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Research Paper: Integrated Model of Sustainable Rural Entrepreneurship Development

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ABSTRACT

Purpose: Rural entrepreneurship is the engine of economic growth, dynamism, and social development in rural areas. Despite its crucial importance, it has received little attention from development planners and researchers in this field. Given the innovative and dynamic nature of entrepreneurship in rural areas and the imperative to preserve ecosystem integrity within villages, policymakers and planners are tasked with identifying key value-creating factors and indicators. These factors are essential for enhancing entrepreneurial activities and achieving job creation, economic growth, and poverty reduction goals. Therefore, this research aims to develop an integrated model of entrepreneurship development in rural areas with a sustainable development approach.

Methods: This research employs qualitative content analysis to examine existing studies on entrepreneurship development in rural areas. Subsequently, a composite model is proposed based on the findings. The population and statistical sample represent relevant studies related to the research topic. To achieve this objective, relevant sources were meticulously collected and examined. The components and variables of interest in each study were scrutinized and extracted. Subsequently, central themes were identified based on conceptual similarities and proximity, followed by thematic classification.

Results: The findings of this research have identified six main factors within the dimensions of development factors of rural entrepreneurship and the entrepreneurial environment factors. The development factors of rural entrepreneurship encompass fourteen value-creating variables distributed across three components: Fostering and strengthening entrepreneurial attitudes, cultivating entrepreneurial behaviors, and enhancing entrepreneurial consequences. The dimension of entrepreneurial environment factors encompasses nineteen variables categorized into three levels of economic development: Resource-driven, efficiency-driven, and innovation-driven. Finally, the validity and reliability of the model were assessed using the Kappa index, resulting in a calculated value of 0.857, indicating perfect agreement.

Conclusion: Promoting sustainable entrepreneurship and developing rural businesses can contribute to economic development, poverty reduction, employment growth, economic diversification, acceleration of regional development, and social progress. Additionally, prioritizing entrepreneurship is a paramount governmental mission. To realize income and job creation objectives, policymakers devise supportive policies to bolster entrepreneurial endeavors and foster an entrepreneurial spirit among the populace. The research findings align with this, and recommendations for further advancement are provided in the discussion part of the article.

Keywords:
Sustainable Development, Rural Entrepreneurship, Global Entrepreneurship Monitor, Entrepreneurial Environment Factors

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1. Introduction

Entrepreneurship is an essential channel for creating transformation in the production of sustainable products and processes (Bignotti et al., 2021). Various researchers (Acs et al., 2008; Horne et al., 2020; Santos, 2012) support entrepreneurship as a sustainable solution for many problems of societies in different countries. Currently, entrepreneurship has become instrumental in facilitating technology transfer, development, and generating income, owing to its significant contribution to the economic advancement of countries by creating job opportunities (Gobena & Kant, 2022).

In recent decades, entrepreneurship has been considered one of the critical issues in the field of development policy (Norback et al., 2014). Entrepreneurship is seen as the engine of economic growth and social development (Tsai & Kuo, 2011), and the countries' policymakers are currently looking to create a dynamic and competitive entrepreneurial economy (Stevenson & Lundstrum, 2001). Global Entrepreneurship Monitor (GEM) research shows that about 30% of the difference in GDP growth rate is due to the difference in the level of entrepreneurial activities (Audretsch et al., 2002).

Conversely, while entrepreneurship researchers have extensively explored entrepreneurship's what, why, and how, there has been relatively less focus on its impact on both developed and developing countries (Bruton et al., 2008). Paying attention to entrepreneurship and small and medium-sized enterprises (SMEs) is a pivotal aspect of policymaking. According to the World Bank reports (2005), promoting entrepreneurship and fostering the development of SMEs emerge as critical recommendations for countries' development. Entrepreneurship policy can improve macroeconomic conditions, exchange rates, commercial and industrial policies, governance, and poverty (Acs & Virgill, 2010).

Unlike traditional policy focused on large established firms, entrepreneurial policymaking is a new approach emphasizing people and small businesses (Norback et al., 2014). Given the significant influence of policies on entrepreneurial activities, it is imperative to prioritize the stimulation and encouragement of entrepreneurship, particularly by emphasizing innovative entrepreneurship within high-impact companies through policymaking (Henrekson & Stenkula, 2010).

A well-designed policy facilitates and supports practical entrepreneurial activities (Acs & Szerb, 2007). Evidence demonstrates that an economic system that fosters innovative and high-growth entrepreneurial firms surpasses one that strives to increase the number of small businesses or self-employment rates (Shane, 2008).

Entrepreneurship development in rural areas is significant, as it is recognized as a critical driver of progress and development within rural economic and social systems in contemporary scientific discourse (Polbitsyn, 2019). In the contemporary era, rural development is closely intertwined with entrepreneurship, with many experts regarding rural entrepreneurs as pivotal agents for the advancement of rural areas (Aggarwal, 2018).

