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Gender Performance Potential as A Factor Driving Green Entrepreneurship in Informal Institution Environment

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Abstract

Objective: The impact of climate change and economic crises has created significant challenges in addressing gender inequality issues. This study aimed to explore the role of gender performance potential in gender equality and social inclusion (GESI) dimension and green entrepreneurship (GEn) activities using an informal institution theory. Methods: To ensure efficiency and robustness, this study employed an exploratory mixed design with a concurrent triangulation approach, integrated based on phenomenological methods. Primary fundamental microeconomy data on family entrepreneurship were collected through questionnaires, semi-structured interviews, and observations. Data were then analyzed using econometric experimental models. Findings: The results showed that GESI plays a dominant role in driving green entrepreneurship activities. Furthermore, well-measured informal institutions could promote sustainable socio-economic development. GESI also served as a basis for the push-pull factor theory in facilitating community entrepreneurship activities. Specifically, the implications of the push-pull factor theory were yet to achieve the goal of economic efficiency, as they primarily focus on the socio-economic solidarity (SES). Conclusions: The results of this study provided new evidence to support the Indonesian government's commitment to promoting blue and green economy strategies.

Keywords: GESI, Local Wisdom Potential, Green Entrepreneurship, Institution.

Introduction

According to Prasetyo *et al.* (2023), global economic crises that are induced by climate change tend to affect women disproportionately. Therefore, future solutions for smart specialization must emphasize institutional involvement, economic competitiveness, and environmental sustainability (Caryannis and Grigoroudis, 2022; Carayannis & Morawska-Jancelewicz, 2022). Nouri (2021) conducted a gender study using narrative analysis to explore how to increase entrepreneurship commitment. Entrepreneurship activities and socio-economy institutions that promote gender equality and social inclusion (GESI) are capable of reducing the difficulties faced by women (Prasetyo *et al.*, 2023, 2022a; Bullough *et al.*, 2022). The global rates of women's entrepreneurship are lower than that of men but the percentage of their involvement is higher in communities with low capita (Bullough *et al.*, 2022; Salvi *et al.*, 2022; Sajjad *et al.*, 2020). In more advanced countries, women are less likely to engage in entrepreneurship activities (Estrin and Mickiewicz, 2011; Sajjad *et al.*, 2020). The practical implication of these findings is that GESI plays a critical role in overcoming various difficulties they faced during global economic crises (Prasetyo *et al.*, 2023, 2022a). Moreover, the positive relationship between gender diversity and entrepreneurship productivity performance highlights the significant socio-economy role that women play in business

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beyond merely complying with institutional rules (Prasetyo *et al.*, 2023, 2022a; Abdullah *et al.*, 2022; Said *et al.*, 2022). Previous studies primarily focused on examining women's general role in family welfare. However, there is a lack of review exploring the real potential of women's work ethic in GESI dimension for promoting fair personal, family, and community welfare.

The analysis by Polas *et al.* (2022) on green entrepreneurship (GEn) as a roadmap toward a sustainable green economy in Peru is inspiring for this study. Alwakid *et al.* (2021) also explored the role of green entrepreneurship in sustainable development from a formal institutional approach. However, both studies did not examine gender roles specifically. Anderson and Ojediran (2021) proposed the concept of limited institutions to describe women's entrepreneurship, which is required for future review. This study aims to investigate the potential of gender performance in GESI dimension as informal institutions that can drive green entrepreneurship and shared prosperity. Informal institutions significantly influence millennials' intention to practice green disposal, highlighting the importance of studying women's role in this area (Dhanabalan *et al.*, 2023). To promote women's entrepreneurship in a rural community, it is crucial to provide knowledge and training in technical, marketing, and information technology (Mivehchi, 2019; Ochieng, *et al.*, 2020; Beriso, 2021; Prasetyo and Setyadharma, 2022; Mubeen *et al.*, 2022). Improving women's digital literacy can enhance their resilience and competitiveness in entrepreneurship. However, previous studies on various institutions did not specifically examine the potential of women's performance for their welfare (Estrin and Mickiewicz, 2011).

