

## Toward a sustainable future: Exploring the interplay between social capital, entrepreneurial orientation, and sustainable rural tourism entrepreneurship

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### Abstract

**Purpose:** The purpose of this study is to investigate the following: the relationship between social capital (SC), entrepreneurial orientation (EO) and sustainable rural tourism entrepreneurship (SRTE); and, the role played by EO in enhancing SC on SRTE.

**Design/methodology/approach:** A quantitative research with a sample of rural tourism entrepreneur in Yogyakarta province. Data were collected through a self-structured questionnaire developed from literature review (pretested with pilot study). The interview survey was conducted with 380 sample of rural tourism entrepreneur from 38 tourism sites. Calculation of the partial least square model was performed for data.

**Findings:** The results establish that SC and EO have a direct impact on SRTE, while SC also affects EO. The research also reveals that EO completely mediates the relationship between SC and SRTE, which is conducive to boosting its total impact. This means that, creativity, proactivity and risk taking are also crucial in turning social relations into outcomes with impact and yet.

**Research limitations/implications:** The limitation of this study is that it only focuses on one region (Yogyakarta), so the findings are not generalizable. This paper focuses solely on social ties, network type and the relationship quality of SC to examine the utility of SC for rural tourism enterprises. On the basis of this paper, future work might attempt to investigate bridging and bonding type of SC to examine its influence upon sustainable performance among rural tourism organizations.

**Practical implications:** For rural tourism entrepreneurs and policy-makers, this study has practical implications on highlighting the role of SC in improving sustainability outcomes by leveraging strong EO. The research underscores the need for developing innovation, proactiveness, and a willingness to take risks in order to convert social networks into strategic assets. These results provide practical implications for the design of capacity-building programs and sustainability-oriented policies specific to rural tourism development in Indonesia and similar settings.

**Social Implications:** This study highlights the importance of policies and programs involving building SC and cultivating entrepreneurial attitudes in a rural context. Such works will also have some synergy effect on SRTE.

**Originality/value:** This research will satisfy the void of scarcity in SRTE literature with Pentaple Bottom Line (PBL) definition according to the rural touristic sector.

**Keywords:** Social capital, Entrepreneurial orientation, Sustainable, Organization performance, Rural tourism

**Jel Codes:** M14, Z32

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## 1. Introduction

The sustainable rural tourism entrepreneurship (SRTE) is a favorite subject moral in the tourism research at Indonesia and foreign. Yet, it looks Indonesian tourist authors have not been exchanging well their research findings in this respect with their international counterparts. Although there is a good surge of the articles on the sustainability perspective of Indonesian rural tourism phenomenon (e.g., Fauzi & Ariyani, 2024; Handiman, Rachbini, Chan & Riyanto, 2024; Pudianti & Vitasurya, 2019; Kapuangan, 2016), which are accessible to international tourism scholars, it seems that there is a lack of studies on developing sustainable of rural tourism entrepreneurship in Indonesia by non-Indonesian researchers. International tourism literature, however, deals principally with the sustainability of rural tourism in countries on the European, American and Australasian continents with apparently little extension to Indonesia.

Many authors stress the significance of sustainable tourism practice through exploring research on SRTE. Eco-tourism has been positioned as a method to increase the economies of scale, offer employment and diversify incomes of local communities. It is consistent with Matijová, Šenková, Vargová and Matušíková (2023) and Mthembu and Mutambara (2018), they stressed the significance of sustainable tourism in enhancing the quality of life. For rural people who are proud of their local culture, SRTE can contribute to both the visibility and protection of indigenous culture and traditions (Kelfaoui, Rezzaz & Kherrour, 2021). Additionally, the win-win of maintaining local culture and environment may also increase income to rural communities which would lead them to live better. Therefore, rural tourism entrepreneurship should involve local people if sustainable rural tourism is to be realised (Acha-Anyi, 2016).

In this sense a PBL approach is taken to measure the SRTE. The concept of the PBL considers five aspects as sustainable economic development (Villanueva-Álvaro, Mondéjar-Jiménez & Sáez-Martínez, 2017), sustainable social development (Wolff & Ehrström, 2020), sustainable environmental development (Marzo-Navarro, Pedraja-Iglesias & Vinzón, 2020), culture-based sustainability (Mowforth & Munt, 2015) and governance for sustainability (Meuleman & Niestroy, 2019). SRTE practice in the implementation of the PBL has been able to help the Indonesian government to reach out for improving living quality of rural people. Thus, the government as represented by the Ministry of Villages and Ministry of Tourism and Creative Economy will work together to ensure the success of rural tourism program.

Law Number 6 of 2014 concerning the provision of support for villages is administered by the Ministry of Villages. Under this law, rural people have the power to be in control of and regulate their own residential development process in recognition of all what it costs them. It is for this legislation that the rural people participate in the development of rural tourism for business purposes. Secondly, the Ministry of Tourism and Creative Economy has proved to be supportive by formulating Ministerial Regulation No. 9 Year 2021 concerning Sustainable Tourism. This Regulation seeks also to encourage rural tourism entrepreneurs to adopt sustainable tourism approaches addressing the aspects of economy, society, environment, culture and governance. This decree establishes principles for rural tourism activities to meet the needs of future generations.

Nevertheless, there are still some research gaps on SRTE. The first is that studies in the field of rural tourism as a result of sustainability tourism in Indonesia have been predominantly locally focused, rather than comparative and international, which highlights this population gap between domestic and global scholarship (Fauzi & Ariyani, 2024; Pudianti & Vitasurya 2019; Kapuangan, 2016). Second, current findings present conflicting evidence on the contribution of rural tourism entrepreneurship with respect to local welfare, cultural preservation, and environmental conservation which creates empirical gap (Nurlena, Taufiq & Musadad, 2021; Wardani & Suarthana, 2020; Auliah, Prayitno, Ari, Adrianto, Subagiyo, Biloshkurska et al., 2024). Third, few theoretical studies have provided logical guidance for two mechanisms: SC and EO that operate together to promote SRTE, creating a need for the integration of Social Capital Theory (SCT) and Entrepreneurial Orientation Theory (EOT) (Rodrigo-Alarcón, García-Villaverde, Ruiz-Ortega & Parra-Queruena, 2018; Nguyen, An & Ngo, 2020; Handiman et al., 2024). A'methodological' and 'knowledge' gap in the extant literature. Finally, the reduced adoption of empirical methods for Life-Cycle Assessments (LCA) implementation namely adopting PBL frameworks highlights a methodological and knowledge underpinning to the existing literature base (Villanueva-Álvaro et al., 2017; Marzo-Navarro et al., 2020; Meuleman & Niestroy, 2019). These gaps need to be addressed to develop a deep understanding of the combined effect of SC and EO on SRTE in Indonesia.