Numerous studies have been conducted on the topic of entrepreneurship development and rural planning in recent years (Paliwal et al., 2022; Aliyev, 2022; Naude, 2021; Li et al., 2020; Leonidou et al., 2020; Norback et al., 2014; Acs et al., 2014; Redford, 2012; Audretsch, 2010; Coduras et al., 2011). The review of previous research indicates that despite efforts, these studies lacked a specific and systematic framework, focusing on limited aspects. Furthermore, the majority of studies emphasized economic development and business promotion in rural areas, with less attention given to the sustainable development of rural areas (Adiyia et al., 2017; Aliyev, 2021; Gobena & Kant, 2022; Leonidou et al., 2020).

According to the explanations provided, the primary objective of this research is to develop an integrated model for entrepreneurship development in rural areas with a sustainable development approach. The primary inquiry pertains to the factors necessitating consideration for the integrated planning of entrepreneurship development in rural areas, adopting a sustainable development approach. Furthermore, the research seeks to classify these factors and address variations in development across different regions to establish an integrated pattern of influential factors.

Despite the significance of entrepreneurship in driving economic development and fostering activity in rural areas, several factors hinder the achievement of these objectives, with the rural business environment emerging as a particularly influential factor. This challenge compels businesses to adopt a strategic outlook, enabling them to proactively anticipate opportunities, mitigate threats, and navigate future uncertainties through comprehensive planning.

Theoretical Foundations

Entrepreneurship policy

The European Union defines entrepreneurship as the ability to turn ideas into action, encompassing creativity, innovation, and risk-taking. Consequently, it is imperative to support entrepreneurs in enhancing their ability to identify and capitalize on opportunities (Redford, 2012). An entrepreneur is an individual who endeavors to generate value by creating or advancing economic (or social) activities by identifying, assessing, and capitalizing on new products, services, and markets (Bosma, 2008).

A policy is a relatively stable, purposive course of action followed by an actor or set of actors dealing with a problem or matter of concern (Anderson, 2000). Entrepreneurship policies are directed at encouraging socially and economically productive activities by individuals who act independently in business (Rigby & Ramlogan, 2013), and it serves as a tool to encourage individuals and foster entrepreneurship within society, focusing on the stages preceding and following the business establishment in the entrepreneurial process (Lundstrum & Stevenson, 2001). In this context, countries have developed various strategies (Hosseini et al., 2023), with entrepreneurial policy emerging as a novel approach to policy that prioritizes individuals and small businesses (Norback et al., 2014).

Entrepreneurship policy represents a shift from a managed economy to an entrepreneurial economy. The entrepreneurial economy denotes the transition from an industrial economy to a knowledge-based one, characterized by a shift from production-centric to service-centric models, from large corporations to smaller ones (resulting in reduced company size and reliance on machinery), from small businesses to startups, and from a capital-driven to a knowledge-driven focus. Additionally, this transition involves moving from relative stability and controlled industrial environments to high dynamism and constant change. Globalization, economic freedom, democracy, technological advancements, and the Internet significantly drive this transformative shift (Stevenson & Lundstrum, 2007).

From these views, policy implications follow—for instance, government policy for promoting entrepreneurship should reduce uncertainty and transaction costs. However, policy is only a proximate cause of risk and uncertainty. In recent years, development scholars have recognized 'institutions' (the "rules of the game") as the ultimate determinant of development. In economic theory, entrepreneurship is an occupational choice between self-employment and wage employment (Naude, 2021).

The policy objectives of entrepreneurship development, including job creation, economic growth, and poverty reduction (OECD, 2007), are realized through promoting entrepreneurial activities (Rigby & Ramlogan, 2013). Entrepreneurship development policy encourages and stimulates productive social and economic activities among individuals engaged in independent business ventures (Henrekson & Stenkula, 2010).

Sustainable Rural Development

According to the United Nations Development Program, Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Minbashi et al., 2022). Developing countries have recognized that meaningful progress cannot be achieved without concurrent development in rural communities (Nwankwo & Okeke, 2017). In contemporary scientific theories, rural entrepreneurship is considered one of the fundamental driving forces for developing rural and regional socio-economic systems (Polbitsyn, 2019).

Jonathan Murdoch believes sustainable rural development requires a mutual relationship between the environment and society so that economic, social, and environmental factors should be along with the creation of organized behavioral patterns, so the needs of the current rural generation should be provided without harming the natural resources on which the lives of future generations depend. In this development, environmental support systems try to prevent pollution, destruction, and destruction of life and ecosystem diversity. Also, it works effectively, considers the needs of society and environmental limitations, and does not ignore the correlation between the environment and society (Murdoch, 1993). Sustainable rural development generally entails the perpetual fulfillment of rural communities' material and spiritual needs and effective participation in shaping local settlement systems (ecological, social, economic, and institutional). This development is grounded in three principles: Empowerment, capacity building, and ensuring ecological, social, and economic security (Minbashi et al., 2022).

