Managerial Economics
2025, Vol. 26, No. 2, pp. 127–163
https://doi.org/10.7494/manage.2025.26.2.127

Daniel Balsalobre-Lorente*, Naila Abbas**,
Syed Ale Raza Shah***

How can digital transformation and entrepreneurship influence business activities? A systematic analysis for cutting-edge economies

1. Introduction

Over the last three decades, new businesses have driven rapid economic growth (Nica 2020). Additionally, it helps labor markets create opportunities for employees, which in turn enhances productivity. However, the newly established firms work efficiently to enhance productivity; consequently, this firm's strategy contributes to rapid growth (Edwards 2021). It is a common certainty that entrepreneurship can better facilitate firms in raising their output level and becoming dominant in the domestic economy (Egere et al. 2022). Similarly, multinational companies also bring massive investment across nations, creating a bond between new firms and entrepreneurial activities. However, this term has been introduced by an inclusion at domestic level, which brings new business ideas, skills, and technology via different mechanisms (Lucas Ancillo de, Gavrila Gavrila 2023). Similarly, these mechanisms are known as backward and forward linkage (Mehta 2022).

* University of Castilla-La Mancha, Department of Applied Economics, Spain; Universidad Ecotec, Samborondón, Ecuador; Azerbaijan State University of Economics (UNEC), UNEC Research Methods Application Center, Baku, Azerbaijan, e-mail: daniel.balsalobre@uclm.es, https://orcid.org/0000-0002-6099-7899
** Xi'an Jiao Tong University, School of Economics and Finance, Xian, China, e-mail: nailaabbaskml@gmail.com, https://orcid.org/0000-0002-6389-0878
*** Northwest Agricultural and Forestry University, College of Economics and Management, Yangling, China, e-mail: syedaaleraza56@gmail.com, https://orcid.org/0000-0002-5842-3298, corresponding author

The forward links refer to international firms' consumers, who are the competitors of foreign firms. In contrast, the backward links are directly connected with the ratio of domestic firms as new suppliers. Besides the backward and forward linkages, the knowledge diffusion mechanism also involves the business sector. It refers to the entry of new firms at the domestic level under international standards and promotes the labor training, skills, and experiences. With such improvements, they can start their businesses when international firms leave the domestic market, as per the agreement. Thus, some leading mechanisms have been introduced in the literature focused on various empirical studies.

From a brief overview, it is clear that socio-economic and technical factors are crucial for new businesses. In the modern era, there has been a significant advancement in technology that supports the business sector in a green manner (Ancillai et al. 2023). Numerous technologies exist, but this study focuses specifically on information technology and its significance in human lives. Before we discuss the study's aims and contributions to literature, it is imperative to consider the evolution of IT over time. Since the start to its current peak, it has passed through five different stages. In the first stage, it was introduced during the Second World War via an electromagnetic calculator weighing approximately 5 tons. However, after the Great Depression and baby boom, its new form was introduced into adaptable (personal) computers. Therefore, in the era of recovery (from Great Depression), a special attention has been given to addressing human problems (asymmetric information regarding business activities). In late 1970's, the second form of IT began with the introduction of computers. Specifically, the transition has transformed outdated technology into chip and disc technologies that are more convenient for handling data and basic information. In the third phase, disc technologies have been transformed into microprocessors, which can reduce additional processing costs. Finally, this has reached "World in hand in one click (where populace can access the entire globe and get information as per need)." From such progress, it would not be an overstatement to say that the globe has become a village due to the removal of barriers across nations.

Since 1990, the world has undergone a significant transition in digitalization, and its appropriate use in daily human and economic activities may help solve the problems of future generations (Calderon-Monge, Ribeiro-Soriano 2024). The communication gap between organizations was significantly reduced due to IT facilities such as landline telephones, mobile phones, email, and fax (Brockhaus et al. 2022). The attention that nations and policymakers have offered has not reached its threshold level. More specifically, past studies have overlooked the role of IT in business activities, particularly in emerging economies. However, earlier studies from around the globe have differing opinions. For example, most economies have a similar ratio of IT usage, with 90% dedicated to searching and 10% to email activities. In contrast, the behavior of firms has also varied by 56%, 38%, and 10%, respectively,

in advertising, online sales, and purchase. However, its small share (just 10%) has been utilized by firms in training, downloading software, and skill learning (Leek et al. 2003). However, there may be a question of why this study focuses on IT and its spillover effect in the emerging seven economies. Therefore, elaborating on the significance of the study would be an advantage before moving to the study's contribution. In recent years, the selection and evolution of a business have been directly associated with IT, and a businessperson can alleviate all their concerns by seeking solutions that support long-term economic growth (Duvivier et al. 2017).

Simply put, a person in business can obtain information with a single click and may decide to invest in a mature and reliable company (Antonini 2024). In the emerging seven economies, China is a leading example for investment and revenue generation. From this country's example, we can understand the accurate information regarding business start-ups in other countries that are closer. In 2020, approximately 140 million small enterprises were noted and they contributed 60% of GDP, 50% of income tax, 79% of job creation, and 68% of exports. However, approximately 2.52 million companies registered, representing an immense number of new businesses, with twenty-two thousand companies being registered daily. The question of how they manage their production and consumption, both within and outside borders, can arise from such massive business activities. Thus, information technology (IT) has become a last resort for handling such hectic routines; otherwise, it would be impossible to manage all of it. For instance, to compete with existing firms, all products should be readily available to consumers, enabling them to make informed choices and place orders in a matter of seconds. Thus, the current study is significant for the present and future literature, as it highlights the importance of IT in the business sector.

Following a brief discussion of IT and its role in various business sectors, this study aims to highlight its critical contribution to the existing literature. This study focuses on the seven emerging economies (E7) that have a significant impact on the world's globalization activities. This study contributes in the following ways. Firstly, the current research considers income a leading factor in starting new businesses. In past studies, numerous factors have been identified as influencing business activities, including a firm's resources, management and technical capabilities, the location of business activities, a suitable business environment, and government support for new enterprises. However, in the case of the E7 economies, researchers have not attempted to attribute a leading role to income in business activities. This study strongly believes that income can be a key factor in business. Therefore, the present study utilizes income as a core factor in starting a new business, which would help clarify the association, especially in the specified economies. Secondly, this factor considers urbanization an essential element that can significantly impact the business sector. Over time, there has been a rising trend in population growth; consequently, population density in

cities has increased, whereas it has decreased in villages. Urbanization has several impacts, including increased energy use, health issues, educational problems, and other fundamental needs. There may be an opportunity to influence new business ratios in the domestic economy and vice versa. Therefore, to investigate its role in new business, the current study tries to reduce the ambiguity in the existing literature, especially in emerging economies. Hence, this empirical research aims to provide a clear and concise portrait to minimize ambiguity.