More of the research on SRTE in Indonesia is still needed as due to fact that there are discrepancies in recognizing the findings. Rural tourism entrepreneurship has an effect on community empowerment, and cultural preservation (Nurlena et al., 2021), environmental conservation (Wardani & Suarthana, 2020) witnessed by some previous studies. On the other side, a survey carried out by Sleman Regency Tourism Office, Special Region of Yogyakarta Province shows that rural tourism entrepreneurship has not brought a substantial economic and income influence on population. Additionally it is observed that the rural tourism entrepreneurs do not sell cultural and environmental conservation tourism packages. The second finding is a decrease in the rural resident's motivation and interest for participating in tourism activities; lack of proper dealing with entrepreneurship of rural tourism.

Several previous studies have highlighted the importance of SC of rural residents in developing SRTE. Wartecka-Ważyńska (2021) argues that trust, social norms and strong networks positively influence for social action and negotiation in rural tourism. Also, Hwang and Stewart (2016) demonstrate that sufficient SC leads to collective tourism action that ultimately reinforces the bond of a community. Handiman et al. (2024) stress that building up SC is essential to reward and inclusive rural tourism sustainability from the point of view of economic, social, environmental, cultural and governance perspectives. Entrepreneurs' entrepreneurial orientation is another important factor in improving the competitiveness of rural tourism entrepreneurs who are sustainable. In order to be competitive, rural tourism must play an important role in creating new tourist objects with active involvement of local residents and use environmental and cultural conservation activities (Kurnia, Mulyadi, Hendrayati & Denan, 2023; Trukhachev, 2015). This mechanism helps promote tourists interests and favors community wellbeing, as a result of an anticipated increasing in the revenue or income that could be accrued by the community from such activities (Nega, 2018; Callixte & Tushabe, 2021; Muangasame & Tan, 2022). Nevertheless, entrepreneurs in rural tourism are more often unsuccessful because they have fewer resources (Radović, Petrović, Bajrami, Radovanović & Vuković, 2020) and lack the capacity to act entrepreneurially (Castro & Ferreira, 2019; Wadood, Alshaikh, Akbar & Mahmud, 2022).

There are several matters contingent to this entrepreneurial orientation, for example, the entrepreneur's skills to innovate new tourist attractions and services (Šobić, Bošković & Pantović, 2023), being proactive in catching up on tourist demand trends (Kallmuenzer, Kraus, Peters, Steiner & Cheng, 2019), dare taking risks (Šobić et al., 2023), be aggressive competition to win against rivals (Garau, 2015), and lead team autonomy for developing creative ideas (Dias & Silva, 2021). "EO is a key skill that rural tourism entrepreneurs must develop (Dhakal, 2021) especially an orientation towards creating sustainable tourism". Shin, Kim and Son (2017) remarked on adaptation that this is more challenging for rural tourism entrepreneurs in the developing countries, especially a country like Indonesia where a lot of rural tourist spots exist. According to the Ministry of Tourism and Creative Economy in 2023 there are 4,864 rural tourism distribution throughout Indonesia.

SC is important in fostering SRTE and comprises networking relation, social interaction and relational quality that leads to collective action among entrepreneurs within groups. It is the capital that 'feeds' social cohesion and collective action, two necessary enablers of rural tourism initiatives. In addition, SC enhances the effectiveness of social activities; it fosters cooperation among actors and partners and creates a conducive environment for entrepreneurship in rural areas (Wartecka-Ważyńska 2021; Hwang & Stewart, 2016). For pro-people based community tourism projects which mainly drive the local communities to play a proactive role in promoting rural tourism development process, it is quite necessary to discuss the relationship between SC and rural tourism entrepreneurship. Social connections and resident participation have been recognized as important to the success of rural tourism projects as they contribute to developing residents' participation and commitment (Zhang, Xu, Jia, Yang & Wang, 2022).

It is essential to analyze SRTE considering that EO plays a mediating role in SC of Indonesian society. Therefore, in this study will be analyze how SC and EO interact to improve SRTE. Another objective is to examine the mediating effect of EO on SC and SRTE. Interestingly it seems that very few tourism specialists have ever thought about this research problem. To achieve the above aims, authors propose research questions (RQ) as follows:

Main research question:

*RQ1: How can the interplay between SC and EO drive SRTE within the framework of the PBL?*

Secondary Research Questions:

*RQ2: In what ways does SC facilitate the development of EO among rural tourism entrepreneurs?*

*RQ3: How does EO contribute to the SRTE (economic, social, environmental, cultural, and governance)?*

*RQ4: How does SC facilitate the development of the SRTE (economic, social, environmental, cultural, and governance)?*

*RQ5: To what extent does EO mediate the relationship between SC and SRTE?*

A number of researchers have emphasized the potential for SRTE. Marzo-Navarro et al. (2020) focused so much on sustainability including, ecological equilibrium and economic sustainability. Ibănescu, Stoleriu, Munteanu and Iațu (2018) stressed the use of sustainability considering residents' participation in rural tourism activities in which can contribute to increase local's income and job opportunities. Nevertheless, there is a research gap in using the PBL approach to measure SRTE. It will help to make up for the absence of previous research in the related SRTE with PBL perspective within rural tourism sector.

This study also provides several theoretical implications for SRTE literature. This study contributes to knowledge by incorporating SC Theory and EO Theory into a unified explanatory framework and showing that SRTE are derived not from discrete resources but an interaction between collective social structures and individual entrepreneur agency. In practice terms, this study operationalising SRTE under the framework of the PBL model and reconceptualising sustainability as a multidimensional concept across economic, social, environmental, cultural and governance dimensions consequently contributes to extending our knowledge on Sustainability Theory that mainly ranges from an economic–environmental domain. The introduction of EO as a mediating process helps explain why SC alone does not always lead to sustainable performance, providing a theoretical rationale for prior inconclusive findings in the rural tourism research. Empirically grounded in Indonesia, they are not context specific and provide exportable theoretical lessons for SRTE in emerging and developing economies that have institutional challenges, community based tourism modalities, as well as resource constraints.