In contemporary times, rural development relies more than ever on entrepreneurship development. Researchers regard rural entrepreneurs as crucial contributors to the development of rural areas (Aggarwal, 2018). Rural development typically involves enhancing the quality of

life and economic well-being of individuals residing in sparsely populated and often isolated areas. Historically, rural development efforts have primarily centered on utilizing natural resources such as agriculture and forestry (Elkafrawi, 2022).

The concept of sustainable development has been raised in the context of excessive consumption of natural resources, destruction of the living environment, and the increase in the world population. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Wackernagel & Yount, 2000). Rural areas, as integral components of the national system and activity, hold significant importance in national development. The sustainable development of these regions is pivotal, as it hinges upon the stability of rural systems as sub-systems of the more extensive land system. Stability in rural spaces across various dimensions can profoundly impact regional and national development. Conversely, any disruptions in the progress and development of rural areas will affect them and extend to urban areas and, ultimately, the entire land (Tasaki et al., 2015).

Ignoring talents, abilities, and relative advantages in economic activities leads to investments not aligned with regions' facilities and potential capacities. Moreover, despite the implementation of numerous national and regional development programs, the process of underdevelopment in these regions persists (Khodapanah et al., 2021).

Today, the sustainable development approach holds significant value and credibility as a framework for analyzing the sustainability of human settlements, mainly rural settlements. Sustainable rural development aims to address the significant changes occurring in rural areas by mitigating pressures and establishing a sustainable economic, social, and environmental system within villages. In many countries, rural development is crucial for achieving sustainable development in tandem with urban society (Pašakarnis & Maliene, 2010).

Sustainable rural development involves prioritizing the needs of rural communities, activating them, investing in infrastructure, providing social services, establishing social justice and equality, leveraging local capacities and behaviors, addressing past injustices, and ensuring the health and safety of rural residents (Ruth, 2001). In developed countries, development has typically occurred through industrialization, which has led to economic growth and an increase in the overall standard of living. This growth is attributed to the suitable economic structure, relative advantages in various activities, and effective regional planning and policies (Alia et al., 2019). Developing entrepreneurship among villagers is of vital importance. When villagers are not hindered by economic, social, cultural, individual, or governmental obstacles, they can effectively utilize resources. Otherwise, poverty, underdevelopment, increasing inequality, unemployment, and rural-to-urban migration will persist (Rosario, 2020).

Global Entrepreneurship Monitor

The Global Entrepreneurship Monitor (GEM) entrepreneurship alphabet model provides a practical framework for entrepreneurship development policy. It comprises three key components: Fostering and strengthening entrepreneurial attitudes, cultivating entrepreneurial behaviors, and enhancing entrepreneurial consequences (Acs et al., 2014).

Entrepreneurial attitude refers to an individual's internal inclination toward entrepreneurship. Potential entrepreneurs are those who hold positive attitudes and beliefs about entrepreneurship. Attitudes play a crucial role in shaping entrepreneurial intentions and behavior. Furthermore, attitudes directly influence behaviors, enabling predicting actions based on attitudes. Entrepreneurial behaviors encompass the actions involved in initiating or managing a new business venture, typically beginning as start-up entrepreneurship and evolving into an established enterprise over time. Entrepreneurial results refer to the consequences following the initiation of a new business venture, reflecting the entrepreneur's desire for business growth or anticipation of high market demand. These results encompass market entrepreneurship, introducing new products, and entrepreneurship in high- or medium-technology sectors (Bosma, 2008). This research employs the framework of the Global Entrepreneurship Monitor to identify and categorize indicators influencing entrepreneurship development across three levels: Entrepreneurial attitudes, behaviors, and consequences.

Entrepreneurial Environment Factors Framework

This research also considers Porter's (2000) framework of entrepreneurial environmental factors. This theory examines economic development across three stages: The factor-driven stage, the efficiency-driven stage, and the innovation-driven stage. In factor-driven economies, attention should be given to essential requirements. In efficiency-driven economies, focus should be placed on

factors that enhance efficiency, while in innovation-driven economies, emphasis should be placed on factors that drive innovation (Acs et al., 2014). This is due to varying levels of development across different stages, characterized by dependency on resources, efficiency, and innovation (Acs & Szerb, 2010).

