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International Journal of Services Technology and Management

ISSN online: 1741-525X - ISSN print: 1460-6720
https://www.inderscience.com/ijstm

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Article History:

Received:	24 December 2023
Last revised:	09 April 2024
Accepted:	03 May 2024
Published online:	28 March 2025

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Abstract: Entrepreneurship needs strong governmental support to positively impact the overall economic prosperity. There exists a need to understand and explore the relations among the entrepreneurship and its various institutional determinants as the literature is still in the nascent stage specifically for the emerging economies. Therefore, the present study aims to explore this nexus in the context of the Indian economy. The study uses a 20 years data set from to 2002–2021, procured from the leading database repositories, the global entrepreneurship monitor (GEM) and the World Bank's World Development Indicators (WDI). The study uses regression and moderation analysis to test the formulated hypothesis. The findings suggest that entrepreneurship does not significantly influence economic growth. However, governance directly affects economic growth, although it does not act as a moderator in the link between entrepreneurship and economic growth. The study concludes by suggesting measures to enhance the positive effects of entrepreneurship on economic growth in different dimensions.

Keywords: entrepreneurship; economic growth; governance; moderation analysis; GEM database; emerging economies; India.

Reference to this paper should be made as follows: Ullah, A., Kasim, A., Arafat, M.Y., Khan, N.A. and Kumar, S. (2024) 'Exploring the linkages between entrepreneurship, governance, and economic growth: a longitudinal context-based study', *Int. J. Services Technology and Management*, Vol. 29, Nos. 2/3/4, pp.261–273.

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1 Introduction

Entrepreneurship stands as a pivotal catalyst for economic growth, fostering employment opportunities and driving societal progress (Ab Rahman et al., 2022; Bourne, 2011; Hamdan et al., 2020; Yang and Li, 2011). Recent entrepreneurship research has primarily focused on the emergence of new businesses and their consequences on GDP growth rates, yielding inconclusive and conflicting outcomes (Stoica et al., 2020; Urbano et al., 2019). While some studies underscore the significant impact of entrepreneurship on

economic development, noting its role in innovation and job creation, others suggest negligible effects, especially in developing economies (Acs and Armington, 2006). This divergence underscores the need for a deeper understanding of the relationship between entrepreneurship and economic growth, particularly within the context of developing economies.

Stam and van Stel (2011) contend that the influence of entrepreneurial activities on a nation's economic trajectory varies across different macroeconomic environments. Accordingly, Jones et al. (2019) and Gulati et al. (2023) further emphasise the significance of contextual factors in shaping entrepreneurial identity. Therefore, given India's unique blend of economic development, entrepreneurial ecosystem, cultural norms, and geographical parameters, a context-specific investigation becomes imperative to elucidate the dimensions of its entrepreneurial environment.

In light of these considerations, this study aims to explore, understand, and validate the nexus between entrepreneurial activities, governance, and the economic growth of the Indian economy. Leveraging data extracted from the global entrepreneurship monitor (GEM) and the World Bank's World Development Indicators (WDI) spanning two decades (2002–2021), this study examines the moderating role of governance on the relationship between entrepreneurship and economic growth. The findings shed light on the nuanced dynamics at play, contributing to a more comprehensive understanding of entrepreneurship's impact in the Indian context.

This research contributes to the entrepreneurship literature in several ways. Firstly, it seeks to reconcile divergent findings concerning the link between entrepreneurship and economic growth, particularly in developing economies. Secondly, it provides a contextual exploration of the interplay between entrepreneurship, governance, and economic development, taking into account India's distinct socio-economic landscape. Lastly, by employing a longitudinal analysis, this study offers insights that complement and augment prior cross-sectional research efforts.

The remainder of this paper is structured as follows: Section 2 lays the theoretical foundation and formulates hypotheses; Section 3 delineates the methodology, followed by a descriptive analysis in Section 4. Empirical findings are presented in Section 4, with subsequent discussion, conclusions and implications in Section 5. The paper concludes with highlighting areas warranting further attention and potential avenues for future research in Section 6.

2 Theoretical framework and hypothesis

2.1 Entrepreneurship and economic growth

The literature on entrepreneurship and its impact on economic growth present a diverse array of perspectives and empirical findings. Scholars have extensively examined the role of entrepreneurship in driving economic development, highlighting its significance in strengthening economies. Studies by Aparicio et al. (2021), Boudreaux et al. (2019), Cumming et al. (2014), Hamdan et al. (2022), Neumann (2021), Urbano et al. (2019) emphasise how entrepreneurial activities contribute to job creation, production efficiency, and overall prosperity. These insights underscore the direct association between entrepreneurship and regional economic progress, evidenced by variations in economic equilibrium and the creation of new job opportunities (Croitoru, 2012).