This study aims to explore the role of gender performance potential in GESI dimension in driving women's entrepreneurship activities and welfare. The services of microfinance informal institutions have the most decisive influence on the development of women's entrepreneurship (Abebe and Kegne, 2023). Previous reviews showed that institutional pillars can influence women's leadership roles and vision in entrepreneurship across various countries, ranging from 55 to 92 (Estrin and Mickiewicz, 2011; Yousafzai, 2015). The leadership vision is directly and indirectly influenced by regulatory institutions, entrepreneurship cognition, and norms (Yousafzai, 2015). However, despite progress made in some areas, discrimination against women, lack of legal protection, and restrictions on their mobility still pose significant barriers. These formal institutions are less likely to encourage women to aspire to high entrepreneurship goals, which can create jobs and drive economic growth, ultimately improving their welfare (Estrin and Mickiewicz, 2011). Despite these obstacles, women's investments and contributions to the community could potentially exceed the recognition and rights they are afforded. Because, differences in the level of corruption control have a positive effect on creating entrepreneurship (Abegaz *et al.*, 2023).

Recent studies suggested that external knowledge sources are relatively homogeneous across institutional contexts (Raza *et al.*, 2020). However, formal institutions have limited influence on the relationship between external knowledge sources and new business innovation, indicating the need for a new approach (Raza *et al.*, 2020; Rahim *et al.*, 2022). This shows that the relationship between women's entrepreneurship and institution theory becomes increasingly important to study. Formal institution theory can promote women to engage in entrepreneurship (Rahim *et al.*, 2022; Aljarodi *et al.*, 2022; Yousafzai, 2015). Informal institution theory can either promote or prevent their involvement in business activities (Rahim *et al.*, 2022). Although most studies focused on formal institutions with time-series data sources, few examined informal institutions using cross-sectional data (Aljarodi *et al.*, 2022; Alwakid *et al.*, 2021; Kazumi, and Kawai, 2017). Aparicio *et al.* (2022), Urbano *et al.*, (2021) and Alwakid *et al.*, (2021) acknowledged the benefits of gender equality (GE) in entrepreneurship but failed to explore the microeconomy nuances related to social benefits. Therefore, this study seeks to use fundamental microeconomy data to investigate the potential performance role of women's entrepreneurship from the perspective of informal institution theory, with a focus on GESI dimension. It is important to note that

formal and informal institutions can coexist and interact with each other, making their flow of interaction a crucial aspect of the new institutional perspective (Gerxhani and Cichocki, 2023).

Theoretical approaches that focus on informal institution theory without neglecting the meaning and role of existing formal institution theory are relatively novel. In this study, GESI dimension is used as an informal institution approach, which comprises two interrelated concepts: GE and social inclusion (SI). This dimension is used not only to improve accessibility and acceptability but also to ensure availability and affordability. GE serves as a driving factor for institutions to access, while SI refers to the removal of various barriers within the access improvement process. By transforming informal institutions, GESI dimension can serve as the basis for the push-pull factor theory to promote entrepreneurship activities in the social-economic development of the community. Therefore, the urgency of this study is related to the cultural behavioral patterns of the community's entrepreneurship activities in the institutions (Andriani and Bruno, 2022). It is expected to provide a better understanding of identifying various contextual wealth phases to select and build a new theory (North, 2017; Baker and Welter, 2018, 2020).

Literature Review

The global economic crisis brought about by Covid-19 and climate change has highlighted the shortcomings of traditional economic theories and formal institutions (Willmott, 2015; Mohamed, 2017; Aksom and Tymchenko, 2020; Andersson, *et al.*, 2021; Williams and Gashi, 2022). These failures suggest the need for a more dynamic and alternative institutional theory. While there is a growing shift toward new alternative theories, the reality in Indonesia is that the implementation of new institutional changes has not yet fully benefited the community (Lammers, 2011; Andersson *et al.*, 2021; Willmott, 2015; North, 1991; 2017). This also exemplifies the significant failure of institutional policy intervention in Saudi Arabia (Aljarodi *et al.*, 2022). The fact that communities continue to harbor fears and concerns regarding domination, oppression, inequality, resistance, reproduction, and ecological crises such as the impact of global climate change, demonstrates the inadequacy of institution theory to explain these phenomena (Willmott, 2015). It is becoming increasingly urgent to examine how the elements and determinants of institution theory can adapt, collaborate, and integrate to enrich the potential of a new institution, as well as the human and social capital capacity to explain these phenomena (Willmott, 2015; Leitao and Capucho, 2021; Prasetyo *et al.*, 2021).