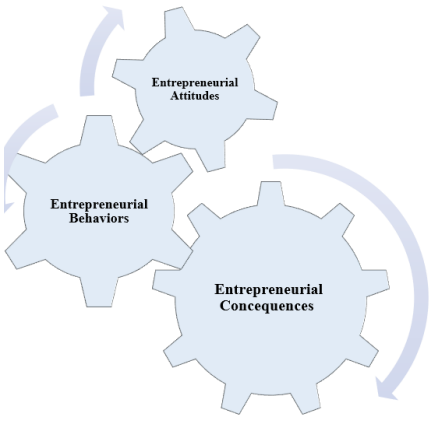

Figure 1. The entrepreneurship alphabet model of the Global Entrepreneurship Monitor (GEM)

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Laurie (2003) and Morris (1996) have defined entrepreneurship as the intricate interplay among entrepreneurs, the environment, and the governmental role in shaping economic, political, legal, financial, and social structures. Hence, several influential factors contribute to entrepreneurship development, warranting careful consideration in policymaking. Given the considerable theoretical gap regarding the relationship between entrepreneurship and economic growth (Grilo & Thurik, 2006), emphasis is placed on considering the economic development levels of countries in crafting entrepreneurship development policies. Hence, a comprehensive entrepreneurship policy would benefit from categorizing development levels within the framework of entrepreneurial environmental factors.

2. Literature Review

The policy for entrepreneurship development has garnered attention in recent years; nevertheless, there remains a dearth of research in this domain. Jamshidi et al. (2023) conducted a study entitled "Investigating the relationship between entrepreneurship indicators and sustainable rural development using focal analysis (case study: rural settlements west of Urmia Lake)." This study's results of focal correlation analysis demonstrate a significant linear relationship between the focal variables representing rural entrepreneurship indicators and the components of sustainable rural development in the study areas. Furthermore, focal analysis revealed a significant relationship between creativity, self-confidence, economic stability, and physical stability. Enhancing factors influencing entrepreneurship development in rural areas could lead to sustainable rural development.

Gobena & Kant (2022) investigated the influence of indigenous culture, local resources, eco-friendly environments, and modern development strategies on entrepreneurship development. This exploratory study conducted an extensive review of the research literature using a systematic design, revealing that aspects of Indigenous culture, such as indigenous leadership, teamwork, and skills, significantly influence entrepreneurship development. Local resources significantly influence entrepreneurship development, including infrastructure, human capital, financial constraints, environmental marketing, innovation, and distinctive competitive advantages (Gobena & Kant, 2022).

Naudé (2021) examined the relationship between economic development and entrepreneurship. Given the relative neglect of entrepreneurship by development researchers and recent theoretical insights from the intersection of entrepreneurship and development studies, empirical evidence regarding the relationship between entrepreneurship and development needs to be focused on. Such attention can offer new insights for formulating entrepreneurship development policies (Naude, 2021).

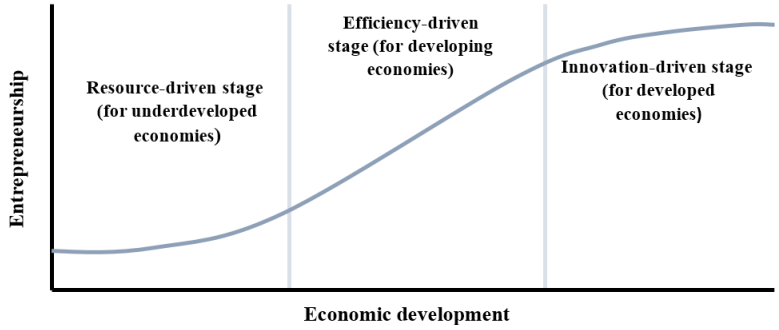

Figure 2. Entrepreneurial environment factors model

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Jamini & Jamshidi (2021) investigated the modeling of factors affecting the development of entrepreneurship indicators in rural areas of Iran, specifically focusing on the Owramanat region. The research findings indicate that villagers' level of entrepreneurship indicators is low. The results of the structural analysis model on the determinants of entrepreneurship in rural areas revealed that economic support policies and environmental-regional factors are key determinants affecting entrepreneurship development in rural areas.

Leonidou et al. (2020) synthesized the scientific research on stakeholder engagement in innovation management and entrepreneurship development. They systematically reviewed relevant literature published over the past 27 years, integrating various prominent research perspectives into a preliminary, multidimensional, integrated stakeholder engagement framework. As a result, they identified several research gaps and proposed effective avenues for future research in this area (Leonidou et al., 2020).