Moreover, researchers have classified entrepreneurship based on its impact on GDP growth rates, distinguishing between venture entrepreneurship (VE) and innovation entrepreneurship (IE). Linghui and Koveos (2004) and Hamdan et al. (2020) categorise entrepreneurship in this manner, noting the positive contribution of new venture creations to GDP growth rates. However, the relationship with IE varies across countries, exhibiting both positive and negative associations.

Despite the positive narrative surrounding entrepreneurship, debates persist regarding its marginal influence on economic growth. Acs and Armington (2006) and Minniti and Lévesque (2010) argue that entrepreneurship merely utilises excess resources without significantly impacting economic performance believed that entrepreneurial efforts have a negative impact on economic performance. In contrast, empirical studies such as Audretsch and Thurik (1999) refute this notion, demonstrating a decrease in unemployment rates with increasing rates of entrepreneurship in OECD nations. This ongoing debate highlights the need for a nuanced understanding of the entrepreneurship-economic growth relationship.

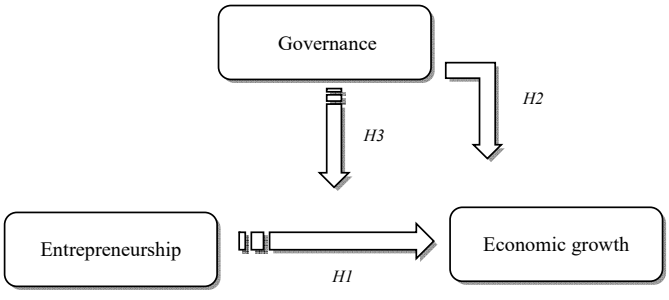
Furthermore, recent research underscores the dynamic and context-based nature of this relationship (Gulati et al., 2023). Wong et al. (2005) highlight the variability in the impact of entrepreneurship on economic performance, suggesting that specific entrepreneurial activities and tasks may encourage growth at the microeconomic level. Additionally, studies by Carree et al. (2007) and Van Stel et al. (2004) observe a U-shaped phenomenon between entrepreneurship and GDP per capita, indicating that contextual factors such as income levels, policy environments, and institutional support play a crucial role (Gulati et al., 2023).

All in all, the extant literature presents a complex and multifaceted view of the relationship between entrepreneurship and economic growth. It sets the stage for the present study, which aims to explore and validate this relationship within the unique context of India, considering the interplay between entrepreneurship, governance, and economic progress.

Therefore, given the apparent association between entrepreneurship and economic growth, the following hypothesis is proposed:

H1 The relationship between entrepreneurship and economic growth is complex and multifaceted, exhibiting variations depending on the type of entrepreneurship.

Figure 1 Conceptual model



2.2 Entrepreneurship, governance and economic growth

A large body of literature has come out in recent decades considering different relationships and elements connect entrepreneurship, governance and economic growth from theoretical as well as empirical viewpoints. However, the concept of governance remains ambiguous through-out the literature, as there is no single definition of governance and it is sometimes understood with the concepts such as democracy, control of corruption, institutional environment, etc. In this study, we consider governance through the lenses of institutional approach and the channels through which it affects the entrepreneurial activity. According to the institutional approach, several factors such as access to finance, technology, and know-how are crucial components of the institutional environment that forms efficient governance that support entrepreneurship and, hence, facilitate economic growth (Benali and Ghalfiki, 2021). Good governance can be attributed to several factors' imperative to economic prosperity. According to Galindo-Martín et al. (2020), good governance is the presence of adequate institutions in an economy, as these institutions significantly determine the behaviour of economic agents in various economic activities. The quality of government, as expressed in laws, policymakers' and public officials' decisions, and institutional infrastructure, produce incentives for economic agents. Previous studies have highlighted the role of institutions in supporting entrepreneurship and economic growth (Ahrens, 2023; Audretsch, 2023; Chowdhury et al., 2019; Hamdan et al., 2020; Méndez-Picazo et al., 2012; Molden et al., 2010; Udimal et al., 2020; Urbano et al., 2019, Urbano et al., 2020). Acs and Audretsch (2003) observed that entrepreneurship is a key driver of economic growth and conclude that a favourable business environment, including good governance and institutional support, is essential for promoting entrepreneurship and innovation. Some others provided evidence on the relationship among entrepreneurship, institutions and economic growth (Ahrens, 2023; Aparicio et al., 2016; Audretsch, 2023; Audretsch and Keilbach, 2004). This evidence indicates that there is a chain that forms a linkage between these dimensions of an economy. In a study conducted in Russia and China, Aidis et al. (2008) found that better governance and institutional quality are associated with higher levels of entrepreneurship, and concluded that improving governance can help unlock the potential for entrepreneurship and economic growth in emerging economies. Thus, it is established that good governance coupled with efficient institutional environment facilitates the overall entrepreneurial activity and hence significantly contribute to economic growth. Given the association between entrepreneurship, governance and economic growth, the following hypothesis was formulated:

H2 Improved governance, characterised by the presence of a favourable institutional environment, directly influences the economic growth.

H3 Higher levels of governance enhance the positive influence of institutional quality on entrepreneurial activity that leads to a greater contribution to economic growth.

3 Methodology

3.1 Data sources

This study merges data from two different sources World Bank's WDI and GEM databases forming a time series of 20 years (2002–2021) for India. The empirical study utilised the GEM database. GEM is an acclaimed entrepreneurship research organisation founded by Babson College and London Business School in 1998. It has been extensively used in recent entrepreneurship studies (Alam et al., 2024; Arafat et al., 2020; Boudreaux et al., 2019; Crecente et al., 2022; Schmutzler et al., 2019; Thai and Turkina, 2014). The reports and records collected by the GEM is considered a benchmark as it is based on robust surveys of active population and experts from local and national institutions.

3.2 Methods

The study employs a regression model to examine the associations between variables. Moreover, a moderator variable is also inserted in the regression model to investigate the interaction effect. The study follows Namazi and Namazi, (2016) to estimate the moderation model. They state that a causal relationship must exist between the interaction variable and dependent variables for it to be considered a moderator.

3.3 Estimating equations

Modelling and testing the relationship between the variables goes through the following procedure:

First, the direct impact of entrepreneurship on economic growth is investigated through this model:

$$\text{EcoGrowth}_t = \alpha + \beta_1 \text{ebo}_t + \beta_2 \text{tea}_t + \beta_3 \text{percopp}_t + \varepsilon_t$$

Further, in the second model the direct impact of governance on economic growth is ascertained:

$$\text{EcoGrowth}_t = \alpha + \beta_1 \text{govprogr}_t + \beta_2 \text{govsuppol}_t + \varepsilon_t$$

Subsequently, the moderated model was employed to examine the interaction effect of governance (moderator variable) on the linkage between entrepreneurship and economic growth.

$$\text{EcoGrowth}_t = \alpha + \beta_1 \text{ebo}_t + \beta_2 \text{tea}_t + \beta_3 \text{percopp}_t + \beta_4 \text{gov.percopp}_t + \beta_5 \text{gov.ebo}_t \varepsilon_t + \beta_6 \text{gov.tea}_t + \beta_6 \text{gov}_t + \varepsilon_t$$

The study uses the 'GDP growth rate' as the dependent variable. GDP growth rate is the annual percentage of growth of GDP at market price based on constant local currency. This variable is extensively used in the studies investigating the relationship between entrepreneurship and economic growth (Urbano et al., 2019). The investigation utilises three entrepreneurship indicators as the independent variables, i.e., the established

business ownership rate (ebo), the perceived opportunities rates (percopp), and the total early-stage entrepreneurial activity (tea). The established business ownership rate (ebo) refers to the proportion of individuals aged 18–64 who currently serve as owner-managers of businesses that have been in operation for over 42 months, with a history of paying salaries, wages, or other compensations. The perceived opportunities rates (percopp) indicate the percentage of individuals aged 18-64 who perceive favourable opportunities to initiate a business in their local area. Lastly a GEM's prominent index, the total early-stage entrepreneurial activity (tea) is employed that represent the percentage of individuals aged 18-64 years engaged in either nascent entrepreneurship or managing a new business. The focal variable in this study is governance, which is represented by two GEM indicators: government entrepreneurship programs and governmental policies: support and relevance. Government entrepreneurship programs indicate the presence and quality of government programs that directly assist SMEs at all levels of government and governmental policies: support and relevance show the extent to which government institutions support entrepreneurship and consider it a relevant and significant issue to achieve growth. Lastly, the study includes three interaction terms; (gov.precopp), (gov.ebo), and (gov.tea), to test the interaction effect of governance on entrepreneurship.