Additionally, there are alternative approaches that have not been explored by standard economic theory, including formal institution theory (Williams *et al.*, 2017; Grazhevskia *et al.*, 2021; Salvi *et al.*, 2022; Prasetyo *et al.*, 2022b, 2021). Previous analyses showed that institutional dysfunction's convergent-divergent nature adversely affected post-socialist countries' institutional development (Grazhevskia *et al.*, 2021). Furthermore, changes in institution theory could be conflicting as to whether it was a rule or a driver of economic growth (Seligson and McCants, 2021; Geddes and Goldman, 2020; Seligson and McCants, 2021; Salvi *et al.*, 2022). These findings emphasized the importance of developing a trustworthy institutional theory that could enhance socioeconomic organization, reduce uncertainty, improve access to inputs and outputs, as well as drive sustainable development (North, 1991; Alwakid *et al.*, 2021).

The study by Kaasa and Andriani (2022) suggested that individuals tended to trust institutions less in areas with large power distances. The institutional economy emphasized the importance of institutions for individuals, but the intended goal of reducing uncertainty and transaction costs had not been fully achieved (Seligson and McCants, 2021; Geddes and Goldman, 2020). Salvi *et al.* (2022) emphasized that institutional formalization policies tended to be inadequate or even harmful to the growth of the informal sector. However, Lacheheb *et al.* (2021) and Ozili (2023) argued that better political institution quality could lead

to higher levels of financial inclusion. It is worth noting that despite having varying impacts on economic growth across different countries, institution quality still has a significant influence (Raifu *et al.*, 2021).

Seligson and McCants (2021) shed light on how various factors such as climate and norms contribute to the determination of distribution outcomes by using theory-r. The study also employed this theory to explain the differences in national wealth. Salvi *et al.* (2022) expanded institution theory by showing a dynamic perspective in which informal entrepreneurship can move dynamically by relinquishing the regulatory legitimacy of formal institutions. In France, Germany, and Russia, the main driver of national market development continued to be various changes in regulatory frameworks and public-private partnerships (Merzlov, 2022). Jones and Peng (2021) highlighted the positive impact of changes in the regulatory framework of marriage institutions in Malaysia on family and population institutions at the national level.

New institution economy (NIE) theory proposes an alternative approach to explain the growth of social entrepreneurship in informal sectors, which is driven more by human and social capital factors rather than formal institutions (Prasetyo *et al.*, 2022b). Despite the emergence of various forms of entrepreneurship, including start-ups that use digitalization technology, rural areas still suffer from poverty and inequality (Prasetyo and Setyadharma, 2022). This indicates the failure of standard economic theory, including a certain formal institution theory. Another piece of evidence supporting this theory's inadequacy is the broad impact of global crises such as Covid-19 and climate change, which is attributed to corruption, poor quality of public services, lack of tax justice, and instability in various formal institutions (Walle and Migchelbrink, 2022).

The literature review highlighted the significance of GESI and its implications for informal institution theory. Furthermore, the inadequacy of formal institution theory has led to alternative theories such as informal entrepreneurship activities (Williams *et al.*, 2017; Salvi *et al.*, 2022; Prasetyo *et al.*, 2022b). Prasetyo and Kistanti (2020) emphasized that the focus of informal institution theory remains complementary to strengthen the foundation of NIE. Since green entrepreneurship is a formal aspect of the Indonesian government's blue and green economy policy, its promotion through the study of GESI and local wisdom potential is informal in nature. Therefore, a study of cultural institutions is necessary to complement formal institution theory.