Thirdly, over time, there has been a significant variation in technology, and ultimately, the world has reached Industry 4.0, with its essential role in business activities. However, in the modern era, this is considered the Fourth Industrial Revolution, and the world is undergoing a revolution through artificial intelligence (Bailey, De Propris 2019). The intervention of IT in business activities not only enhances growth levels but also stimulates knowledge and new investment in various sectors of the economy. This phenomenon also brings innovation to domestic economies, helping them compete with other nations as they grow economically. Therefore, this empirical research focuses on including IT in business models in selected economies. For the first time, it attempts to provide an accurate picture and eliminates the ambiguity created by existing literature. Fourth, incorporating entrepreneurship into the business model may have a more significant impact on business activities. Generally, the world has considered entrepreneurship a crucial factor in dealing with economic, social, and political disparities. Therefore, most nations are striving to promote EP activities across various sectors of their economies to minimize gender disparities and foster new businesses, thereby creating job opportunities and contributing to poverty reduction. Therefore, the development of small and large companies absorbs the extra ratio of entrepreneurs, consequently increasing their production level. However, the question remains: Does it increase business activities in the specified economies?

Simply put, this study aims to assess the performance of entrepreneurship in new businesses for the case of seven emerging economies, and in terms of outcomes, it also guides policymakers in developing sustainable and efficient policies. Fifthly, the role of foreign direct investment (FDI) in the business sector has remained a contentious issue in the modern era of globalization. However, most studies have made significant efforts in the context of rapid growth driven by FDI. However, this study is of interest to those far from the macro perspective and aims to present the entire situation of economies, as well as the role of FDI in business growth. Although this process is complex, it aims to answer a straightforward question regarding the role of FDI in the business growth of emerging economies. However, the financial sector cannot be excluded from the business debate; thus, the present study also tries to add this factor to demonstrate the financial sector's role in business start-ups. Finally, this study uses an advanced series of estimators to demonstrate the study's objectives.

2. Literature review

As this study aims to highlight the true importance of information technology in business activities, it is crucial to incorporate the current literature on the subject. This initiative may support our key theme and help the reader understand the issues in a better way. It is a common belief that the information revolution was introduced during the Industrial Revolution era; however, every phenomenon does not materialize overnight. However, information is directly connected with the roots of the Industrial Revolution. The information age emerged during the Second World War, when the steam engine was the dominant technology. But later, IT has changed the way of thinking in human and economic activities. More interestingly, that era is notable because higher authorities have initiated several initiatives to invest in technological advancements. This sector was considered crucial by the end of World War II. Over time, this trend encourages the movement of perfect industrial information and evolves into a knowledge-based system (Kopf, Homocianu 2016). However, the information revolution was driven by technical innovations. Similarly, the significant advancements in electronic devices altered the economic structure. Therefore, due to the massive cost of information technology, economies have shifted their focus to excellent and intelligent technology, such as the Microsoft chip. Due to its considerable advantages, information technology has become a central component of human activities (Gabrys et al. 2016). Similarly, in the modern era of development, access to mobile phones and the internet has provided significant information about each business; this advancement has not been observed in past decades. Globalization among countries has become increasingly easy due to advancements in information technology. Therefore, advancements in IT have been incorporated as a fundamental factor in development plans across all regions, resulting in significant contributions to information technology. Besides a brief theoretical literature review on the evolution of information technology (IT), this study also aims to examine the empirical literature in depth.

Similarly, past studies have tried to demonstrate the role of IT and growth level on the performance of firms' output. For instance, Berné et al. (2015) investigated the role of IT in business performance for the Spanish economy. Outcomes demonstrated the cause-and-effect relationships among selected variables using structural equation models. Moreover, they concluded that IT is an essential factor that may spur business performance in the long run because it increases the binding of the supplier to the wholesaler. Additionally, they noted that the impact of IT on financial performance is more significant than its effect on market performance. Saleem et al. (2020) explained the crucial role of IT in business value perspectives by utilizing data from Saudi Arabia. The study's outcomes suggested that this revolution is not limited to social and economic development

but is also associated with all other sectors of development, such as infrastructure development and energy transformation. Lobo et al. (2017) described the long-term association between information technology and business performance in Australia. The selected Australian regions are well known for their organized businesses. Therefore, IT technology also enhances companies' performance. Similarly, a case study in Kenya Chege et al. (2019) demonstrated the long-term association between IT and business activities, considering 240 enterprise datasets. They employed the structural equation model to investigate the study's objectives. However, the outcomes showed significant variations in firm output due to technological advancement. Therefore, they recommended that the penetration of information technologies in the business activities of small and medium-sized enterprises is crucial. Brady et al. (2008) summarized the outcomes of IT and market practices. The study aims to summarize the empirical literature and utilizes the CMP marketing framework. They concluded that marketing also has its value, but the involvement of ICT in market practices is crucial for present and future generations. The study, which involved 257 Spanish small- to medium-sized enterprises, examined their performance in relation to information technology (Bayo-Moriones et al. 2013). They employed path and OLS analysis techniques to demonstrate the positive impact of IT on the enterprise's performance. Furthermore, a case study in Germany Rasel (2016) investigated the long-term association between IT and SME enterprises. However, they classified the firms' data into the manufacturing and services sectors. The study's outcomes revealed the dominant role of IT in the services sector, facilitating employees worldwide. E-commerce-intensive industries primarily rely on IT in their production and sales activities; however, a robust influence has been observed in the services sector compared to manufacturing. Similarly, Gërguri-Rashiti et al. (2017) investigated the contribution of IT and technical innovation to firms' performance. Outcomes from dynamic regression analysis showed a significant contribution of both explanatory variables to firms' performance.

Similarly, there has been another strand that has focused on information technology (IT) and E-marketing. For instance, El Kadiri et al. (2016) investigated the long-term association of IT with severe issues, including value chain management, product awareness, and human learning. However, the outcomes showed a significant contribution of IT in resolving such problems. In earlier decades, a case study examining the adoption of e-commerce and its driving factors was conducted for 84 firms (Ching and Ellis 2004). The hypothetical views highlighted decision-makers, innovation, and environmental factors as crucial in e-commerce. Racela and Thoumrungroje (2020) demonstrate the connection of the export market's development with IT, and the leading aim of that study was to examine the export performance on behalf of information technology. To investigate the primary

purpose of the study, the researchers employed a structural equation model and used data from 239 exporters. Outcomes showed a positive association between selected determinants of the study. Gebauer et al. (2020) focused on IT services and their long-term impact on business activities. For this contribution, they have selected 52 companies and summarized their core arguments in the following ways. For example, they have focused on industrial companies to demonstrate the role of IT in business-to-business models. Similarly, they pointed out the core importance of digital transformation in business models and growth activities. Besides the general arguments, they have not provided any empirical evidence of the contribution of IT to business models. Ranta et al. (2021) conducted a case study for Northern Europe and evaluated the core role of IT in business activities. However, they summarized fascinating outcomes, such as the fact that innovation in business activities under the circular economy was directly associated with digital transformation. Therefore, they recommended that managers utilize digital services to improve their knowledge and skills. Mostaghel et al. (2022) attempted to provide a comprehensive review of digitalization and innovations within business models. On behalf of 170 articles, they offered three distinct conclusions.