Dehghani & Jamini (2018) conducted a study entitled "Assessment of Entrepreneurship Indicators, determinants and its Strategies for Development in rural settlements (case study: Javanrood Township)." The research results indicate that the villagers of Javanrood exhibit positive entrepreneurial characteristics. Among the twelve identified characteristics of entrepreneurship, they excel in perseverance, high energy, and community spirit while displaying weaknesses in risk-taking, innovation, and pioneering. The results of identifying the determinants of entrepreneurship development indicate that economic, managerial-educational, infrastructural, social-cultural, and environmental factors collectively account for approximately 66.5% of the variance in the dependent variable. The results of prioritizing operational strategies among villagers revealed three main approaches for allocating financial resources to support entrepreneurial activities: Direct financial support from both public and private sectors to mitigate bankruptcy risk and ensure product purchase, as well as guaranteeing product purchase, particularly in the initial stages of entrepreneurial ventures. These solutions emerge as crucial for fostering entrepreneurship among villagers. The results of prioritizing operational strategies for villagers revealed three critical solutions to foster entrepreneurship: Allocating financial resources for entrepreneurial development, providing direct financial support from both public and private sectors to mitigate bankruptcy risks, and guaranteeing the purchase of villagers' products, especially in the initial stages of entrepreneurial endeavors.

Page et al. (2017) investigated entrepreneurship and small and medium-sized enterprise development policies using a mixed exploratory approach and case study methodology, employing semi-structured interviews and statistical analyses. Their findings underscore the significant role of government and public sector institutions in business development, particularly in shaping entrepreneurial opportunities.

Adiyia et al. (2016) gathered and analyzed entrepreneurs' data through qualitative research methods and expert interviews. The findings indicate that business development is unattainable without training and acquiring fundamental skills (such as managerial, communication, and financial competencies) .

One of the relevant studies is Figueroa-Armijos & Johnson's (2016) research on the consequences of business tax payment facilitation, an entrepreneurship development program in Kansas, USA. Their study revealed that clear and definite improvements in the regions implementing this program (from 2007 to 2010) were not observed across the five typical indicators of local economy and entrepreneurial activity (Figueroa-Armijos & Johnson, 2016).

Redford (2012) researched entrepreneurship and public policy, focusing on the role of education and human development. The findings of this research, conducted through a historical study of entrepreneurship policies across various periods in Portugal and a review of existing knowledge in entrepreneurship policymaking, reveal that education, financial support, legal frameworks, management and marketing guidance, product development, and specialized infrastructure such as science and technology parks and growth centers play pivotal roles in the success of entrepreneurs.

Acs and Szerb (2010) introduced the Global Index of Development and Entrepreneurship. The research, conducted using correlation analysis to examine the relationship between the Global Index of Development and Entrepreneurship and economic development across countries, indicates variations in development levels at different stages (dependency on resources, dependency on efficiency, and dependency on innovation) .

Audretsch et al. (2007) employed the exploratory-analytical method to identify vital factors influencing entrepreneurship policy-making. They emphasized enhancing entrepreneurial capabilities and training, technology development, resource access, competition policy, intellectual property rights, regulatory environment, institu-

tional formations, and business environment improvement.

Singer conducted a study entitled "Policy Environment for promoting entrepreneurship." In this descriptive survey research, demographic characteristics were examined alongside the indicators of the Global Entrepreneurship Monitor. The results indicate that financial support, government policies, education, and infrastructure development effectively develop entrepreneurship (Singer, 2007).

Lunnan et al. (2006) investigated entrepreneurial attitudes and the probability of start-ups among Norwegian non-industrial private sector owners. They identified two main elements in people's entrepreneurial attitudes: the ability to recognize business opportunities and the ability to take calculated risks. Significantly, individuals who intend to start a business are more likely to possess entrepreneurial attitudes. Furthermore, risk-takers are more inclined to initiate new ventures, and their attitude toward risk influences decision-making in entrepreneurial contexts (Nybakk & Hansen, 2008).

Decelle (2004) conducted a study entitled "A conceptual and dynamic approach to innovation in tourism" to inform innovation policymaking. The results of this research, conducted using data from the National Association, indicate that indicators such as improving innovation dynamics (companies' efforts to adapt leading innovative approaches, especially transitioning from essential technologies to economic intelligence), enhancing the efficiency of the national innovation system (through workforce training, development of roles for public and private sector entities, and research encouragement), improving incentive systems for agents and forces, maintaining coherence and continuity, and fostering societal integration, can all be effective in promoting innovation (Decelle, 2004).

The innovation of this research can be examined from various perspectives. Firstly, it pertains to the extent of theoretical engagement, whereby novel structures and relationships are defined, contributing to the description and explanation of different theories. Furthermore, in the present study, the author has elucidated the rationale behind the existence of a relationship or process, thus adding another dimension of innovation by employing the logic of previous researchers. Furthermore, the review of previous research also reveals a theoretical gap in theorizing and modeling an integrated framework for entrepreneurship development in rural areas with a sustainable development approach, a gap addressed in this study.