Recent literature suggested that local communities can adapt their governance systems in response to formal institutions, providing a solution to the lapses in poor organizations (Andriani and Bruno, 2022; Lemeilleur *et al.*, 2022). This highlighted the increasing relevance of studying institution change theory in cultural organizations. The literature review agenda for institutional change theory had been proposed (Micelotta *et al.*, 2017; Lounsbury *et al.*, 2019; Jepperson and Meyer, 2021; Coates *et al.*, 2022). One of the leading approaches evolving in social theory was the analysis of cultural frameworks that had shaped modern institutional organizations (Jepperson and Meyer, 2021). The methodology of the new framework had been described in customary institution theory (Coates *et al.*, 2022). This theory could provide a critical perspective to examine a more comprehensive cultural institution change theory despite its local nature.

This study adopted a gender performance potential approach to measuring GESI as a means of transforming informal institutions to support green entrepreneurship activities. The theoretical basis and methodology of this study tend to refer more to the cultural informal institution theory. In the modern world, the new economic cultural theory has significant meaning and prospects in NIE (North, 2017). Recent literature emphasized the connection between informal institution theory and informal entrepreneurship activities (Williams and Gashi, 2022; Shahid *et al.*, 2022; Rahim *et al.*, 2022). Studies showed that women's entrepreneurship and self-efficacy can be strong mediators in supporting informal institutions in Japan (Kazumi and Kawai, 2017). Gender role identity is increasingly important to study in creating new jobs and socio-economy growth in the local community (Bullough *et al.*, 2022).

Therefore, the literature review above served as a basis to explore the role of existing informal institutions in entrepreneurship activities through GESI potential role dimension.

Research Methods

This study aimed to explore and identify GESI role and its potential in family entrepreneurship activities using an exploratory design method. Green entrepreneurship was a subset of family entrepreneurship that was gaining traction in the community due to increased awareness. To effectively explore this topic, mixed methods concurrent triangulation design was used (Creswell and Creswell, 2014; Jefferson *et al.*, 2014; Fisher and Stenner, 2011). Jefferson *et al.* (2014) and Dopp *et al.* (2019) emphasized that the specific approach was more suitable because it could generate new insights through detailed and in-depth exploratory data analysis. To integrate the qualitative and quantitative data, a phenomenological method-based integration approach was employed (Fisher and Stenner, 2011). This approach was efficient and effective while also increasing the validity and reliability of the data interpretation (Fisher and Stenner, 2011). In this study, the primary data source was fundamental microeconomy cross-sectional data related to patterns of women's entrepreneurship behavior and gender awareness of green entrepreneurship.

This quantitative study used a representative sample of 150 respondents from family entrepreneurship, and it was complemented by a qualitative investigation that explored gender performance behavior patterns and green entrepreneurship through an informal institution theory approach. It aimed to significantly, rationally, logically, and objectively measure and assess various potentials of gender socio-economy behavior transformation in the specific dimension of GESI (Andrich and Surla, 2023; Fisher and Stenner, 2023; Fisher, 2023). The operational definition and measurement dimensions fully referred to previous publications (Prasetyo *et al.*, 2023, 2022a). To avoid double publication, the operational definition of the variables was not rewritten in this study. This study further broke down the gender potential into specific dimensions including gender equity and gender inclusion (GEGI) as well as social equity and social inclusion (SESI), which were then transformed into the overarching GESI dimension.

Data were collected through questionnaires and semi-structured interviews, which are complemented by observations (Prasetyo *et al.*, 2023, 2022a). These interviews and observations were designed to facilitate a deeper understanding of women's entrepreneurship behavior in the context of GESI. The primary objective of the observations was to ensure that a comprehensive understanding of gender diversity, synergy, and equality in performance remained integrated across the relevant local potential contexts. For quantitative analysis, the operational definition of variables used in this study was measured with the Gini ratio scale (Prasetyo *et al.*, 2023, 2022a). The quantitative data were processed using econometric experimental models before being selected and interpreted. Following rigorous econometric and statistical testing, the experimental models were selected, used, and interpreted as presented in this manuscript.