Firstly, most previous studies attempt to demonstrate the unique characteristics of digitalization that influence retail business innovations. Moreover, another group of studies has focused on the role of digitalization in business model innovations. Finally, they focused on future research directions related to innovations in retail business models. Wang et al. (2023) tried to focus on the digitalization role in business performance under the theme of innovation. They attempted to collect data for 1,663 A-share listed companies in Shanghai and Shenzhen. Under this theme, they focused on three perspectives: basic digital capabilities, digital operation capabilities, and digital integration capabilities. All these perspectives demonstrated a significant improvement in enterprise performance, as they effectively reduce asymmetric information regarding business activities. Additionally, innovations resulting from the mentioned capabilities significantly improve the company's performance. Kohtamäki et al. (2024) also attempted to summaries 101 studies to evaluate the role of digitalization in business activities. However, they also tried to summarize three different perspectives. Such as most studies have focused on digital business model innovations, digital business model innovations, and digital servitization models. However, they suggested promoting the role of digitalization in business activities in the long run. Dung (2024) demonstrated the green role of digital transformation on small and medium size enterprises, and they collected data from 210 SMEs. To demonstrate the study objectives, the researchers employed Confirmatory Factor Analysis within the Structural Equation Modelling (SEM) framework and found an indirect, inverse association between digitalization and SME businesses.

2.1. Literature gap

However, the existing literature has numerous drawbacks, and this study tries to fill such gaps. The current literature does not include the emerging seven economies in this exciting debate. However, such economies are the leading example of significant progress made after the Industrial Revolution. Additionally, specified economies have emerged as stars in business activities. Nowadays, the world is striving to adopt sustainable development models as it works to become more sustainable over time. E7 economies are trying to attain the peak level that no other economies have achieved in the business sector. In addition to such progress, the E7 economies are also competing with one another in digitalization. The current research tries to fill this gap and demonstrate the critical role of information technology in new businesses in emerging economies. Moreover, existing studies have employed internet use as a proxy of IT. Still, this study utilizes advanced-level proxies to demonstrate the disaggregated situation of selected economies regarding IT progress and its spillover effect on business sectors. Another key advantage of this study is the use of advanced estimators to investigate the study objectives, which can help control panel data problems. Similarly, this study also considers socio-economic factors to enhance the attractiveness of the results for the selected economies.

3. Data and methods

This section provides crucial information regarding the variable selection, data collection, model construction, and the most suitable estimation strategy. Consequently, this section has been divided into different sub-sections and organized well.

3.1. Theoretical background and variable discussion

It is a widely held view among researchers those new businesses often face numerous barriers to success and ultimately fail to thrive in the long run. However, for the first time, the Organizational Ecology theory was proposed by Hannan and Freeman (1989), and this well-developed theory refers to features of organizations and environmental conditions, such as the ratio of employees to capital. Moreover, this theory highlights the key factors that influence the establishment of new businesses. More specifically, this theory has focused on the evolutionary process among several organizations over the long term (Singh, Lumsden 1990). However, this theme was later observed as a function of large versus small business activities and their survival ratio in a competitive market

(Audretsch, Mahmood 1995). Thus, the new businesses have only two options in the theoretical background. Firstly, new companies with large setups may require fewer resources and achieve economies of scale at a lower average resource utilization cost. Secondly, small setup businesses may face numerous issues and struggle to compete with their larger rivals in the long run. Large companies work at their optimum point (economies of scale), but small businesses face many hurdles, such as scale diseconomies that increase production costs.

The rise in income, driven by significant improvements in economic growth and job opportunities, encourages ordinary people to invest in businesses to increase their earnings. However, to reflect his theme, for the first time Barro (1991), he described the connection between companies and income growth and attempted to elaborate on the actual production situation of goods and services through business activities. Similarly, numerous growth theories have supported the two-way association of income with businesses, and both are considered engines of growth (Acs, Szerb 2006; Thurik, Wennekers 2004). However, there may be differences between job opportunities and knowledge innovations, among other factors, due to their business structure (Audretsch 2009). Additionally, a trend in the economy's growth, characterized by increased income per capita and competitive business activities, has been emerging.

However, the theoretical link between urbanization and business activities remains unclear, and ambiguity persists. Limited studies have tried to explain this association empirically (Korunka et al. 2010; Shu, Simmons 2018). However, over the last three decades, E7 economies have made rapid progress in developing their urban areas, as people in these economies demand better facilities for new business activities, jobs, education, and healthcare. In this regard, the urbanized population has had better experiences in transitioning from agricultural setups to businesses and human capital (De La Roca, Puga 2017). However, this may help new companies survive. Thus, from such interesting comments, it is evident that entrepreneurship is a significant factor in boosting business and can help tackle hidden issues through its capabilities. Therefore, this study also considers this factor a determinant of new companies in the emerging seven economies.

Undoubtedly, foreign direct investment catalyzes economic growth, driving the overall progress of the economy. However, in the empirical literature, this has been connected with the Competitive Dynamic theory (Shapiro 1989). This theory refers to firms lobbying to influence the shape and regulations suggested by higher authorities (Becker 1983). However, such lobbies may affect the situation of FDI inflows and vary the profit of the host economy. Therefore, entrepreneurship and information technology are crucial factors to escape this trap. Finally, financial development is a critical factor that facilitates business activities, saving

time and reducing transaction costs. However, this study examines the leading factors of new businesses in emerging seven (E7) economies, including income, urbanization, information technology, entrepreneurship, foreign direct investment, and financial inclusion, from 2005 to 2021. However, the data information concerning unit, symbol, and source is given in Table 1.

Table 1

Description of variables

Variable	Unit	Source
BS	New businesses registered (number)	WDI
IN	Income per capita (US current $)	WDI
UB	Urbanization (% of total population)	WDI
IT	Individuals using the Internet (% of population)	WDI
EP	Total entrepreneurship activity	GEM
FDI	Foreign direct investment, net inflows (% of GDP)	WDI
FI	Automated teller machines (ATMs) (per 100,000 adults)	WDI

3.2. Data validity tests

This study conducts two basic tests for the validity of panel data: descriptive statistics and pairwise correlation analysis. According to outcomes in Table 2, there is no significant difference between mean and median values. Such robust findings support the conclusion that there is no chance of an outlier, and the data are strongly balanced. By having balanced data, this study performs a pairwise correlation test.

Table 2

Descriptive statistics

	ln*BS*	ln*IN*	ln*UB*	ln*IT*	ln*EP*	ln*FDI*	ln*FI*
Mean	4.9721	3.7559	0.1893	1.4919	1.0702	0.3366	1.6461
Median	4.9199	3.9327	0.3242	1.6177	1.1151	0.3485	1.7313
Maximum	5.6590	4.2034	0.5891	1.9172	1.4539	0.6584	2.2681
Minimum	3.7465	2.8515	−1.7641	0.3780	0.1789	−0.3121	0.3598

Similarly, Table 3 shows the significant and reliable outcomes regarding the pairwise correlation test. The results of all selected determinants of new business are positively correlated except for urbanization. Thus, it suggests that urbanization does not lead to the creation of new companies. Because every country has its own preferences, urbanization in selected economies may prioritize the education and health sectors over business activities. More interestingly, not a single variable has a correlation value greater than 0.80% with the explained variable, suggesting no chance of multicollinearity among the selected variables.

