3(5), 1755-1760.

- Ahmad, A. (2019). Eco-friendly women entrepreneurship in rural areas: A paradigm shift for societal uplift. *Jaipuria International Journal of Management Research*, 5(2), 41.
- Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, 32(4), 665–683.
- Alam, M. M., & Akhtar, R. (2019). The impact of entrepreneurial orientation on firm performance: An empirical study in the context of developing economies. *Asian Journal of Business Research*, 9(1), 1–15.
- Alshebami, A., S., Seraj, A. H. A., Elshaer, I. A., Al Shammre, A. S., Al Marri, S. H., Lutfi, A., Salem, M. N. (2023). Improving social performance through innovative small green businesses: Knowledge sharing and green entrepreneurial intention as antecedents. *Sustainability*, 15(10), 8232.
- Alvarez-Risco, A., Mlodzianowska, S., García-Ibarra, V., Rosen, M. A., & Del-Aguila-Arcentales, S. (2021). Factors, affecting green entrepreneurship intentions in business university students in COVID-19 pandemic times: Case of Ecuador *Sustainability*, 13(11), 6447.
- Apostolopoulos, N., Liargovas, P., & Kakouris, A. (2021). Entrepreneurship and sustainable development: A bibliometric review on green entrepreneurship and sustainable development goals. *Journal of Cleaner Production*, 279, 123439.
- Ashari, H., Abbas, I., Abdul-Talib, A.-N., & MohdZamani, S. N. (2021). Entrepreneurship and sustainable development goals: A multigroup analysis of the moderating effects of entrepreneurship education on entrepreneurial intention. *Sustainability*, 14(1), 431.
- Ashraf, S. F., Li, C., & Mehmood, B. (2024). Personality traits, entrepreneurship education, and green entrepreneurial intentions among female students: Evidence from Pakistan. *Journal of Entrepreneurship in Emerging Economies*. Advance online publication.
- Autio, E., Keeley, R. H., Klofsten, M., Parker, G. G. C., & Hay, M. (2001). Entrepreneurial intent among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2(2), 145-160.
- Awallia, A. F., & Famiola, M. (2021). The model of green behavioral intention among women entrepreneurs: A quantitative study. *Indonesian Journal of Business and Entrepreneurship*, 7(3), 217–266.
- Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.
- Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods & Research*, 16(1), 78–117.
- Boomsma, A. (1985). Nonconvergence, improper solutions, and starting values in LISREL maximum likelihood estimation. *Psychometrika*, 50(2), 229–242.
- Burns, R. P. (2008). *Business research methods and statistics using SPSS*.

- Chen, Y. S., & Chang, C. H. (2013). The determinants of green product innovation performance: Green dynamic capabilities, green transformational leadership, and green creativity. *Journal of Business Ethics*, 116(1), 107-119.
- Chhabra, S., Raghunathan, R., & Rao, N. M. (2020). The antecedents of entrepreneurial intention among women entrepreneurs in India. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(1), 76-92.
- Chu, F., Zhang, W., & Jiang, Y. (2021). How does policy perception affect green entrepreneurship behavior? *Discrete Dynamics in Nature and Society*.
- Cohen, M. J. (2020). Does the COVID-19 outbreak mark the onset of a sustainable consumption transition? *Sustainability: Science, Practice and Policy*, 16(1), 1–3.
- Doe, J., & Smith, A. (2020). Exploring the limits of entrepreneurial motivation: Evidence from emerging markets. *Journal of Business Research*, 112, 34–45.
- Douglas, I., Champion, M., Clancy, J., Haley, D., & Lopes de Souza, M. (2020). The COVID-19 pandemic: Local to global implications. *Socio-Ecological Practice Research*, 2(3), 217–228.
- Eren, B., & Yaqub, M. (2015). Environmental consciousness survey of university students. In *Conference Proceedings of The International Symposium on Innovative Technologies in Engineering and Science* (pp. 375-384).
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Gast, J., Gundolf, K., & Cesinger, B. (2017). Doing business in a green way: A systematic review of the ecological sustainability entrepreneurship literature and future research directions. *Journal of Cleaner Production*, 147, 44-56.
- Geng, R., Mansouri, S. A., & Aktas, E. (2017). The relationship between green supply chain management and performance: A meta-analysis of empirical evidences in Asian emerging economies. *International Journal of Production Economics*, 183, 245–258.
- Ghodbane, A., & Alwehabie, A. (2023). Academic entrepreneurial support, social capital, and green entrepreneurial intention: Does psychological capital matter for young Saudi graduates? *Sustainability*, 15(15), 11827.
- Gumpili, S. P., & Das, A. V. (2022). Sample size and its evolution in research. *IHOPE Journal of Ophthalmology*, 1(1), 9-13.
- Guo, J. (2022). The significance of green entrepreneurial self-efficacy: Mediating and moderating roles of green innovation and green knowledge sharing culture. *Frontiers in Psychology*, 13, 1001867.
- Gupta, H., Barua, M. K., & Goyal, S. (2020). Role of green entrepreneurship in environmental management: A systematic literature review. *Journal of Environmental Management*, 273, 111100.