Results and Discussion

The main findings indicated that a focus on value ownership and equal rights treatment tended not to lead to successful GE performance. These results were in line with Tillmar *et al.* (2022) that women's entrepreneurship in rural areas did not necessarily lead to GE. Instead, gender synergy (GI) performance appeared to be more beneficial as it prioritized mutual respect between men and women, which arose from shared goals and unique qualities, without the need for special rights. In Table 1, Model-1's quantitative results showed that GI plays the most dominant role in contributing to the potential for women's performance in family entrepreneurship with a score of 0.541. The Social Equity (SE) role was also significant, while the GE and SI roles appeared insignificant. These results suggested that GI in family entrepreneurship was superior to other performances in terms of both equality and social aspects.

A critical aspect of this study is that family entrepreneurship activities tend to prioritize GI systems over GE behavior patterns. In practice, reducing the role of men in family entrepreneurship activities tends to increase the role of GE, while an increase in family entrepreneurship activities tends to reduce GE. An increase in family entrepreneurship activities can raise GI and the value of gender parity in earning income. It is worth noting that an increase in GI does not necessarily translate to larger personal gender welfare rights based on individual contributions. This is because family entrepreneurship generally does not differentiate in the distribution of those rights. However, the income earned from family entrepreneurship is collectively owned by the family and used for their welfare.

The results indicated that integrating GE and SI within GESI dimension can act as a strong push-pull factor for driving inclusive economic growth in communities while also mitigating the impacts of global climate change, poverty, and unemployment. However, Cabeza-Garcia *et al.* (2018) emphasized that the role of GESI factors in inclusive economic growth did not receive adequate attention. This was because identifying and monitoring the unique role of GESI requires a careful evaluation of various basic elements of equality and SI. The empirical study explained that the new informal institution change theory appeared to play a more significant role as a push-pull factor in entrepreneurship activities and inclusive economic growth. Meanwhile, the formal institution theory tended to act only as a driver and was less capable of mitigating various problems. Informal institutions measured within GESI dimension tended to be more flexible, dynamic, and adaptive in responding to new changes as well as have a significant influence on inclusive economic growth.

Despite new approaches acting as a push-pull factor, informal institutions tend to be more effective in sustaining their existence than as a driving force for growth. It then becomes necessary to create a collaborative synergy and integration between the dynamic nature of formal institutional theory and the responsive nature of informal institutional theory within the community. These results supported Gerxhani and Cichocki (2023) that highlighted the importance of formal and informal institutions working side by side and interacting with each other as an essential aspect of the new institution perspective. Therefore, this study aims to explore the various potentials of economy-social and environmental transformations in an objective, rational, logical, and significant manner (Fisher and Stenner, 2023).

In cases where formal institutions lack dynamism and adaptability, they can create new barriers within the community (North, 2017). This indicates the need for formal institutions to strengthen agents of change and facilitate existing informal institutions, rather than imposing restrictive rules. When formal institutions become obstacles despite being designed by human interaction in political, economic, and social spheres, they cease to serve their intended purpose (North, 1991). Institutions were created by humans to establish order and reduce uncertainty in exchange (North, 1991). Therefore, the presence of dominant beliefs such as GI in GESI, through new cross-development transitions, can shape institutional change and create unexpected choices that are increasingly important in the current globalization era (North, 2017).

Table 1 in Model-2 presents quantitative results that partially supported the qualitative findings described above. These results indicated the dominant role of GE and SI in driving green entrepreneurship activities in the community, with GE and SI making the most significant contribution compared to other variables. When GE and SI are integrated into one measurement dimension of GESI, their contribution becomes even stronger and more significant in driving green entrepreneurship activities. However, in Model-1, the role of GI and SI is small and insignificant, and the dominant contribution comes from the role of GI measured in GI dimension. This explains why the partial positive contribution of GE performance is not significant.