## 2. Literature Review

### 2.1. Sustainable Rural Tourism Entrepreneurship (SRTE)

Among them, the definition of sustainability by Brundtland Commission (1987) is considered to be the most popular one: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Brundtland, 1987 in Weisser, 2017). The Triple Bottom Line (TBL) also applies to several studies of SRTE. The concept of TBL derives from

Elkington's proposition (Hourneaux, Gabriel & Gallardo-Vázquez, 2018). Elkington (1998) states that TBL is a framework under which an organisation can achieve economic prosperity, environmental quality and social equality at the same time. According to Hourneaux et al. (2018), the idea of TBL as a sustainability approach has been widely accepted by the academia, society, and businesses.

The PBL builds on the TBL to include culture and governance. The TBL framework, which has been developed on organisational sustainability, did not take into account the concepts of organizational culture and governance. Cultural sustainability includes the values and approaches an organization or community adopts and nestles (Alexander, Jacovidis & Sturm, 2022). The enhancement of the structure's governance is another vital process in paving towards organisational sustainability. This paper describes the concept of PBL which in order to evaluate SRTE involving economic, social, environmental, cultural and governance. Within this study, SRTE is the ability of these types of businesses to operate in a manner conducive to their continuing long-term viability, which includes minimizing negative environmental and cultural impacts and maximizing benefits for rural residents as well as economic development while fostering good governance systems that impact future generations.

## **2.2. Entrepreneurial Orientation (EO)**

The theory describes EO as an organization or individual strategic posture that comprises innovation, risk-taking, proactiveness and opportunity emphasis. EO, the tendency to generate and implement strategic directions at the level of an organization or individual with the goal of achieving success, capturing a vision for the organisation, and gaining competitive advantage (Lumpkin & Dess, 2015). An EO according to Miller (1983) in Lumpkin and Dess (2015) is one that innovates on products, undertakes certain type of risky projects and are the first to outdo competitors with innovations. This term is defined by Miller (1983) across the following three dimensions, innovative, risk taking, and proactiveness. The other two attributes characterising aggressive competitiveness and autonomy (Lumpkin & Dess, 2015), according to Miller (1983), Venkatraman (1989) and Hart (1992). This is a key variable for the formation of EO.

Innovativeness refers to the intention to develop something new (a product or a service) based on technology research. Risk taking is a bold move to work on things that are not known in an uncertain environment. Proactivity is about actively looking for opportunities that will serve you well in the future. It does so by creating and building new products and services. It does this as way of forecasting future demand (Miller, 1983 in Lumpkin & Dess, 2015). To be competitively aggressive is a strategy to respond more aggressively than the competition. Independence is the independent action of organizational actors to accomplish new work, and to have it succeed (Hart, 1992, Burgelman 1983, Lumpkin & Dess, 2015).

## **2.3. Social Capital (SC)**

Ghahtarani, Sheikhmohammady and Rostami (2020) describe SC to be a benefit that results from being able to engage in social activities with others. According to Yli-Renko, Autio and Sapienza (2001) in Nguyen et al. (2020) given SC facilitates the access and use of knowledge which is essential to create value through resources exchange and assets combination. Yli-Renko et al. (2001) in Nguyen et al. (2020) support the SC dimensions, involving social interactions, network relationships and quality of relationships, as aspects to be taken into account in the analysis of a company's networked relationship with significant partners. SC could contribute to increase of knowledge. Author further use the knowledge author obtain to build comparative advantage through novel or new product creation.

Social interaction is considered as the degree of social relationship among the organizational members and business partners. Social interaction results in depth, breadth, and efficiency of knowledge and information sharing (Yli-Renko et al., 2001 in Nguyen et al., 2020). Network relationship is the degree of support from influential partners to provide broader network access for an organization (Yli-Renko et al., 2001 in Nguyen et al., 2020). Quality of relationship refers to the willingness of an organisation and its partners to build goodwill, trust and common expectations (Yli-Renko et al., 2001 in Nguyen et al., 2020).

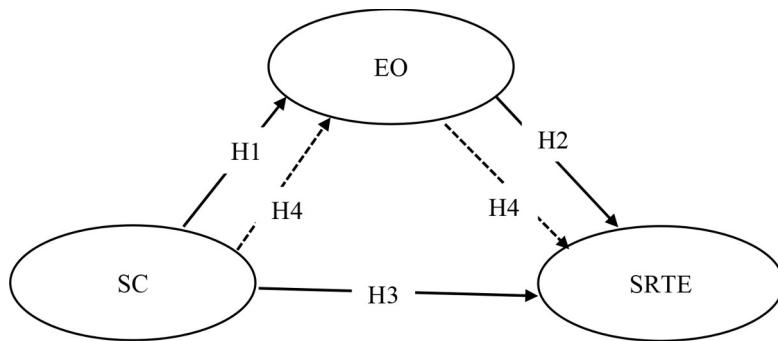


Figure 1. Conceptual Framework

#### 2.4. Entrepreneurial Orientation (EO) and Social Capital (SC)

As shown in Figure 1 conceptual framework SC of rural tourism entrepreneur also could have a significant impact on EO. SC is social interaction, network relationships and the quality of relations. This is supported by the theories of SC and EO. In a rural tourism organization or network, frequent communication facilitates the exchange of knowledge and expertise. Through other views, industry knowledge and emerging trends we gain additional understanding and EO (Ghahtarani et al., 2020). With networking, the entrepreneur can get more resources which include but not limited to financing, support and expertise. According to Rodrigo-Alarcón et al. (2018) for Entrepreneurs. These effects are positively moderated by entrepreneurs who possess a strong network and have already got established relations. Healthy connections are the basis of giving to others in kind. Supportive networks also help entrepreneurs to cope with barriers and make entrepreneurial risk-taking decisions, fostering resilient EO (Nguyen et al., 2020). The level of EO is largely influenced by SC. This statement has been confirmed by several reports. Research conducted by Ali and Yousuf (2019) and Rodrigo-Alarcón et al. (2018) find that SC influences EO. Secondly, Yudha (2018) and Aidoo, Agyapong and Mensah (2020) argue for a significant effect on Corporate Performance of the high SC. Therefore, the following hypothesis is formulated:

*H1: Entrepreneurial orientation positively influences social capital.*

#### 2.5. Sustainable Rural Tourism Entrepreneurship (SRTE) and Entrepreneurial Orientation (EO)

As shown in Figure 1, the relationship of EO and SRTE forms the evident channel through which integrative impact of entrepreneurship factors combines with that of strategic intensity and posture in terms of SRTE, in the core logic behind proposed sustainability EO effectiveness model. The innovation is in the hands of rural tourism entrepreneurship in the making of distinctive, environment friendly products, and services. Innovation-oriented entrepreneurship in rural tourism could offer experiences, events and accommodation that would attract eco-tourists and contribute to the sustainable development of rural communities over time (Warren, Becken & Coghlan, 2018). Rural tourism entrepreneurship at the proactive level who can anticipate new environmental trends are able to make adaptations when needed, for example in recognizing that tourists now favor eco friendly or socially conscious travel. With such a proactive approach, rural tourism entrepreneurship may have an edge over their rivals in addressing sustainability demands (Luu, 2021). Risk-takers are rural tourism entrepreneurship who are willing to initiate the projects that will facilitate in starting and funding of their operations that promote long-term sustainability for rural tourist destinations' (Jiang, Liu, Liu, Li, Cong, Zhang et al., 2018). Competitive aggressiveness is the employment of environmental strategies to distinguish a place or an organization from competitors (Skonieczny & Asero, 2018). To guarantee sustainable approaches are matched to local conditions and rural people's needs, autonomy means devolving responsibilities for localized decision making` as well as providing tailored responses to specific local circumstances (Luu, 2021).

In rural places, the sustained activities of rural tourism entrepreneurship are to a high extent affected by EO. There is much research to support this perspective. Fatoki (2019), Alfandi and Bataineh (2023), Akomea, Agyapong, Ampah and Osei (2023) has proved that heavy concern on green business has positive influence to the long-term performance and sustainability of hotel industry. This reflects that entrepreneurs are needed to promote SRTE. Hence, the following hypothesis is formulated:

*H2: Entrepreneurial orientation positively influences sustainable rural tourism entrepreneurship.*

## 2.6. Sustainable Rural Tourism Entrepreneurship (SRTE) and Social Capital (SC)

It is interesting and challenging to note that “social interaction, networking relationships, and relationship quality had a direct impact on how effectively SRTE.” The local Residents need to maintain social contacts with tourists and the destination residents frequently in developing a cooperation-oriented culture, and promote resident participation in SRTE (He, Gao, Wu, Wang & Choi, 2021). Linking networks that takes the partnerships with external partners and relationship contacts within local resident offer opportunities to obtain funding, share information and promote collaboration in rural tourism (He et al., 2021). Rural entrepreneurship in tourism will not be successful on the long term if strong and trust-based relations are not developed. Cooperation in implementing and supporting sustainable practices is driven by the creation of trustful relationships among tourism providers, local residents, and tourists (Alves, Campón-Cerro & Hernández-Mogollón, 2019). SC plays a highly visible role in the New Symms model of SRTE. Studying in numerous examples has borne it out. The living of rural tourism entrepreneurship is deeply affected by SC. Kortana et al found it as a mean to increase the viability and equity of farmers’ livelihoods based on rural tourism (Kortana, Kespichayawattana, Youngvanich & Lekapojpanich 2022) and Guo, Li, Cao and Wang (2023). Thus, we arrive at the following hypothesis:

*H3: Social capital positively influences sustainable rural tourism entrepreneurship.*

## 2.7. Sustainable Rural Tourism Entrepreneurship (SRTE), Social Capital (SC) and Entrepreneurial Orientation (EO)

By referring to sustainability, EO and SC theories, this implication suggests that the EO followed by rural tourism entrepreneurship can mediate partially the relationship between SC and SRTE. The SC is the essence of networks and relations among local people as well as individuals engaged in tourism activities (Kim & Shim, 2018). Such networks are dependent of strong links, trust and similar standards that are the basis of cooperation mechanisms for transfer and sharing (Zhang, Xiong, Lee, Ye & Nunkoo, 2021). Socio-economic capital affects EO through as the platform of creativity and proactivity. By integrating entrepreneurs into social networks, new ideas, market trends and potential opportunities can be accessed to encourage an EO towards innovation and proactive behaviour within the rural tourism sector (Xue & Kerstetter, 2019). As reported by Ma, Zhang, Butler, Guo and Bozward (2022), SC influences EO and this helps to generate positive results in the SRTE. These benefits consist of economic benefit, safeguarding cultural heritage, environmental care and community well-being from business operations that follow sustainable guidelines.

However, a detail study in the complex relationship between these various components is necessary to understand how SC influences the SRTE. EO mediates this influence. Previous studies have suggested that SC and EO significantly affect entrepreneurship performance (Nguyen et al., 2020, Ma et al., 2022). Accordingly, the following hypothesis is proposed:

*H4: Entrepreneurial orientation mediates the relationship between social capital and sustainable rural tourism entrepreneurship.*

In light of the theoretical development in the preceding section, a conceptual model is presented in this study to depict such relationships among central constructs (SC, EO and SRTE) and hypotheses. Figure 1 presents the model explaining how SC impacts on SRTE through a direct effect and indirect one via EO as mediating variable. It is based on Social Capital Theory (Nguyen et al., 2020) and Entrepreneurial Orientation Theory (Lumpkin & Dess, 2015), under which community trust, norms, and social networks are perceived to encourage entrepreneur behaviors that are innovative, proactive, and risk-taking. These attitudes, in the next step, also contribute to improving outcomes linked with efficient rural tourist entrepreneurship, described across economic, social, environmental, cultural and governance dimensions within the PBL model.