Table 3

Pairwise correlation test

Correlation	ln*BS*	ln*IN*	ln*UB*	ln*IT*	ln*EP*	ln*FDI*	ln*FI*	VIF	1/VIF
ln*BS*	1.000	–	–	–	–	–	–	–	–
ln*IN*	0.2698	1.000	–	–	–	–	–	5.21	0.1918
	0.003	–	–	–	–	–	–	–	–
ln*UB*	−0.5256	−0.4682	1.000	–	–	–	–	1.78	0.5621
	0.000	0.000	–	–	–	–	–	–	–
ln*IT*	0.4709	0.6362	−0.4267	1.000	–	–	–	5.28	0.1895
	0.000	0.000	0.000	–	–	–	–	–	–
ln*EP*	0.0983	0.2180	0.4607	0.1701	1.000	–	–	1.39	0.7198
	0.000	0.019	0.000	0.070	–	–	–	–	–
ln*FDI*	0.1043	0.1148	−0.0442	0.0161	0.1796	1.000	–	1.17	0.8549
	0.002	0.223	0.640	0.864	0.055	–		–	–
ln*FI*	0.5316	0.5803	−0.5276	0.5922	−0.1963	−0.0164	1.000	8.17	0.1224
	0.000	0.000	0.000	0.000	0.036	0.862	–	–	–
Mean VIF								3.83	

Additionally, this study presents some interesting figures that attempt to elaborate on the share of specified economies in new businesses, information technology, and entrepreneurship activities using 2020 data. Figure 1 describes the share of specified economies in new business registrations. For example, Figure 1 describes that Brazil has a major share in newly registered businesses, while Indonesia and Mexico have a lower share in newly registered business activities.

Figure 2 illustrates the leading share of E7 economies in information technology adoption rates. According to the given data, in 2020, Russia was dominant in information technology, while a lower adoption rate was observed in the Indian economy.

Figure 3 describes the leading share of E7 economies to entrepreneurship activity. According to the given data, in 2020, Brazil was dominant in entrepreneurship, while a lower adoption rate was observed in the Mexico and Indonesia economies.

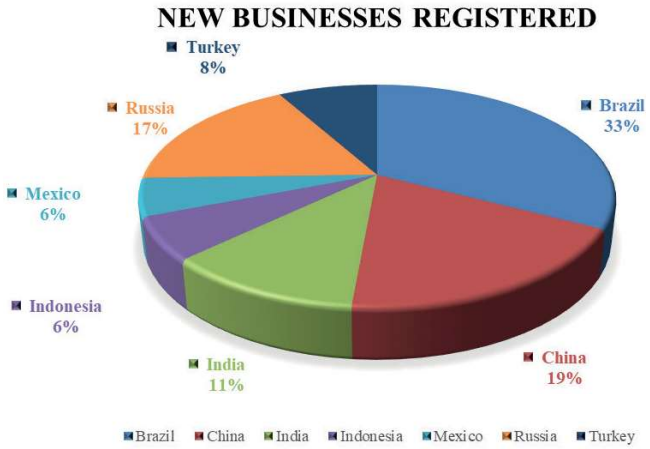

Figure 1. Share of E7 Economies to New Businesses

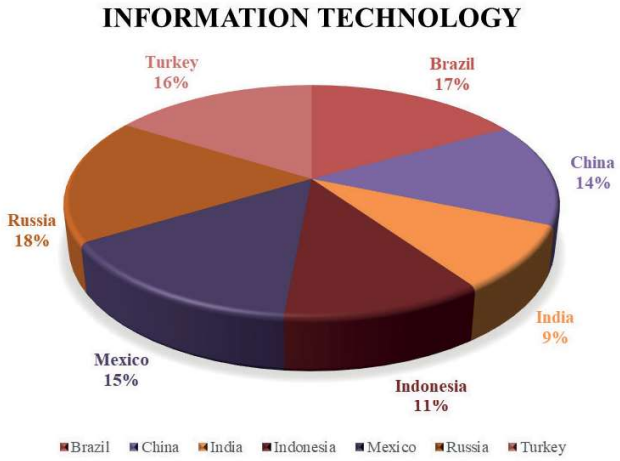

Figure 2. Share of E7 Economies to information technology

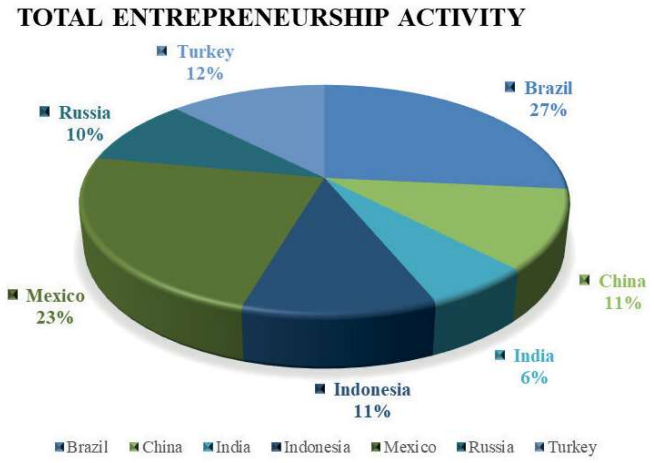

Figure 3. Share of E7 Economies to entrepreneurship activity

3.3. Study significance and selection of economies

It is essential to explain here why this study focuses on E7 economies and why it is important. Interestingly, this study attempts to address both questions through two distinct segments. Under the first segment, this study attempts to elaborate on the selection of economies based on some interesting arguments. Numerous reasons compel practitioners to conduct thorough examinations and offer their best insights under various scenarios. Firstly, these nations have made significant efforts to follow environmental standards suggested by the Sustainable Development Goals (SDGs), and the Paris Agreement. From this perspective, the adoption rate of green technologies by E7 economies is considerable, and the use of information technology (ICT) in daily human and economic activities is one of these. Specifically, these nations' focus on green business has become a leading strategy to boost overall economic growth. However, the adoption of ICT in entrepreneurship activities not only helps in efficient resource utilization but also encourages the overall growth level of new businesses (NB). Similarly, ICT inclusion at the domestic level may improve institutional quality, foreign investment transparency, and efficient financial resource allocation, which further helps to encourage business owners' interest. Additionally, its key role in trade activities from a business perspective would bring long-term benefits to domestic investors. Secondly, the specified nations (E7 Economies) have made significant efforts to promote foreign direct investment flows, aiming to increase the overall

growth level. For example, the specified nations have worked on various aspects to encourage foreign investment in support of new business activities. Moreover, foreign investment may bring several green tools, such as green knowledge, innovations, and skills, that can train the domestic labour force to run new business setups in efficient ways. Finally, under foreign investment, the specified nations have worked to strengthen international collaboration between foreign investors and local firms, which not only supports growth activities but also encourages efficient resource allocation. Thirdly, financial services have become a necessity of the time, and economies have worked well to encourage their financial sectors in terms of loan creation for business activities. Besides, most firm owners may face various issues, such as travel, transaction, and time costs, that reduce their investment interest. In doing so, the specified nations have upgraded their financial sectors to provide the best facilities for all investors. However, financial inclusion remains a crucial tool for addressing all business finance obstacles and facilitating efficient business activities.