3. Methodology

The present study is applied in terms of purpose, using the library method. This research concentrates on previous studies concerning entrepreneurship development in rural areas and sustainable development. Thus, the population and statistical sample include books and articles within this field. Theoretical sampling was employed to identify the main themes for the integrated model of entrepreneurship development in rural areas with a sustainable development approach. This method involved directly referencing information obtained from targeted samples and categorizing it accordingly.

This research used the qualitative content analysis method for data collection and analysis. Qualitative content analysis is a widely used research method for analyzing textual data involving systematic classification, coding, and thematic organization of known patterns. The steps of this method are as follows:

- Summarizing information and identifying key themes

- Establishing clear links between the research questions and the findings

- Developing a model or theory about the research topic (Thomas, 2006).

Several inclusion and exclusion criteria were applied to identify the most relevant and high-quality research related to the research topic. Other advanced systematic reviews related to our research topic have been sought. The search was limited to peer-reviewed academic publications from all relevant disciplines, using scientific search engines such as Business Source Ultimate, Science Direct, Emerald, and other pertinent sources. These databases were selected because they represent comprehensive business and entrepreneurship studies scientific databases. They have also been chosen by other systematic reviews published in top journals of this field (Zott et al., 2011). Subsequently, a general keyword search criterion was applied to the initial set of articles to ensure the inclusion of all relevant articles. More specifically, a combination of keywords was utilized to search titles, keywords, and abstracts related to entrepreneurship development in rural areas with a sustainable approach. Initially, relevant articles and reports were collected and reviewed, and each study's pertinent components and variables were extracted (Strauss & Corbin, 1994).

During this stage, words and phrases about entrepreneurship development were extracted from published documents and articles through line-by-line reviews. Subsequently, similarities and differences were elucidated through iterative examination and comparison of basic concepts. Ultimately, concepts sharing standard content were categorized together. The categories were refined and integrated into a cohesive theory during this phase. Lastly, following the steps above, an integrated model of entrepreneurship development in rural areas was developed with a sustainable development approach.

4. Findings

The research findings in this section are consistent with the process set by Thomas (2006) for developing a conceptual model using qualitative content analysis. Following this process, the research is divided into three steps:

Step 1: Summarizing information and identifying key components and variables of entrepreneurship development

In the first step, research on entrepreneurship development in rural areas with a sustainable development approach was reviewed, and the resulting information was summarized. Then, key themes and the significant factors influencing entrepreneurship development were identified and categorized. This involved a thorough investigation of the topic's research, followed by the identification of relevant concepts. Finally, the essential concepts of the integrated model for entrepreneurship development in rural areas with a sustainable approach were extracted.

Step 2: Establishing clear links between the research questions and the findings

In this step, variables and themes influencing entrepreneurship development in rural areas with a sustainable approach were categorized based on the central question of this research, which addresses the factors to be considered for such development. Based on the concepts extracted from the previous step, certain variables are associated with the entrepreneur and the entrepreneurial process. In contrast, others are linked to the level of development in rural areas. Thus, variables were separated and classified according to The Global Entrepreneurship Monitor and the entrepreneurial environment factors examined in the theoretical foundations section. The utilization of these two frameworks varied based on the level of development among regions, addressing the research question regarding the categorization and presentation of an integrated model.

Hence, according to the Global Entrepreneurship Monitor framework, variables impacting entrepreneurial attitudes, behaviors, and consequences were identified in this step. Additionally, variables influencing entrepreneurship development within the resource-driven, efficiency-driven, and innovation-driven economies were categorized according to the framework of entrepreneurial environmental factors and presented in the following table.

Step 3: Develop a model

According to the qualitative content analysis process, this step involves developing a model or theory related to the subject under study. The variables obtained from previous steps were categorized into The Global Entrepreneurship Monitor and the framework of entrepreneurial environment factors. The reasons for utilizing these two frameworks are diverse. Firstly, the extracted variables are heterogeneous: while some emphasize the development of individual and behavioral capabilities, others focus on enhancing the environment and physical and economic infrastructures. Additionally, both frameworks involve categorization based on levels. The Global Entrepreneurship Monitor framework primarily emphasizes attitudes, followed by behaviors, and finally, resulting consequences. Meanwhile, in the entrepreneurial environment factors framework, the level of economic development is classified from the lowest level (resource-driven economy) to the highest level (innovation-driven economy), and the variables can be classified according to these two frameworks. Based on the identified dimensions and the results of previous steps, the proposed conceptual model is introduced as a platform for entrepreneurship development policy.

The designed model comprises six main dimensions and 33 solutions for fostering entrepreneurship in rural areas with a sustainable development approach. After completing the methodological steps of content analysis, the model's validity was confirmed through two aspects. Firstly, the developed model has utilized components and factors from previously presented models. Consequently, employing the results of previous research, whose validity has been confirmed, further substantiates the model's validity. Secondly, the compiled dimensions and solutions of the model were presented to two experts and professors in rural entrepreneurship and sustainable development, who reviewed them. Overall, the presented results were accepted by the experts with minor revisions.