## 3. Research Methodology

### 3.1. Population and Samples

Population is all rural tourism village in Yogyakarta ( 38 villages), The sample taken includes all of formal administrator or manager that listed. Yogyakarta is chosen due to having one of the highest number of rural tourism villages in Indonesia and strong government regulations for their development. The sample size complies with Hair Jr.’s rule-of-thumb to have at least 335 respondents, given the number of administrative

structures (38 villages) it was possible to contact 380 respondents. We used purposive sampling by choosing ten administrators from each village with power to make decisions and strategic vision of rural tourism.

### 3.2. Measurement

SC for measurement of Nguyen et al. (2020), with the presence of social interaction, network relationship and quality of the relationship. SC has 18 indicators. Simultaneously, EO by means of Lumpkin and Dess (2015) measurement and Miller (1983), based on the elements innovative, risk taker, proactive attitude of competitive aggressiveness and autonomy. EO has 21 indicators. Furthermore, SRTE for measurement of Villanueva-Álvaro et al. (2017), Marzo-Navarro et al. (2020), Meuleman and Niestroy (2019) with the indicators sustainable economic development, sustainable social development, sustainable environment development, sustainable culture development and sustainable governance development. The SRTE contains 28 indices. Questions in the form of Likert ranging from 1 (strongly disagree) to 5 (strongly agree).

### 3.3. Data Analysis

The PLS-SEM technique was used to test hypotheses and instrument validation (Hair Jr., Hult, Ringle, Sarstedt, Danks & Ray, 2021). We have selected PLS-SEM because of its strong prediction orientation, support for formative constructs (and hence also for newly emerging phenomena), robustness with small and non-normal samples sizes, capability to handle complex models that contain many interrelated factors simultaneously, and the availability of specific predictive validity tests based on unique strengths such as  $Q^2$  and PLSpredict. A prior pilot test with 38 rural tourism entrepreneurship administrators in such an area as Yogyakarta province proved that every respondent understood each question perfectly. Local university students were recruited and directed to administer the open-ended questionnaires in personal informal interviews of rural tourism entrepreneurship administrators. Author obtained collection June-2024 and used the smartPLS software to test them for their validity & reliability. Face and content validity was subsequently tested by three academics and two rural tourism practitioners to verify the clarity of items and their relevance in a local context. The results demonstrated that SC (CA = 0.961; CR = 0.965, AVE= 0.616), EO (CA = 0.915; CR = 0.925, AVE= 0.607) and SRTE (CA=0.958; CR=0.961; AVE=0.782) met all the reliability and validity criteria, suggesting that the constructs were distinctive, consistent with other scale items and therefore fit for further structural analysis.

## 4. Results and Discussion

### 4.1. Demographic of Respondents

The mixed mode, electronic distribution and face-to-face completion of the survey was designed after Dillman (2020) procedure which increases response rates and improves data quality. The questionnaire was sent by mail and personal communication, including clear instructions for completion and reminders. As support from the representatives of tourism offices, both types enjoyed government staff stationed at district and city levels to promote participation and received a response rate close to 100%. Participants The demographics of the respondents are described in Figure 2.

The profile of the respondents includes demographic features, mostly made up by individuals who are in the economically productive period with a great deal of involvement in their economic activities. The data are skewed in favor of the males with 66% of male respondents versus only 34% females, this is indicative of greater participation by men in this sample population. The age distribution indicates that the majority of respondents fall within the productive age, with 47% in the range of 30 to 50 years followed by 35% aged below 30, and only 18 % above 50. This serves to show that the respondents were a mature, economically active group of individuals. In terms of marriage status, 65% married, and 35% unmarried, indicating relatively stable households then social environments. Most respondents have graduated high school (78%); but only 22% are college educated, indicating restricted availability to a tertiary education in the study sample. Profession The profile of profession shows that most likely the majority (73%) are businessmen, while others are farmers (21%) and government employees (6%), suggesting entrepreneurial and informal economic activities amongst respondents.

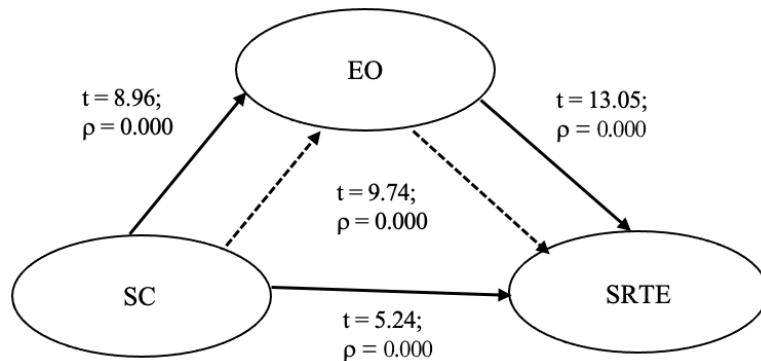


Figure 2. Demographic of Respondents

#### 4.2. Validity and Reliability Assessment in this Study

Variables	CA	CR	AVE	SC	EO	SRTE
Social Capital (SC)	0.961	0.965	0.616	0.785		
Entrepreneurial Orientation (EO)	0.915	0.925	0.607	0.532	0.779	
Sustainable Rural Tourism Entrepreneurship (SRTE)	0.958	0.961	0.612	0.610	0.774	0.782

Table 1. Validity and reliability assessment results

Table 1 showed that constructs SC, EO and SRTE all satisfied the necessary conditions for reliability and validity in PLS-SEM. This can be seen from the CA and CR values above, which all are higher than 0.70, which is even generally agreed on as a threshold value. More specially, SC scores of 0.961 and 0.965, EO scores of 0.915 and 0.925 as well as SRTE scores of 0.958 and 0.961 have indicated high internal consistency among the indicators in their three dimensions respectively it is suggesting that respondents with scores higher than a certain cutoff point tend to belong to a single homogeneous group characterizing them statistically. In addition, AVE values of the three constructs are higher than the satisfactory level of 0.50, with SC is 0.616; EO = 0.607 and with SRTE is 0.612. These values indicate acceptable convergent validity, meaning that each construct is able to account for a substantial amount of the variance in observed measures of itself. As for discriminant validity, Fornell-Larcker criterion is employed. The square root of the AVE values of each construct (SC = 0.785; EO = 0.779; SRTE = 0.782) is higher than the inter-construct correlations (e.g., SC–EO = 0.532; SC–SRTE = 0.610; EO–SRTE = 0.774). This validates the fact that every construct is dissimilar from each other and does not heavily overlap with them. The measurement model has good internal consistency reliability, convergent validity and discriminant validity. Hence, the observed variables for each latent variable are statistically robust and well reflected of their theoretical constructs that can be used in the structural model.