4 Results and findings

This study aimed to determine the impact of entrepreneurship on economic growth in the presence of governance auspices. Tables 1 and 2 present descriptive statistics and the correlation matrix, respectively.

Table 1 Descriptive statistics

S no.	*Variables*	*Mean*	*Std. dev.*	*Min.*	*Max.*	*Source*
1	Economic growth	6.138	3.448	6.596	8.947	WDI
2	Established business ownership	7.98	3.74	3.73	16.50	GEM
3	Perceived opportunities	56.16	17.67	37.79	83.41	GEM
4	TEA	10.72	3.09	5.30	16.04	GEM
5	Gov. programs	4.63	0.70	3.43	5.73	GEM
6	Gov. support	4.99	0.90	3.15	6.32	GEM

Table 1 provides a description of the variables used in this study. The mean and standard deviation values indicate a moderate level of variation in economic growth rates across the study period. Entrepreneurship was measured through three different rates. The mean and standard deviation values of these rates indicate a high to moderate variation in entrepreneurial activity across the study period. Similarly, the mean and standard deviation values of Governance indicate a moderate level of variation in the availability and effectiveness of government policies and programs.

With the overall relationship between the variables, a higher level of established business ownership and entrepreneurial activity is expected, along with higher levels of government support and better government programs for entrepreneurship.

Table 2 Correlation matrix

Variables	*1*	*2*	*3*	*4*	*5*
Economic growth	1				
Established business ownership rate	–0.16	1			
Governance	–0.28	–0.27	1		
Perceived opportunities rate	–0.43	0.22	0.37	1	
Total early-stage entrepreneurial activity rate	0.30	0.75	–0.08	0.1	1

Table 3 Results of regression analysis

Testing model	*Beta*	*p-value*	R^2	*Adjusted* R^2	*F-statistic*	*Prob. (F-statistic)*
Model 1			0.48	0.31	2.84	0.09**
Dependent variable: econgrowth						
ebo	–0.60	0.10				
percopp	–0.09	0.13				
tea	0.86	0.05*				
Model 2			0.47	0.36	4.51	0.04*
Dependent variable: econgrowth						
govprogr	–9.92	0.01*				
govsuppol	6.35	0.03*				
Model 3						
Dependent variable: econgrowth						
ebo	1.06	0.52	0.96	0.89	14.3	0.01*
gov.ebo	–0.41	0.30				
gov.percopp	–0.10	0.25				
gov.tea	1.06	0.01*				
gov	–4.41	0.44				
percopp	0.47	0.28				
tea	–4.21	0.02*				

The correlation matrix shown in Table 2 depicts that the variables are not correlated to each other and hence eliminating the problem of multicollinearity among the variables. The dependent variable is positively correlated with the Total early-stage entrepreneurial activity rates (tea) only and negatively correlated with all other variables. Table 3 presents the results from the regression analysis in three separate models, with each model testing each hypothesis.

Model 1 tests for the impact of entrepreneurial activities on the overall economic prosperity. The results suggest that total early-stage entrepreneurial activity (tea) has a significant effect on economic growth, while established business ownership rates (ebo) and perceived opportunity rates (percopp) do not. Therefore, hypothesis (H1) is accepted.

Model 2 tests the hypothesis that governance directly effects the economic growth. These results suggest that governance indicators have a direct effect on economic growth. Therefore, hypothesis (H2) is accepted.

Model 3 tests the hypothesis that governance moderates the relationship between entrepreneurship and economic growth. The results suggest that there is a significant interaction effect between total entrepreneurial activity (tea) and governance (gov) but not for the other variables. Therefore, hypothesis (H3) is partially accepted.

Overall, these findings suggest that entrepreneurship and governance are important factors contributing to economic growth. These results highlight the need for policies that support entrepreneurship and good governance practices to foster economic growth.

5 Discussion, implications and conclusions

This study embarked on a dual investigation aimed at shedding light on the complex interplay between entrepreneurial activities, governmental support, and economic growth. Firstly, it analysed the impact of entrepreneurship on economic development, alongside assessing the role of government support, policies, and programs in fostering an environment conducive to entrepreneurship for supporting economic growth. Through a meticulous examination, three hypotheses were formulated and tested to unravel the intricacies of this relationship.