Table 1. The main themes of the integrated model of entrepreneurship development in rural areas with a sustainable development approach

Main factor	Policy component	Relevant variables	Main factor	Policy component	Relevant variables
Development factors of sustainable rural entrepreneurship	Entrepreneurial Attitudes	Opportunity recognition skill	Entrepreneurial environment factors	Resource-driven Economy (dependency on resources)	Development of institutions
		Rural business startup skills			Rural infrastructure development
		Risk-taking			Economic and political environment
		Entrepreneurs' networking			Health and basic education
		Cultural support		Efficiency-driven Economy (dependency on efficiency)	Higher education
	Entrepreneurial Behaviors	Business start-up opportunities			Product market efficiency
		Technology absorption			The efficiency of the human resources market
		Sustainable development of human capital			Financial markets support
		Level and intensity of competition			Technological readiness in villages
		Product innovation			Rural markets size
		Process innovation		Innovation-driven Economy (dependency on innovation)	Financial support (for innovative entrepreneurs)
	Entrepreneurial Consequences	High business growth			Government policies
		Sustainable rural business activity			Entrepreneurship programs at the government level
		Investment risk in rural areas			Entrepreneurship education
					Transfer of research and development and innovation support
					Market entry rules
					Physical infrastructure (for innovative entrepreneurs)
					Legal and business infrastructure (for innovative entrepreneurs)
					Socio-cultural norms

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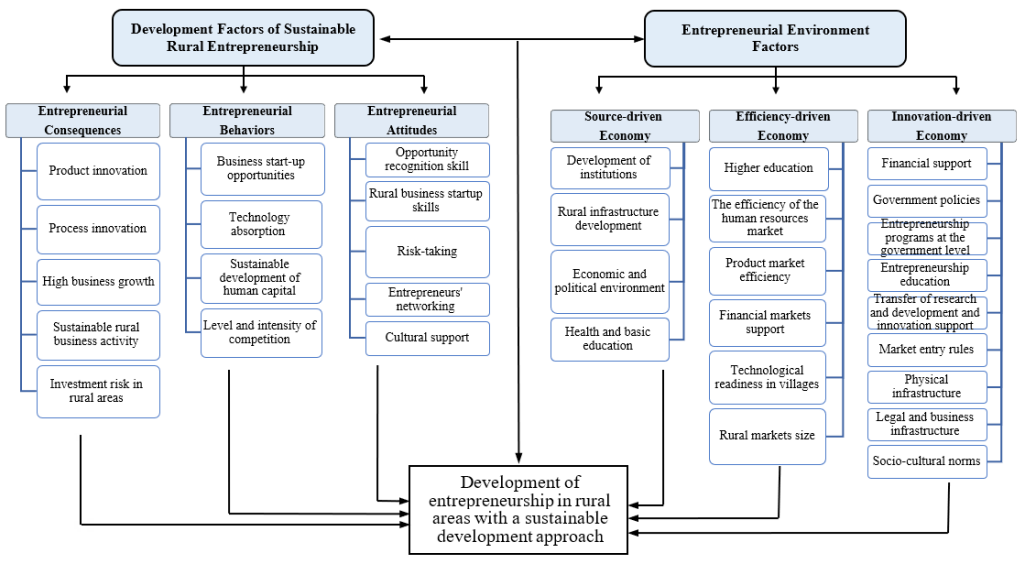

Figure 3. An integrated model of entrepreneurship development in rural areas with a sustainable development approach JSRD

The reliability of the developed model was measured using the Kappa index. The Kappa index is a tool used to measure the agreement among researchers in data coding. The methodology involved another policy researcher categorizing the codes from this research and assigning them to the main topics. Subsequently, the concepts presented by the researcher were compared with those presented by this individual. Finally, the Kappa index was calculated based on the number of similar and different concepts identified. As shown in Table 2, the researcher has developed five concepts, while other experts have proposed six concepts, with five concepts being common.

The Kappa index value was calculated as 0.857, indicating perfect agreement, as shown in Table 3.

5. Discussion

Governments are concerned about creating employment and developing entrepreneurship at different levels of society. In many countries, entrepreneurship catalyzes national growth and development. It fosters economic competition and job creation, facilitates individual development, and addresses social issues (Tsai & Kuo, 2011). Hence, prioritizing entrepreneurship stands as a paramount governmental mission. To realize income and job creation objectives, policymakers devise supportive policies to bolster entrepreneurial endeavors and foster an entrepreneurial spirit among the populace (Saufi, 2013).