As shown in Table 1, reliability and validity of all constructs SC, EO and SRTE are estimated to be strong indicating the measurement model's soundness. This implies that rural tourism administrators in Yogyakarta have a consistent perception of social interaction, networks relationship and quality relationship (SC) and innovation, proactive, risk taking, competitive aggressiveness and autonomy (EO). These sincere constructs bolster the central tenet of the study that SC indeed positively enriches EO, which in turn results in holistic SRTE (economic, social, environmental, cultural and governance dimensions) as per PBL concept.

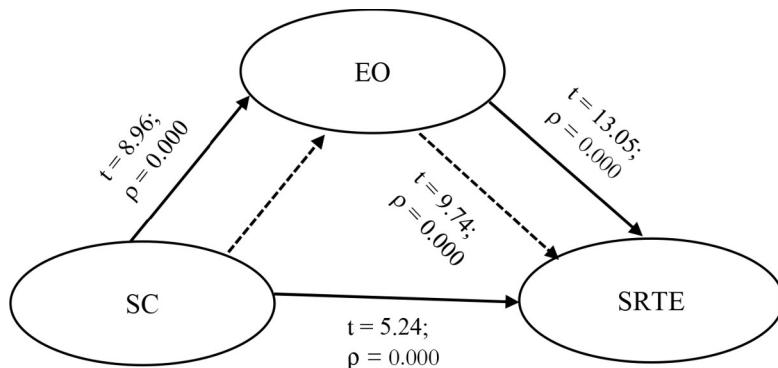


Figure 3. Structural Test Model

### 4.3. Research Hypothesis Assessment in this Study

#### 4.3.1. Direct Effect

The outcome of the structural model evaluation (explicating results on hypothesis testing H1-H4) is demonstrated in Table 2 and Figure 3 show that the study points to a significant direct effect of SC on EO ( $t = 8.96; p = 0.000$ ), confirming that SC is not just a passive enabler but it represents also an active resource that shaped entrepreneurial capabilities in rural tourism. It suggests that the frequent social contact in rural tourism communities facilitates of knowledge and enhances creativity, leading to innovation and proactive behaviours (Wu, Tong, Li, Wall & Wu, 2022). Effective network ties provide entrepreneurs with financial of resources, market intelligence, and strategic inputs that help them identify and exploit opportunities (Cvijanović, Radović & Vojinović, 2017). Additionally, high-quality relationships, characterized by trust and support, create a safe space for risk-taking and support autonomous decision-making (Jørgensen, Hansen, Sørensen, Fuglsang, Sundbo & Jensen, 2021).

Direct effect	Original Sample	t-value	p-value
H1. Directly, entrepreneurial orientation is strongly influenced by social capital.	0.523	8.96	0.000
H2. Directly, sustainability performance of rural tourism organizations is strongly influenced by entrepreneurial orientation.	0.627	13.05	0.000
H3. Directly, sustainability performance of rural tourism organizations is strongly influenced by social capital	0.276	5.24	0.000

Table 2. Direct Effect Test Results

Additionally, it is discovered that the EO plays a significant role in the SRTE in all five PBL dimensions-economic, social, environmental, cultural and governance. Having a significant path coefficient ( $\beta = 0.627, t = 13.05, p = 0.000$ ), the results corroborate that entrepreneurial predispositions like innovativeness, proactiveness, risk appetite, competitive aggressiveness and autonomy help tourism entrepreneurs to create new products/service offering and accommodate shifts in the market as well as meet community and environment requirements. Tourism innovation serves the economic growth and environmental stewardship by delivering ecology friendly travels with local cultural relevance (Suder, Duda, Kusa & Mora-Cruz, 2022). Activeness facilitates organizations to touristical trends and maintain cultural authenticity (Sun & Shu, 2023). Risk and competitive aggressiveness enhance market positioning (Suder et al., 2022) whereas autonomy encourages decentralised and responsive decision-making in line with good governance (Aquino, Lück & Schänzel, 2018).

It also provides empirical evidence that SC positively influences the SRTE through its five dimensions of PBL, namely economic, social, environmental, cultural, and governance. Given the robust path coefficient ( $\beta = 0.276, t = 5.24, p = 0.000$ ); this demonstrates that more frequent social interaction in rural tourism communities significantly contribute to tourism entrepreneurs creation of new product innovation, changing marketing environment and community-environment demand. Many research found that SC plays a critical role in the creation and survival of rural tourism business. Auliah et al. (2024) stress that community SC and collective action play a significant role in sustainable tourism development. Naderi, Vosta, Ebrahimi and Jalilvand (2019)

explain that the relationship between social entrepreneurship and SC injects richer community participation in tourism, indicating that empowered community stakeholders are capable of dealing with intricate dimensions of sustainability aspects in tourism.

#### 4.3.2. Indirect Effect

Indirect effect	Direct effect $\beta$ / t-value	Indirect $\beta$	Total effect	Indirect t-value	p-value
H4. Indirectly, sustainability performance of rural tourism organizations is strongly influenced by social capital through entrepreneurial orientation.	0.276/5.24	0.333	0.609	9.74	0.000

Table 3. Indirect Effect Test Results and Comparison with The Direct Effect

This is because as shown in Table 3 EO mediates completely the association between SC and SRTE. The indirect association between SC and SRTE, through EO, is statistically significant and stronger than the direct effect. More specifically, the indirect path has a t-value of 9.74 and sig = 0.000 than the direct effect with t-value of 5.24 which implies influence of SC is more significant when it is mediated by EO.

This finding demonstrates that although SC is an influencing factor in enhancing the SRTE, its effective role should be emerged by promoting EO such as innovation, proactiveness, risk-taking, competitive aggressiveness, and autonomy. Stated differently, EO is what allows the SC resources of a community to impact upon the integrative SRTE results along economic, social, environmental, cultural and governance dimensions. Accordingly, the mediation is full rather than partial, such that SC's effect on SRTE is largely manifested by its impact on EO (Handiman et al., 2024).