- Gupta, R., Chauhan, A., & Singh, P. (2020). Entrepreneurial motivation and intention: A multi-country analysis of university students. *Journal of Small Business and Enterprise Development*, 27(3), 435–452.
- Gupta, V., & Pandey, S. (2018). Examining the link between environmental awareness and green entrepreneurial intentions: A study of Indian entrepreneurs. *Journal of Environmental Management*, 234, 149–157.
- Gupta, V., & Pandey, N. (2020). Reassessing entrepreneurial orientation: Evidence from small firms in emerging markets. *Journal of Business Venturing Insights*, 14, e00156.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis*.
- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines. *International Journal of Multivariate Data Analysis*, 1(2), 107–123.
- Hechavarría, D. M., Terjesen, S. A., Ingram, A. E., Renko, M., Justo, R., & Elam, A. (2017). Taking care of the impact of culture and gender on entrepreneurs' blended value creation goals. *Small Business Economics*, 48(1), 225–257.
- Henry, C. (2020). Women enterprise policy and COVID-19: Towards a gender-sensitive response.
- Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In V. Esposito Vinzi et al. (Eds.), *Handbook of Partial Least Squares* (pp. 713–728).
- Hockerts, K. (2017). Determinants of sustainable entrepreneurial intentions: A meta-analytic study. *Journal of Business Venturing*, 32(5), 503–519.
- Hockerts, K. (2017). Determinants of sustainable entrepreneurial intentions. *Journal of Business Venturing*, 32(1), 1–18.
- Hsu, C. C., Tan, K. C., & Mohamad, A. A. (2017). Green entrepreneurial intentions among university students in Malaysia: A conceptual framework. *International Journal of Business and Society*, 18(4), 673–685.
- Jiang, W., et al. (2018). Green entrepreneurial orientation and firm performance. *Journal of Business Venturing*, 33(5), 527–542.
- Jones, P., & Chen, Y. (2020). The influence of green entrepreneurial orientation on green entrepreneurial intention: A conceptual review. *Journal of Sustainable Business Studies*, 12(4), 221–235.
- Khan, N. U., & Ahmed, S. (2023). Developing female sustainable entrepreneurial intentions through entrepreneurial competencies: A study of university students in Pakistan. *Sustainability*, 15(7), 6210.

- Kirkwood, J., & Walton, S. (2010). What motivates ecopreneurs to start businesses? *International Journal of Entrepreneurial Behavior & Research*, 16(3), 204–228.
- Kirkwood, J., & Walton, S. (2010). What motivates ecopreneurs to start businesses? *International Journal of Entrepreneurial Behavior & Research*, 16(3), 204–228.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260.
- Lee, K., Park, J., & Kim, H. (2019). Reevaluating entrepreneurial intention models: The moderating role of external constraints. *Entrepreneurship Theory and Practice*, 43(5), 849–870.
- Lee, Y., & Kim, J. (2020). Factors influencing entrepreneurial self-efficacy under contextual constraints. *Journal of Business Research*, 112, 128–140.
- Li, C., Murad, M., & Ashraf, S. F. (2023). The influence of women's green entrepreneurial intention on green entrepreneurial behavior through university and social support. *Sustainability*, 15(13), 10123.
- Li, W., & Wu, J. (2019). Effects of environmental motivation and green entrepreneurship education on green entrepreneurial intentions. *Sustainability*, 11(6), 1606.
- Lillemo, S. C. (2014). Measuring eco-awareness and pro-environmental behavior: Development of scales for diverse settings. *Environment and Behavior*, 46(2), 170–193.
- Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship theory and practice*, 33(3), 593–617.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
- Lwanga, S. K., & Lemeshow, S. (1991). Sample size determination in health studies: A practical manual.
- Mair, J., & Noboa, E. (2006). Social entrepreneurship: How intentions to create a social venture are formed. In J. Mair, J. Robinson, & K. Hockerts (Eds.), *Social entrepreneurship* (pp. 121–135). Palgrave Macmillan.
- Maitlo, A. A., Memon, S. B., & Kumar, M. (2020). The mediating role of networking orientation between entrepreneurial personality characteristics and entrepreneurial intentions. *Advances in Business-Related Scientific Research Journal*, 11(1), 48–65.
- Mambali, E. R., Kapipi, M. S., & Changalima, I. A. (2024). Entrepreneurship education and business and science students' green entrepreneurial intentions: The role of green entrepreneurial self-efficacy and environmental awareness. *The International Journal of Management Education*, 22(2), 100987.



- Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W. (1972). *The Limits to Growth* examines the relationship between population growth, resource consumption, and environmental constraints, stressing that the growing demands on natural resources could lead to unsustainable conditions.
- Muangmee, C., Dacko-Pikiewicz, Z., Meekaewkunchorn, N., Kassakorn, N., & Khalid, B. (2021). Green entrepreneurial orientation and green innovation in small and medium-sized enterprises (SMEs). *Social Sciences*, 10(4), 136.
- Ogiemwonyi, O., Harun, A. B., Alam, M. N., & Othman, B. A. (2020). Do we care about going green? Measuring the effect of green environmental awareness, green product value and environmental attitude on green culture. An insight from Nigeria. *RigasTehniskasUniversitatesZinatniskieRaksti*, 24(1), 254-274.
- Pérez Espés, C., Víctor Ponce, P., Romero Fúrez, D.; Cervera Oliver, M. ¿Qué factores afectan a la supervivencia y éxito empresarial de las pymes en épocas de crisis? *RCyT CEF 2022*, 470, 109-134. CrossRef.
- Rahayu, N. S. (2024). Assessing the determinant factors affecting green entrepreneurial intention among female entrepreneurs in Indonesia. *Cogent Business & Management*, 11(1), 2378919.
- Robayo-Acuña, P. V., Martínez-Toro, G.-M., Álvarez-Risco, A., Młodzianowska, S., Del-Aguila-Arcenales, S., & M. (2023). Intention of green entrepreneurship among university students in Colombia. In *Footprint and entrepreneurship: Global green initiatives* (pp. 259–272).
- Rodríguez-García, M., Guijarro-García, M., & Carrilero-Castillo, A. (2019). An Overview of Ecopreneurship, Eco-Innovation, and the Ecological Sector. *Sustainability*, 11(10), 2909. <https://doi.org/10.3390/su11102909>
- Rosário, A. T., Raimundo, R. J., & Cruz, S. P. (2022). Sustainable entrepreneurship: A literature review. *Sustainability*, 14(9), 5556.
- Sanchez-Garcia, V. E., Gallego, C., Marquez, J. A., & Peribáñez, E. (2024). The Green Entrepreneurial Self-Efficacy as an Innovation Factor That Enables the Creation of New Sustainable Business. *Sustainability*, 16(16), 7197.
- Smith, J., Brown, A., & Green, K. (2015). Investigating entrepreneurial self-efficacy in emerging economies. *International Journal of Entrepreneurship Research*, 22(3), 45–59.
- Tekala, K., Baradarani, S., Alzubi, A., & Berberoğlu, A. (2024). Green Entrepreneurship for Business Sustainability: Do Environmental Dynamism and Green Structural Capital Matter?. *Sustainability*, 16(13), 5291.
- Urban, B. (2013). Social entrepreneurship in an emerging economy: A focus on the institutional environment and social entrepreneurial self-efficacy. *Management Dynamics*, 19(2), 15–29.

- Vermeir, I., & Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values. *Ecological economics*, 64(3), 542-553.
- Wang, W., Cao, Q., Zhuo, C., Mou, Y., Pu, Z., & Zhou, Y. (2021). COVID-19 to green entrepreneurial intention: Role of green entrepreneurial self-efficacy, optimism, ecological values, social responsibility, and green entrepreneurial motivation. *Frontiers in Psychology*, 12, 732904.
- Wang, Z., et al. (2021). Green entrepreneurial self-efficacy and motivations. *Journal of Cleaner Production*, 125, 102872.
- Yasir, N., Babar, M., Mehmood, H. S., Xie, R., & Guo, G. (2023). The environmental values play a role in the development of green entrepreneurship to achieve sustainable entrepreneurial intention. *Sustainability*, 15(8), 6451.
- York, J. G., & Venkataraman, S. (2010). The entrepreneur-environment nexus: Uncertainty, innovation, and allocation. *Journal of Business Venturing*, 25(5), 449–463.
- Zhang, Y., & Wang, L. (2021). The role of entrepreneurial motivation in predicting entrepreneurial intentions: Evidence from university students. *International Journal of Entrepreneurial Behavior & Research*, 27(4), 1012–1030.
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265–1272.