The first hypothesis delved into the impact of entrepreneurship on economic development, yielding mixed effects. This finding aligns with prior research, which has similarly uncovered both positive and negative consequences of entrepreneurial activities on economic growth. Notably, the U-shaped relationship unearthed by previous scholars suggests that entrepreneurial activity exhibits a positive correlation with economic growth in high-income countries but manifests a negative association in low-income nation (Ben Ali, 2023; Carree et al., 2007; Van Stel et al., 2004; Wennekers et al., 2005). This nuanced understanding underscores the importance of contextual factors in shaping the dynamics between entrepreneurship and economic development.

Moreover, the second hypothesis probed the direct effect of governance on economic growth, revealing a discernible impact. Governance indicators emerged as influential determinants, emphasising the pivotal role of effective governance structures in fostering conducive environments for sustainable economic growth. However, the moderation model employed to explore the moderating role of governance in the link between entrepreneurship and economic growth yielded unexpected results. Contrary to expectations, governance did not exert a moderating influence on this association, suggesting the presence of additional factors at play.

The findings from this study resonate with the broader literature, particularly in elucidating the nuanced nature of entrepreneurship's impact on developing economies. Previous research has documented negative effects of entrepreneurship in such contexts (Acs and Armington, 2006; Doran et al., 2018; Dvouletý et al., 2018), primarily attributed to the prevalence of necessity entrepreneurs who operate at subsistence levels (Valliere and Peterson, 2009). These entrepreneurs, constrained by limited resources and market access, often fail to generate significant value added to economic growth (Ben Ali, 2023). Consequently, fostering entrepreneurship in developing economies

necessitates a multifaceted approach that acknowledges the diverse landscape of entrepreneurial activities.

In the case of India, where a substantial portion of entrepreneurs operate small-scale ventures (Gulati et al., 2023; Sridharan et al., 2014), the study underscores the complementary roles of both large and small firms in driving economic growth. While large firms leverage economies of scale to enhance productivity and job creation, small-scale entrepreneurs contribute to job creation at the grassroots level. Thus, policymakers must adopt strategies that cater to the needs of both segments, fostering an ecosystem where diverse forms of entrepreneurship can flourish.

Furthermore, to promote entrepreneurship in developing countries such as India a favourable business environment should be established through various dimensions. Encouraging college and university graduates to pursue entrepreneurial endeavours, streamlining administrative procedures, and standardising regulations should be considered as crucial steps to bolstering entrepreneurship. Additionally, enhancing education, training, and awareness programs geared towards entrepreneurship (Badghish et al., 2024) can foster a culture of innovation and risk-taking essential for driving economic growth.

In conclusion, while the perception of opportunities may not directly influence economic growth, it plays a pivotal role in shaping the intentions and performance of entrepreneurs. Therefore, investing in educational and awareness initiatives tailored to entrepreneurship can significantly impact economic growth in developing economies like India.

5.1 Theoretical implications

This study adds to the theoretical landscape by evolving existing frameworks that explore the relationship between entrepreneurship and economic growth. By delving into consistent findings, it may provide a nuanced perspective on the mechanisms through which entrepreneurship impacts economic growth. Moreover, the study enhances theoretical understanding by emphasising the importance of context in analysing the relationship between entrepreneurship, governance, and economic growth. It sheds light on how unique institutional and governance structures in developing economies, such as India, influence entrepreneurial activities and subsequently impact economic growth. This contextual lens may inspire future researchers to integrate similar considerations into their frameworks.

5.2 Practical implications

Policymakers can use the insights from this study to formulate strategies that specifically cater to the unique challenges and opportunities faced by developing economies like India. By recognising the interplay between entrepreneurship, governance, and economic growth, governments can design policies that foster a conducive environment for entrepreneurial activities, ultimately promoting sustainable economic growth. Moreover, entrepreneurs and investors can benefit from the study's findings by gaining a better understanding of the factors influencing economic growth. The research may guide entrepreneurs in making informed decisions regarding market entry, innovation, and strategic partnerships. Investors can use the insights to assess the potential impact of

governance structures on entrepreneurial ventures and make more informed investment decisions.

6 Limitations and future research directions

Despite several precautions taken to ensure standardised results, the study may be affected as the data are not homogenous due to the lack of statistical information provided by the GEM database; alternatively, more accurate data sources may be accessed to obtain more reliable and homogenised results. In addition, the study could be expanded to incorporate more entrepreneurship and governance factors to investigate the influence of different governance indicators at various stages of entrepreneurship development. The study utilised time-series data for the Indian economy; future studies can be conducted on a panel dataset by forming multiple groups of economies.

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