Strategic actions that operate by combining the development of SC and EO need to be implemented in order to enhance SRTE, given that both have great impact on performance aspects linked with sustainability throughout all five dimensions of the PBL (Handiman et al., 2024). Strengthening community-based networks through tourism forums, events collaboration and joint marketing activities is essential to enhance trust, shared norms and cooperation among stakeholders (Wartecka-Ważyńska 2021; Hwang & Stewart 2016). These social institutions act as a breeding ground for the development of entrepreneurial activities such as resources accessibility and shared learning (Nguyen et al., 2020). Also, participation to governance mechanisms accompanied by high quality relationships facilitates local degree of decision-making independence and transparency that are pivotal in terms of sustainable governance (Zychová, Fejfarová & Jindrová, 2024; Meuleman & Niestroy, 2019).

Simultaneously, stakeholders should invest in capacity building initiatives that develop EO (e.g., innovativeness, proactiveness, risk-taking, competitiveness aggressiveness, and autonomy) which act as mediators of the relationship between SC and SRTE (Rodrigo-Alarcón et al., 2018). Capacity building programmes on product innovation, digital marketing, and market trend analysis enable rural entrepreneurs to better react to demand and innovate tourism products in line with local cultural and environmental underpinnings (Kurnia et al., 2023; Luu, 2021). A key factor is that the autonomy and competitive aggressiveness can be supported by flexible organizational arrangements, thus increasing resilience of tourism firms. Through policies that can bridge socio-empowerment with entrepreneurial support mechanisms, like grants or incubators etc., rural tourism systems could evolve into more inclusive (Handiman et al., 2024; Meuleman & Niestroy, 2019).

## 5. Discussion

The findings of this study contribute to the broader advancement of tourism sustainability theory by demonstrating that EO functions as a full mediating mechanism through which SC is translated into SRTE. This mediation elucidates a critical transformation process whereby social interaction, network relationships, and relationship quality are not inherently productive but must be strategically activated through EO to yield SRTE (Wartecka-Ważyńska, 2021; Hwang & Stewart, 2016). The substantially stronger indirect effect compared to the direct effect reinforces the argument that SC alone is insufficient to drive sustainability unless it is operationalised through EO dimensions such as innovativeness, proactiveness, risk taking, competitive aggressiveness, and

autonomy. This insight extends sustainability discourse beyond resource-based explanations and aligns with process-oriented views that emphasise capability activation rather than resource possession.

Crucially, this mechanism is consistent with empirical findings outside Indonesia. Similar pathways in other emerging economies are also hinted at, suggesting the wider relevance of the SC–EO–sustainability nexus. For example, while Gauthier, Cohen and Meyer (2021) emphasizes the impact of SC on EO configurations (especially proactiveness, autonomy and competitive aggressiveness) through information access and legitimization of entrepreneurial risk-taking. Similar results are found in other Latin American contexts, where the Corrêa, Queiroz and Shigaki (2021) show that relational networks facilitate proactivity, innovativeness and risk taking among rural entrepreneurs. Similarly, Luo, Huang and Gao (2022) demonstrate that pro-activity from dense social networks still increase entrepreneurial intentions and with that the mediating role of EO can be seen as a transferable mechanism between socio-cultural contexts. Taken together, these results support the idea that SC primarily impacts SRTE through EO rather than direct effects.

Theoretically, the study contributes to SC theory by reconceptualising SC not as a static community asset but as a dormant resource which becomes valuable with EO. This view contrasts the standard model for community-based sustainability based on social cohesion as an objective. Rather, the results are consistent with an integrative perspective where community assets need to be purposefully mobilised through entrepreneurial thinking and action into sustainable opportunities over time. Handiman et al. (2024) also find that entrepreneurs' implementation of SC may interact with government support and EO to redetermine the sustainability outcomes in rural tourism, which provides further evidence for the importance of a bridge mechanism between institutional and entrepreneurial for translating social resources into performance benefits. Furthermore, Kleinhempel, Beugelsdijk and Klasing (2020) highlight the dynamic functioning of SC in various phases of venture creation, which raises doubts about its effectiveness depending on the growing entrepreneurial skills of local actors.

A third theoretical contribution of this study is that it combines SC theory with EO theory within the PBL sustainability framework. By placing EO as a mediating variable, this model overcomes traditional sustainability framework that are typically being inclined towards economic, social and environmental results and that fail to adequately encompass entrepreneurial processes (Meuleman & Niestroy, 2019; Marzo-Navarro et al., 2020). It contributes to previous models by testing that SC at very high levels needs to be enriched with other types of entrepreneurial values to create sustainable value (Rodrigo-Alarcón et al., 2018; Nguyen et al., 2020). The study thereby supplements the explanatory power of sustainability frameworks and highlight the universalization of EO intermediation in converting SC into SRTE.

At the practical level, the results remind policy makers for their need to develop interventions that could strengthen both solidarity and entrepreneurship in rural tourist destinations. Where rural tourism environments in both Indonesia and similar Asian/Latin American settings belong to contexts with high social connectedness, including trust-based networks (Stanton, 2002), such assets go largely untapped on account of the lack of entrepreneurial support institutions. As such, socio-economic development projects should not revolve around local empowerment initiatives, but be complemented by a hands-on entrepreneurship training targeting tourism-related skills (product innovation, digital marketing, financial literacy and sustainable destination management see for example (Kurnia et al., 2023; Zychová et al., 2024). Such interventions facilitate the strategic use of existing SC by communities to achieve economic and sustainability objectives.

At a practical level, the findings highlight the importance of targeted interventions that strengthen both rural communal social cohesion and their entrepreneurial potential. However, in the great majority of rural tourism environments there are strong social bonds and networks of trust which have already been created without having made full use thereof through special structures that can help to turn them into economic and organisational benefits. Consequently, interventions need to be more than generic heaven help community development interventions that include practical entrepreneurial training targeted at tourism such as in the areas of product innovation, e-marketing, financial literacy and sustainable destination management.