Under the second segment, this study presents some key points that may help in understanding the significance of the study. Particularly, this study focuses on newly established businesses that gain new insights in front of legislators to reevaluate their business strategies and grow faster. However, numerous points may exist due to due to new businesses. Firstly, most nations have a common problem: there is always a mismatch between the supply and demand for labour. Such a mismatch may cause a decline in well-being and discourage overall labour force improvement. Thus, new business activities remain a last resort that not only promotes growth but also encourages the labour force to participate and earn a handsome amount. Secondly, new business owners have more capability to adopt the environmental standards and utilize innovative methods to ensure sustainable production and consumption. Through this step, new businesses may promote overall economic activities while also ensuring environmental sustainability. Therefore, this study not only attempts to highlight the importance of business in output level but also emphasizes environmental perspectives. Similarly, another important role of business setup is to offer a handsome amount to skilled labour and facilitate them with social benefits over time. There may be a chance of market competition, and new businesses may bid off skilled labour by offering a considerable amount. Such competition may not increase labour force importance, but it also spurs labour performance at the production level. Therefore, in-depth research into various socio-economic and technical factors is crucial. Finally, this study sheds light on instructional strengthening that may arise when new business owners attempt to follow environmental and other regulations. Consequently, a new business study would help portray the

overall economic performance of a country and suggest green implications for the environment.

3.4. Model construction

Similarly, the current study has robust and reliable data for the selected economies (E7); therefore, this study attempts to use business determinants in a function:

$$BS_{i,t} = f(\varphi_0\ IN_{i,t}^{\varphi 1}\ UB_{i,t}^{\varphi 2}\ IT_{i,t}^{\varphi 3}\ EP_{i,t}^{\varphi 4}\ FDI_{i,t}^{\varphi 5}\ FI_{i,t}^{\varphi 6}\ \mu_t) \quad (1)$$

Equation (1) lists the following terms: BS, IN, UB, IT, EP, FDI, and FI, which refer to business start-ups, income, urbanization, green technology, entrepreneurship, foreign direct investment, and financial inclusion. However, i refer to the number of cross-sections and t for time. Besides, φ_0, φ_1, …, φ_6 are respectively the intercept and slopes of the coefficients. Similarly, by taking natural log on both sides, the transform equation model can be written as:

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \mu_t \quad (2)$$

Eq. (2) illustrates the log-log model, assuming all variables are kept constant (business start-ups, income, urbanization, green technology, entrepreneurship, foreign direct investment, and financial inclusion). Similarly, the current study has several primary hypotheses to create attractive views for each variable concerning business start-ups. The present research suggests that income is the leading factor influencing business level. It imagines that with a significant rise in income, people have two choices: consume or invest for future returns (hint: Intertemporal Choice Theory). Therefore, with an increase in income, people invest in new businesses, leading to an expansion of the total economy's business sector. Hence, due to a significant rise in income, its slope would be positive in specified countries ($\varphi_1 > 0$). Similarly, urbanization can be effective in attracting new businesses, but in certain economies, urbanized individuals have other priorities than investing in business activities. Due to such human behavior, the urbanization sector in E7 economies may not prefer to invest in businesses with significant income share, and its coefficient would be less valuable ($\varphi_2 > 0$). Similarly, information technology (IT) is a crucial factor that can facilitate rational investment decisions by providing accurate information. Therefore, a rational investor has perfect information to invest in various business projects, and its coefficient would be positive ($\varphi_3 > 0$). Furthermore, entrepreneurship (EP) in the business sector is considered a crucial instrument for running a start-up business from its initial to peak level. The involvement of EP

would bring a significant rise in new businesses, and its coefficient would be positive ($\varphi_4 > 0$). Finally, the financial sector is being measured by two different proxies directly associated with new business, which include foreign direct investment and financial inclusion. These days, both instruments are surprisingly effective in facilitating human beings and impacting businesses efficiently. Thus, this study imagines their coefficient would be positive [($\varphi_5 > 0$) and ($\varphi_6 > 0$)].

In addition to its main effect, this study also examines the mediating role of information technology in influencing income, entrepreneurship, FDI, and financial inclusion. However, due to the significant contribution of income and information technology to the business sector, this study believes that the mediating role of IT would bring significant improvements in business activities if countries incorporate IT into rising income levels. Based on this supposition, this study has strong confidence that it can contribute to BS more robustly. Therefore, by keeping all things constant, the mediating effect of IT on income can be written as ($\ln IT \cdot \ln IN$).

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \varphi_7 \ln TIN_{i,t} + \mu_t \quad (3)$$

Similarly, entrepreneurship (EP) also significantly contributes to BS; however, this study re-calculates the penetration of IT in EP activities, and their role at the business level would be surprising. Thus, the mediating effect can be expressed as ($\ln IT \cdot \ln EP$).

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \varphi_7 \ln TEP_{i,t} + \mu_t \quad (4)$$

Furthermore, this study aims to demonstrate the mediating role of IT in foreign direct investment, as information technology can provide accurate information about the conditions of host economies. Therefore, it is a common belief that due to rationalization, foreign investors can get ideal information and invest in a suitable sector. Due to this behavior, its slope would be positive, and this term can be expressed as ($\ln IT \cdot \ln FDI$).

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \varphi_7 \ln TFDI_{i,t} + \mu_t \quad (5)$$

Finally, this study investigates the mediating role of information technology (IT) on financial inclusion, finding that its impact would be strong and positive

in specified economies. However, the general form of this mediating role can be written as:

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \varphi_7 \ln TFI_{i,t} + \mu_t \quad (6)$$

Systematic model construction

This study has the advantage of building on the existing literature by investigating different measures of IT and their roles in business activities. All things remain constant; firstly, this study uses internet users as a measure of IT, and it may have the dominant support in ease of business activities. However, its coefficient would be positive ($\varphi_{3A} > 0$) and it can be written as IT_1.

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{1,i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \mu_t \quad (7)$$

Secondly, this study employs mobile cellular subscriptions (MCS) as a measure of IT, and due to the significant rise in information technology, it may also enhance business activities. It's denoted with IT_2 and model can be expressed as:

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{2,i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \mu_t \quad (8)$$

Moreover, this empirical research also uses a third measure (fixed broadband subscription) to demonstrate the IT_3 role in business promotion and imagines this form also supports the business activities; thus, its slope would be positive ($\varphi_{3C} > 0$).