Table 1: The Role of GESI And Women's Performance on Local Wisdom Potential and Green

Entrepreneurship

Model	Unstandardized Coefficients		Standardized Coefficients	t-stc	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.106	.023	4.567	.000		
	GE	.093	.065	.109	1.430	.155	.325
	GI	.493	.076	.541	6.491	.000	.273
	SE	.285	.075	.281	3.784	.000	.343
	SI	-.017	.080	-.018	-.214	.831	.273
	(Constant)	-.489	.515		-.949	.344	
2	GE	20.835	1.357	.273	15.350	.000	.320
	GI	16.070	1.784	.197	9.007	.000	.212
	SE	14.537	1.634	.160	8.896	.000	.312
	SI	22.794	1.651	.266	13.803	.000	.273
	WE	18.678	1.718	.209	10.870	.000	.275
Model-1: Dependent Variable; Womens’s Performance Potential/ Womens Ethics (WE)							
Model-2: Dependent Variable; Green Entrepreneurship (GEn)							

Source: primary data processed by the author

This study measured GI or diversity in supporting family entrepreneurship activities through the use of GI, without differentiating between the rights of men and women. GE is a dimension that recognizes women's human rights inequality. Therefore, GI appears to be more relevant to family entrepreneurship activities because women and children are increasingly involved in these activities. The role of GI decreases when integrated into the total role of family entrepreneurship in the community. This result is consistent with Nguyen (2021) who showed that entrepreneurship managed by men and women is more responsive to different institutional frameworks.

The qualitative results shed light on how the potential for GESI can be manifested through informal institutions. Empirically, entrepreneurship activities in rural areas are shaped by gender awareness, which is driven by factors such as gender financial management skills, intention, attitude, aspiration, and socio-economy solidarity (SES) of the community. The emergence of SES as a form of economic sovereignty in rural communities is theoretically linked to the GI and GE potential in family entrepreneurship. This potential seeks to achieve non-material social wealth such as security, recognition, work-life balance, social support, and honor (Prasetyo *et al.*, 2022a). Furthermore, the collaboration and integration of GESI potential, SES, and social financial inclusion (SFI) promote the formation of green entrepreneurship, which can help alleviate challenges faced by rural communities (Prasetyo *et al.*, 2022a).

The results of this study found that men's performance was closely associated with their potential workability, making it more of a push factor. Meanwhile, women's performance was closely associated with potential perseverance, endurance, and business luck factors, making it more of a pull factor. This distinction was important because men's workability was often less stable over time and more vulnerable to the effects of climate change. Although business luck could quickly fade, the potential perseverance and endurance in women's performance were relatively more stable over time. The increase in gender awareness in GE and GI dimensions could raise the potential for resilience in the community. This phenomenon highlighted the importance of GI and GE potential in green entrepreneurship activities. Both forces needed to continue to collaborate and integrate into every community business activity in the form of informal institutions. This study emphasized that performance differences between men and women were more related to their respective functions. This was because both genders had the potential as a push-pull factor in the transformation of informal institutions in the community.

It was further found that the existing formal institutional policies failed to meet the genuine needs of the community. This result was consistent with a study that highlighted the crucial role of financial skills

in promoting gender entrepreneurship culture, overcoming reluctance, and increasing awareness of business opportunities and income (Lladós-Masllorens and Ruiz-Dotras, 2022). The GESI as an informal institution was also believed to legitimize the social network of women's entrepreneurship in rural areas (Kawai and Kazumi, 2021). Therefore, the importance of women's entrepreneurship was increasing as they provide various necessary services for the survival of the rural community (Tillmar *et al.*, 2022; Prasetyo and Setyadharma, 2022).

Initially, family entrepreneurship typically arises as a response to the need for creating jobs, generating income, and mitigating the impact of global economic crises. This particular variable led by gender eventually transforms into social entrepreneurship, which forms informal institutions as a social community. The result was consistent with a prior study that showed how women's entrepreneurship tended to rely on informal recruitment methods and training practices (Surangi, 2022; Beriso, 2021). As formal institution policies are often insufficient to meet the needs of the community, social entrepreneurship emerges as a positive response and transformation that can rise together. Meanwhile, green entrepreneurship is closely associated with a push-pull factor. The push factor arises from the national pro-green economy policy strategy, while the pull factor arises from the awareness of business sustainability as a response to global climate change and as a means of resilience to economic crises. Moreover, since the majority of family entrepreneurship actors belong to a particular gender, the emergence of green entrepreneurship is closely related to the informal gender roles that exist within the community.