Leadership development also appears as a key driver in this change. Building the capacity of local tourism leaders to encourage community resources, coordinate stakeholders and facilitate in regulatory environment can

institutionalize the best governance structures for inclusiveness and sustainable practices. Participatory planning and collective decision-making venues contribute to legitimacy and create a common basis for ownership of tourism projects, which is important in rural contexts in a socially strongly embedded environment. A range of innovation supports e.g. seed funding for ecotourism prototypes, mentorship linkages to experienced members in tourism industry and university based linkages for knowledge transfer further strengthen the entrepreneurial activation of SC.

By following such multi-level strategies, rural tourism entrepreneurship can develop from reactive and informal level to a strategically managed, innovation-based performance. This kind of transformation allows destinations to be flexible, responding to tourists' changing desires while respecting the needs of the market and the integrity of their culture and environment. In so doing, this article advocates for an integrative action-based sustainability paradigm that underscores both social capital in the abstract and entrepreneurial orientation as a critical force for transforming social embeddedness into inclusive and measurable sustainability outcomes within diverse regional environments.

More importantly, this study provides broader implications beyond the empirical context of a specific industry concerning how organizational intangible resources are reconfigured to strategic value through capability activation. SC is an example of a relational intangible asset built upon social interaction, networks relationship, and quality of relationship; EO consists on a dynamic organizational capability which activates and recombines these resources into productive results. The complete mediating impact of EO suggests that intangible resources do not, by themselves, create enduring worth to a company; rather their strategy-impactful feature can come up only upon application through innovativeness, proactiveness, risk taking and competitive aggressiveness as well as autonomy. This mechanism is consistent with capability-based and dynamic capability views, which imply that sustainability performance is positively related to the extent an organization can transform intangible capital into collective action, rather than merely having social resources. The results are discussed in relation to the PBL and also generalize that economic, social, environmental, cultural and governance outcomes are multi-dimensional manifestations of intangible value creation, hence they posit that the proposed SC–EO–sustainability nexus is applicable for other knowledge-based community-embedded sustainability-focused organizations outside rural tourism.

Although insightful, the research has limitations that deserved to be mentioned. First, the study context is limited to Yogyakarta in Indonesia, and the extent to which we can generalise our findings to other cultures or institutional contexts (or economic conditions) is an empirical question. Comparative or cross-regional studies, such as with other Asian and Latin American rural tourism destinations, would be helpful in checking the generalization extent of EO's mediating role. Second, the conceptualization of SC applied in this work emphasized social interaction, network relationship and relationship quality. Future studies should consider the inclusion of bonding, bridging and linking social capital to gain a more comprehensive understanding of how different relational structures affect EO and SRTE. Third, as the present study was cross-sectional we are unable to provide information on the progression of SC and EO over time. Long-term longitudinal studies could show how investments in social infrastructure and entrepreneurial training influence the trajectories of sustainability over time. And third, some emerging dimensions (for example digital social capital and technology enabled entrepreneurial platforms) has not been explore thoroughly as yet. Further studies could investigate how digital networks and virtual communities interact with EO to shape sustainable rural tourism in the era of digitalization.

## 6. Conclusion

The study ends by explicitly addressing the research questions asked at the beginning and discussing in what manner this work created insights into sustainable rural tourism entrepreneurship (SRTE). Findings indicate that interaction between SC and EO is a critical factor in promoting SRTE within the PBL system. In fact, SC is a source of sustainability when its activation is strategically undertaken by EO but also it can be seen that social resources in themselves are not a sufficient strategy to reach.

Explicitly, the results show that SC reflected in social interactions, network relationship and relationship quality spur and nurture EO by creating a conducive environment for innovation, proactiveness, risk-taking and competitive aggressiveness and autonomy among rural tourism entrepreneurs. Intense relational embeddedness

facilitates the mobilization of social and prior resources, trust, information and collective support actions that feed into entrepreneurial behaviours such as discovery to opportunities initiation and venture development in smaller-scale rural tourism contexts. Additionally, the results of this research indicate that EO has a positive and significant direct impact on all five dimensions of SRTE: economic, social, environment, culture and governance sustainability. The result reveals the EO as a key strategic resource which allows rural tourism actors to innovate in-proportion, strengthen community involvement, preserve local culture and environment while enhancing governance. EO therefore serves not only as an economic stimulus but rather as a socio-eco-enabling factor to span out sustainable tourism development.

Furthermore, the findings show that SC predominantly affect SRTE through indirect mediational paths but not directly. When these mutuality and relational dynamics are targeted at the triple bottom line objectives of economic sustainability, social inclusivity, environmental stewardship, cultural heritage protection, and good governance with efficient service provision – then and only them does such “social bonding capital” have value. This draws attention to the contingent nature of SC in sustainability initiatives, and but stresses the view that social resources should be understood as potential assets which need strategic mobilisation. Most importantly, and with regard to RQ5, the research verifies that EO completely mediates the effect of SC on SRTE. This full mediation effect indicates that EO is the main mechanism via which SC becomes manifestable and measurable on sustainable performances in rural tourism. The result contribute to the belief that entrepreneurial orientation is critically necessary in transforming communal trust, networks and interactions into sustainable entrepreneurship performance.

Academically, these findings contribute to rural hospitality and sustainable tourism literature by empirically confirming the integrated mediation model of the link between SC and SRTE through EO within a broader PBL version. By including cultural and governance dimensions in addition to the economic, social and environmental aspects, this research surpasses partial views and highlights that community and enterprise roles are interactive not separated ones.

In practical terms the findings imply that those involved in rural tourism, be they practitioners or policy makers, might like to consider a twofold strategy of enhancing social capital at the same time as building entrepreneurial capacity. Investing in building community trust, shared decision-making, preparation for leadership of women and youth voice as well as local innovation ecosystems are all important to ensure that current social resources can be effective used through entrepreneurial orientation. This way, rural tourism entrepreneurship can be flexible and efficient while ensuring long-term socio-cultural and environmental value.

Lastly, the research provides suggestions for further inquiries. Future research could examine heterogeneous types of SC (bonding, bridging and linking) in order to gain more detailed understanding on how these different social capital utilize their particular functions as EO and SRTE antecedents. Also, the increasing importance of digital platforms or virtual networks deserves empirical attention concerning how digital social capital can facilitate entrepreneurial dynamics and sustainability effects in rural tourism.

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