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{3,i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \mu_t \quad (9)$$

Finally, this study employs fixed telephone subscription (FTS) as a fourth proxy for information technology (IT_4) and its coefficient would also be positive ($\varphi_{3D} > 0$).

$$\ln BS_{i,t} = \varphi_0 + \varphi_1 \ln IN_{i,t} + \varphi_2 \ln UB_{i,t} + \varphi_3 \ln IT_{4,i,t} + \varphi_4 \ln EP_{i,t} + \varphi_5 \ln FDI_{i,t} + \varphi_6 \ln FI_{i,t} + \mu_t \quad (10)$$

However, the conceptual framework of the study is given in Figure 4.

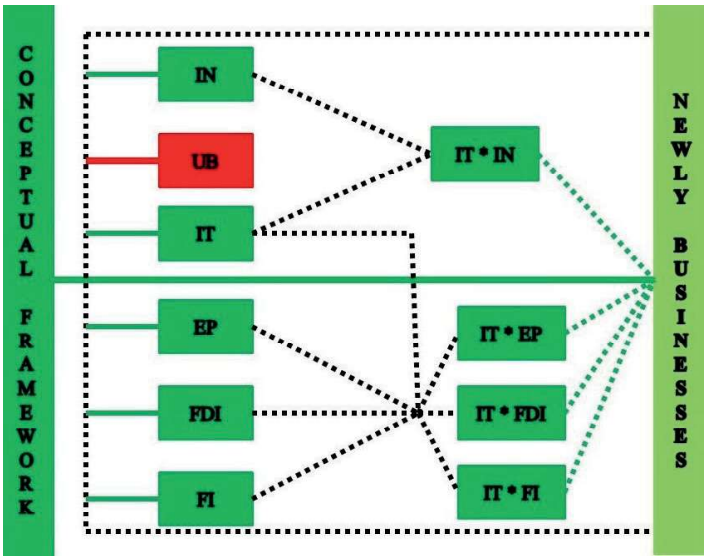

Figure 4. Conceptual framework of the study

3.5. Estimation strategy

In the era of information technology, economies worldwide have sought to achieve globalization and draw closer together. Therefore, there may be cross-sectional dependence in the panel data. To validate this argument, we employ three different CSD tests proposed by Frees (1995), Friedman (1937), and Pesaran (2004). Similarly, this study also employs the homogeneity slope to investigate whether the selected data support our further analysis (Pesaran, Yamagata 2008). Additionally, this study employs the data integration tests (CADF and CIPS) proposed by Pesaran (2007). More interestingly, in the presence of CSDs and the slope of homogeneity, the first-generation cointegration tests are not applicable; therefore, this study employs an advanced series of cointegration tests (Westerlund 2007).

Furthermore, this study also employs an innovative series of estimators to investigate the critical objectives of the study. In the presence of CSDs, traditional estimators do not address panel data problems; therefore, it would be most suitable for this study to employ the Mean Group estimators (Kapetanios et al. 2011). Thus, the present study employs the Common Correlated Effect Mean Group (CCE-MG) approach to address CSDs and heterogeneity issues (Dong et al. 2018). Similarly, the general form of the CCE-MG estimator can be written as:

$$Y_{it} = \tau_{1i} + \delta_i x_{it} + \gamma_i f_t + \alpha_i \overline{y}_{it} + \beta_i \overline{x}_{it} + \varepsilon_{it} \tag{11}$$

However, Equation (11) illustrates the combination of dependent and independent variables, in which the explanatory variables have been arranged to examine their response to new businesses. Moreover, the augmented mean group (AMG) is also used in this study to validate the outcomes of the CCE-MG estimator. However, the AMG estimator employs a two-step process to investigate the connection among selected variables. Similarly, the first stage can be expressed as:

$$Y_{it} = \alpha_i + \beta_i \Delta \bar{x}_{it} + \gamma_i g_t + \sum_{t=2}^{T} \eta_i \Delta R_t + \varepsilon_{it} \tag{12}$$

Similarly, in the second step, the general form of AMG estimator can be written as:

$$\hat{\beta}_{AMG} = N^{-1} \sum_{i=1}^{N} \hat{\beta}_i \tag{13}$$

Finally, we further employ the Dynamic Common Correlated Effect (D-CCE) to validate the outcomes of CCE-MG and AMG estimators. Figure 5 shows the graphical presentation of the estimation strategy.

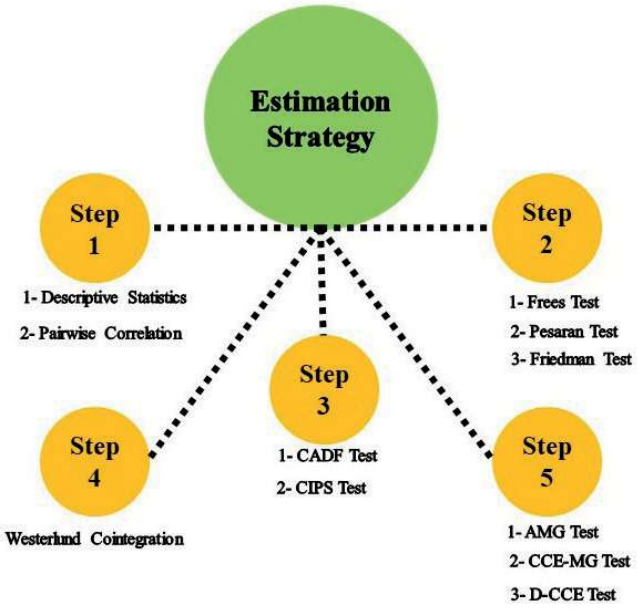

Figure 5. Estimation strategy

4. Results and discussion

Similarly, this study investigates some advanced primary tests to demonstrate data reliability, including CSDs and the slope of homogeneity. Table 4 consists of lower and upper panels. However, the upper panel described the outcomes of CSD tests and investigated the results, showing reliable findings for each variable that met the study's prior expectations. Moreover, the lower panel of Table 4 presents the homogeneity slope results, which support the CSD tests.

Table 4

CSDs and slope of homogeneity test

Upper panel			
Variable	Pesaran	Frees	Friedman
ln*BS*	3.776*	2.289*	34.409
ln*IN*	12.458*	2.062*	65.120*
ln*UB*	9.982*	2.872*	37.615
ln*IT*	18.179*	6.452*	111.238*
ln*EP*	2.799*	1.782*	13.669**
ln*FDI*	3.115*	2.136*	16.213**
ln*FI*	11.686*	3.814*	70.286*
Lower panel			
	Delta		P-value
Delta	45.413		0.000
Delta Adj.	11.919		0.000

Note: * and ** show the significance level at 1% and 5%, respectively

Similarly, Table 5 presents the outcomes of data integration through advanced tests (CADF and CIPS). According to the results, all variables are integrated at the first difference, except for foreign direct investment under both specifications. Similarly, new businesses have different data integration properties, such as under CADF, which integrates at the first difference, while under CIPS, it integrates at the level. However, this behavior is attributed to different lags under the CADF and CIPS tests.