GE potential primarily serves as a driving factor for institutions to gain access, while SI focuses on eliminating barriers to improve access. The performance of these two potentials is transformed into the GESI dimension, which is considered an informal institution. Theoretically, the novelty shows GESI fills the void of roles that have not been addressed by existing formal institutions. This means that GESI emerges to complement and strengthen, rather than diminish, the role of formal institutions. Therefore, the implication of GESI role in promoting green entrepreneurship is a testament to its contribution to strengthening the Indonesian government's commitment to promoting the blue and green economy.

A critical note worth considering is that the capacity for GESI potential formation is theoretically attributed to the integration, response, and support of the local culture, socio-economy solidarity, and gender leadership capacity in entrepreneurship within the community. Empirically, these three basic potential blocks are dynamic and tend to be generated through collective awareness and external support. This shows the role of women's entrepreneurship becomes crucial not only in creating new job opportunities but also in maintaining economic resilience. These results have limitations across different geographies, as each community possesses unique characteristics that are sometimes challenging to unify and generalize. While socially, economically, and culturally they can still be integrated, formal geographic administration often encounters difficulties due to sectoral ego factors of geography, which can become barriers to gender role accessibility. This study discussed the impact of green entrepreneurship on sustainable development goals (Prasetyo *et al.*, 2023, 2022a; Neumann, 2022). However, there are limitations as it has not quantitatively examined whether green innovation has the strongest influence on economic and environmental performance, as was done in the previous study (Muangmee, 2021).

Conclusion

Previous studies suggested that GESI, community institutions, and green entrepreneurship could play a crucial role in mitigating the impacts of global climate change and promoting the achievement of MDGs. Empirical reviews examining the potential role of GESI and community institutions were still limited. Therefore, this study specifically focused on exploring their role in promoting green entrepreneurship. The findings suggested that GESI paradigm, as a new informal institution innovation, could further promote green entrepreneurship while strengthening the Indonesian government's pro-blue and green

economy development policy strategies. These results were consistent with previous reviews as described above. The novelty of this study lied in providing clues that GESI is theoretically formed due to collaboration and integration among its internal and external potential as a push-pull factor. It was found that there was a responsive ability from potentials, such as local cultural wisdom, socio-economy solidarity, and gender leadership capacity in community entrepreneurship. Based on collaboration and integration of various potentials, GESI could empirically enhance accessibility and acceptability capacities as a driving factor of GE and GI. It could also increase availability and affordability capacities as a remover of barriers to GE role in the community.

This study has limitations in terms of geographical location, and as a case study, it cannot generalize that all potential capacities are identical in every community. This implies that even though socio-economic and cultural-environmental potential dimensions can be integrated into formal institutions, difficulties arise in formalizing them due to administrative location rules. It becomes a separate task for related and authorized formal institutions to align. Therefore, GESI paradigm tends to complement and fill the gaps in tasks not addressed by formal institutions. This is because informal and formal institutions are equally essential in strengthening each other in supporting blue and green economy policy strategies through the role of green entrepreneurship.

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Author contributions

This article is the result of collaborative research, especially those coordinated by the research team listed in this article. All authors participated in the development of the research questions of the study: Conceptualization, Author-1 and Author-3; Methodology, Author-1 and A; data collection Author-1, Author-2, & Author-3; Validation, Author-1; Data curation, Author-2 & Author-3; Formal analysis, Author-1.; Investigation, Author-3.; Resources, Author-2; Original draft preparation, Author-1; Review and editing, Author-2; Visualization, Author-3; Supervision, Author-1; Validation, Author-2; Interpretation, Author-1, and Author-3. All authors read and approved the final manuscript.

Conflicts of Interest & Declaration

The author is responsible and states; there is no potential conflict of interest of any kind in connection with this research, either before and after its implementation, and/or publication of this article. The authors have declared no competing interests in writing this research article.

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