This research aims to develop an integrated model for entrepreneurship development in rural areas with a sustainable development approach using the qualitative content analysis method to collect, analyze data, and develop the model. It is crucial to identify the main content and concepts for effective policy-making. This research utilized a systematic approach based on qualitative content analysis to identify the main factors of entrepreneurship development in rural areas. The methodology involved meticulously collecting articles and reports related to the research topic. Their information was then summarized to determine critical themes. Subsequently, a relationship was established between the research questions and the findings. Based on the extracted concepts' similarity and proximity, the model's main axes were identified, and thematic classifications were created. Eventually, an integrated model of entrepreneurship development in rural areas was developed with a sustainable development approach.

The factors emphasized in this model were divided into two categories: sustainable development factors of rural entrepreneurship and entrepreneurial environment factors. Sustainable development factors of rural entrepreneurship include fostering and strengthening entrepreneurial attitudes, cultivating entrepreneurial behaviors, and enhancing entrepreneurial consequences. Fostering entrepreneurial attitudes includes five variables: Opportunity recognition skills, business startup skills, risk-taking, entrepreneurs' networking, and cultural support.

Entrepreneurial behaviors include four variables: Business startup opportunities, technology absorption, human capital development, and the level and intensity of competition. Entrepreneurial consequences include five variables: Product innovation, process innovation, high business growth, international business activity, and capital risk.

Table 2. The status of converting codes into concepts by the researcher and other researchers

Researcher's view				
Total	**No**	**Yes**		
5	B=0	A=5	Yes	Other researchers' view
2	D=1	C=1	No	
7	1	6	Total	

Observed agreements: (A+D)/N= (5+1)/7= 0.857

JSRD

Table 3. Kappa index status

Value of Kappa index	<0	0 – 0.2	0.21 – 0.4	0.41 – 0.6	0.61 – 0.8	0.81 – 1
Agreement status	Poor	Slight	Fair	Moderate	Substantial	perfect

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Considering the varied development levels of the emphasized factors, this research also addresses another dimension known as entrepreneurial environment factors. These encompass three levels of economic development: Resource-driven, efficiency-driven, and innovation-driven.

The fundamental prerequisites for fostering sustainable entrepreneurship in rural areas within a resource-driven economy encompass four key variables: Development of institutions, infrastructure development, economic and political environment, and health and primary education. For sustainable entrepreneurship development in rural areas within an efficiency-oriented economy, it is essential to identify efficiency improvement factors. These factors include six variables: Higher education, product market efficiency, efficiency of the human resources market, complexity of financial markets, technological readiness, and market size.

The development of sustainable entrepreneurship in rural areas at the innovation-driven economy level also includes innovation drivers, which include nine variables of financial support (for innovative entrepreneurs), government policies, entrepreneurship programs at the government level, entrepreneurship education, transfer of research and development and innovation support, market entry rules, physical infrastructure (for innovative entrepreneurs), legal and commercial infrastructure (for innovative entrepreneurs) and socio-cultural norms.

Since promoting entrepreneurship contributes to economic development, poverty reduction (Ács & Virgill, 2010), employment growth, economic diversification, accelerated regional development, and enhanced social development (Akbaba, 2012), developing an effective model is paramount for entrepreneurship development policy.

This research aligns with the findings of previous studies by Jamshidi et al. (2023) on the relationship between entrepreneurship indicators and sustainable rural development, Gobena & Kant (2022) concerning environmentally friendly environments and modern development strategies for entrepreneurship, Naudé (2021) in the realm of economic development and entrepreneurship, Jamini and Jamshidi (2021) regarding factors influencing entrepreneurship development in rural areas, and Page et al. (2017) on policies for fostering entrepreneurship and small and medium-sized enterprises.

Based on this premise, proposals for fostering sustainable entrepreneurship in rural areas may entail initiatives such as enhancing basic infrastructure for entrepreneurial activities in rural areas, including access to energy, internet, roads, and electricity, enhancing the rural business environment while addressing environmental concerns, conducting training courses to promote sustainable development and enhance entrepreneurial attitudes among rural residents, thereby empowering the local workforce, financial support for start-up businesses in rural areas, developing simple and uncomplicated technologies to set up rural workshops and help sustainable employment in rural areas, holding exhibitions and marketing programs to introduce rural products, and drafting laws and regulations tailored to the needs of rural areas aims to preserve their native characteristics, protect the village ecosystem, and elevate income levels and local economies.

Key research topics for scholars include establishing the context for configuring innovation systems in rural entrepreneurship, forecasting and developing future scenarios for rural businesses, conducting research to enhance existing models from both theoretical and geographical perspectives, and developing ecosystem models for entrepreneurship development in rural areas.

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Conflict of Interest

The authors declared no conflicts of interest.

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