Table 5

Data integration tests

Variable	CADF Unit Root		CIPS Unit Root	
	Level	1st Difference	Level	1st Difference
ln*BS*	–	−3.821*	–	−3.821*
ln*IN*	–	−2.877*	–	−2.877*
ln*UB*	–	−3.877*	–	−3.877*
ln*IT*	–	−3.940*	–	−3.940*
ln*EP*	–	-3.818*	–	-3.818*
ln*FDI*	−3.324*	–	−3.324*	–
ln*FI*	–	−2.988*	–	−2.988*

Note: * and ** show the significance level at 1% and 5%, respectively

Furthermore, the outcomes of long-term cointegration among the selected variables are investigated using an advanced technique proposed by Westerlund (2007). Similarly, the outcomes presented in Table 6 are robust and reliable.

Table 6

Cointegration test

Statistics	Value	Z-value	P-value	Robust P-value
G_t	−5.862	−7.679	0.000	0.000
G_a	−0.372	5.697	1.000	0.000
P_t	−4.048	3.786	1.000	0.000
P_a	−0.599	4.723	1.000	0.000

4.1. Long run outcomes by CCE-MG estimator

This study employs the Common Correlated Effect Mean Group (CCE-MG) estimator to investigate the long-run behavior of explanatory variables (see Table 7). According to the outcomes, the income slope positively correlates with new businesses (BS) across all selected models. It implies that any significant

change in income per capita would result in a considerable rise in BS. Similarly, the urbanization (UB) coefficient value shows a positive but insignificant association with new businesses. The leading determinant of BS is information technology (IT), and its coefficient value indicates a positive impact on new businesses. Furthermore, the coefficient value of entrepreneurship (EP) presents a positive association with new businesses (BS). It infers that any significant change in this factor would increase BS by 0.005%, 0.059%, 0.020%, 0.054%, and 0.046%, respectively, under the specification of the CCE-MG estimator. Moreover, the given coefficient values for foreign direct investment (FDI) indicate a positive association with business activities across all models. Finally, the coefficient value of financial inclusion (FI) positively contributes to new business activities, implying that any significant change in this factor would increase the business size (BS) by 0.208%, 0.941%, 3.587%, 2.065%, and 3.139%, respectively. Besides its leading role, this study also aims to investigate the mediating role of information technology (IT) in influencing income, entrepreneurship, foreign direct investment, and financial inclusion, as well as their impact on business progress. Firstly, the mediating role of IT on income shows a positive contribution to business activities. Any significant change in this mediating effect would increase BS by 7.600% under the CCE-MG estimator. Undoubtedly, a rise in income level increases business activities, but the intervention of IT in income level brings a surprising shock and spurs new business activities more than triple time. Having income in hand is not a pivotal indicator of when to invest in certain businesses; therefore, information technology guides the right path to invest in suitable business activities. Furthermore, the second mediating effect of IT on entrepreneurship (EP) activities also shows a significant improvement in business activities. However, the primary role of EP shows a considerable contribution to BS. Still, when it adopts information technology in business activities, it spurs the crucial role of EP up to an expected standard. Therefore, the involvement of IT in EP would be an actual direction to tackle future business problems. However, its mediating role in foreign direct investment is exciting because foreign investors can review the business trends, relevant advantages, and potential losses. Due to reduced asymmetric information regarding business activities, IT indirectly urges foreign investors to invest in host economies. Finally, the indirect effect of information technology on financial inclusion and its impact on BS also give us a revelation. Due to information technology, the financial sector can easily facilitate investors in quickly obtaining and investing in such loans for productive activities. Such activities can never be separated from information technology; hence, rational consumers get information from online platforms via IT to start a new business.

Table 7
Outcomes of CCE-MG estimator

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
ln*IN*	0.2901*	1.3762**	2.5562**	1.3517*	0.9787*
ln*UB*	0.9872***	0.7694***	3.4974***	1.2419***	1.2139***
ln*IT*	0.7229*	2.6079**	3.8719*	3.6079**	2.3033*
ln*EP*	0.0050**	0.0591**	0.0203**	0.0549*	0.0469**
ln*FDI*	0.1150*	0.5081*	0.0929**	1.8651**	0.2371*
ln*FI*	0.2088**	0.9416**	3.5874*	2.0659**	3.1392**
ln*TIN*	–	7.6007*		–	–
ln*TEP*	–	–	3.1590*	–	–
ln*TFDI*	–	–	–	1.2872*	–
ln*TFI*	–	–	–	–	6.5282*
Cons.	2.0235**	3.5425**	3.8690*	4.2000*	5.2998*

Note: *, **, and ***, show significance level at 1%, 5%, and 10%, respectively

4.2. Heterogeneity robust check

The current study also tries to re-validate the outcomes of CCE-MG using the Augmented Mean Group (AMG) and Dynamic Common Correlated Effect (D-CCE) estimators. Table 8 presents the results of the AMG estimator. According to the given outcomes, income per capita increases the business activities in the emerging seven economies. Similarly, the role of urbanization remains positive but insignificant across all models, and the prior investigation obtained by the CCE-MG estimator is validated. However, the impact of information technology on the variables explained shows a positive dominant role in the specified economies. Similarly, entrepreneurship in new business activities is crucial and supports the expectations of prior studies. Finally, the primary role of the financial sector, including financial innovation and foreign direct investment, also significantly contributes to the creation of new businesses. On the other hand, the mediating role of information technology (IT) on income, EP, FDI, and financial innovation significantly contributes to business activities, and information technology has become a proper instrument for resolving business issues.

Table 8

Outcomes by AMG estimator

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
ln*IN*	0.1817**	2.4539**	0.1110*	0.1047*	0.0832**
ln*UB*	0.2760***	0.3994***	0.2071***	1.1181***	0.5066***
ln*IT*	1.1774*	4.9074*	0.4957*	1.3959*	3.8140*
ln*EP*	0.0716**	0.0230**	0.0710**	0.0456**	0.0396**
ln*FDI*	0.0781**	0.0106*	0.0619**	0.4309*	0.0720*
ln*FI*	0.1797*	0.1896**	0.4515*	0.1160**	1.8457**
ln*TIN*	–	1.5012*	–	–	–
ln*TEP*	–	–	0.5025**	–	–
ln*TFDI*	–	–	–	1.2787*	–
ln*TFI*	–	–	–		7.0154*
Cons.	5.0276*	2.9147*	4.9890**	5.2319**	9.0128*

Note: *, **, and ***, show significance level at 1%, 5%, and 10%, respectively

However, Table 9 presents the outcomes regarding the D-CCE Mean Group estimators, which are also used to demonstrate their long-term association. Similarly, the investigated results show the contribution of per capita income in new businesses (BS), while urbanization remains insignificant in the overall models. Moreover, the EP and information technology are surprisingly connected with BS in the emerging seven economies. However, the connection between FDI and new businesses suggests that any significant change in FDI would have a positive impact, increasing the ratio of new businesses. Similarly, financial inclusion contributes to the growing ratio of business start-ups in mentioned economies. Besides, the mediating role does not significantly deviate from the prior estimations by AMG and CCE-MG.

Table 9

Outcomes by D-CCE estimator

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
ln*IN*	0.2901*	1.3762**	2.5562**	1.3517*	0.9787*
ln*UB*	0.9872***	0.7694***	3.4974***	1.2419***	1.2139***

Table 9 cont.

ln*IT*	0.7229*	2.6079**	3.8719*	3.6079**	2.3033*
ln*EP*	0.0050**	0.0591**	0.0203**	0.0549*	0.0469**
ln*FDI*	0.1150*	0.5081*	0.0929**	1.8651**	0.2371*
ln*FI*	0.2088**	0.9416**	3.5874*	2.0659**	3.1392**
ln*TIN*	–	7.6007*	–	–	–
ln*TEP*	–	–	3.1590*	–	–
ln*TFDI*	–	–	–	1.2872*	–
ln*TFI*	–	–	–	–	6.5282*
Cons.	2.0235**	3.5425**	3.8690*	4.2000*	5.2998*

Note: *, **, and ***, show significance level at 1%, 5%, and 10%, respectively

4.3. Systematic analysis

This study takes an additional step to describe the systematic analysis by using four different proxies of information technology, such as internet users ($\ln IT_1$), mobile cellular subscription ($\ln IT_2$), fixed broadband subscription ($\ln IT_3$), and fixed telephone subscription ($\ln IT_4$), respectively (see Table 10). According to the given outcomes, the four proxies of information technology perform well in organizing new businesses. However, this study also attempts to provide a general discussion regarding this connection. For instance, information technology in the business sector is considered a crux in modern development. Thus, the availability of advanced information technology has transformed the business environment, particularly in offices, trade, and the selection of goods at both domestic and international levels. Additionally, following the Industrial Revolution, information technology received significant attention from higher authorities to invest in such technology projects, aiming to reduce transaction, time, and travel costs across regions. Moreover, in the modern era, the expansion and innovation of information technology help businesses quickly resolve their hidden problems. Nowadays, various forms of information technology assist people with business activities, price determination, financial transactions, and the supply of goods and services. In a nutshell, information technology has changed human life from outdated to modern one.

Table 10

Systematic analysis outcomes

Variable	Model 1	Model 2	Model 3	Model 4
ln*IN*	0.1817**	0.2367*	0.2451*	0.1501**
ln*UB*	0.2760***	0.4417***	0.9143***	0.6077***
ln*EP*	0.0716**	0.0354**	0.0373*	0.0892**
ln*FDI*	0.0781*	0.0747*	0.0525**	0.0126*
ln*FI*	0.1797**	0.5379**	0.6267*	0.7865**
$\ln IT_1$	0.1774*	–	–	–
$\ln IT_2$	–	0.0974*	–	–
$\ln IT_3$	–	–	0.0636**	–
$\ln IT_4$	–	–	–	0.7441*
Cons.	5.0276*	5.0861*	4.8376*	5.5203*

Note: *, **, and ***, show significance level at 1%, 5%, and 10%, respectively

4.4. Discussion of the results

In general, income is like a crux of daily human expenditures. Therefore, with a significant increase in income level, people have two choices: either they consume or invest in long-term projects (hint: Intertemporal Choice theory (Rae 1834)). Due to a significant rise in income, people are trying to invest in business activities and shift their consumption from the present to the future. Such rational behavior on the part of ordinary people significantly contributes to the new business ratio. Furthermore, logic suggests that this behavior may be explained by the fact that higher authorities have provided human-friendly tools to facilitate the start of a new business. In such initiatives, policymakers insist that higher authorities provide a suitable place for businesses to understand the market situation and product availability. Additionally, a considerable increase in income may lead to stress on product supply, consequently increasing the risk of shortages and inflation. Thus, to escape this trap, the governments of emerging economies prefer to offer some human-friendly tools to capture income from business activities. Besides the general discussion, a rise in per capita income describes the progress of economies that is indirectly associated with the performance of all sectors. However, the business sector has increased in importance in the emerging seven economies to compete with other nations. In the actual term, with a rise in income level, cash holders try to invest in earning activities that create job opportunities

and further spur the economy's wealth. This outcome aligns with the findings of (Fritsch et al. 2014; Stoica et al. 2020).

Surprisingly, the urbanization sector does not significantly impact business start-ups; however, this association can be explained in greater depth. Firstly, the migration from rural to urban areas is driven by three key aspects: health, education, and employment opportunities. Generally, economies across the globe have different priority goals, as developed economies have generally achieved sustainable development well. However, emerging economies have quickly settled their targets to transition and become part of developed nations. Therefore, such economies are attempting to transition in every sector of the economy. Secondly, due to a significant rise in income, people's living standards also increased, and they sought to move from rural to urban areas in pursuit of a better life. The population of the selected countries has not prioritized business activities because they have other life priorities, such as education, health, and employment. Most people do not have sufficient income to start a new business; thus, urbanization has a minimal impact on particular economies due to other life priorities. However, this outcome aligns with the findings of (Ding, Zhao 2014; Amezcua et al. 2020).

The connection of information technology can be explained with some core logic behind the scene. It performs well in transforming the organization's condition. During such transformation, it can vary and quickly respond to changes in growth. Moreover, it plays a crucial role in organizing administrative activities and managing the scope of new business ventures. However, the hidden properties in processing, analyzing, and understanding have become more accessible due to the availability of good information via information technology. In the era of digitalization, information technology serves as a middleman, providing information at the lowest possible cost between business setup and perfect information. Undoubtedly, IT is a powerful agent for social and economic change. Therefore, IT applications such as databases, networks, and telecommunications have become a need of time to facilitate humankind in the business arena. Nowadays, IT provides accessible information regarding the business start-up's chances of profit and loss in the long run; thus, an ordinary consumer can obtain accurate information via IT and make informed decisions about secure business investments. Due to such a positive response, business activities in emerging economies are increasing, and economies are very close to take-off. This finding also supports the views of (Abed 2021; Hensen, Dong 2020).

Surprisingly, entrepreneurship has a positive impact on enhancing business activities in emerging economies. However, this connection can be explained from theoretical and logical perspectives. Firstly, to demonstrate the critical role of EP in new businesses, the economic literature has introduced two different theories, i.e., the leadership imperative theory and the collective entrepreneurship theory

(Miller 1983; Reich 1987). Neither theory properly explains EP's contribution to business activities. However, this empirical study describes the core involvement of EP to enhance business activities in selected regions. However, later on, theoretical views expressed that in emerging markets, products and technologies were deeply associated with EP and business innovation (Miller 1983). Similarly, the logical arguments also support our outcomes, such as those of emerging economies, which aim to enhance their entrepreneurial quality to address issues related to business sectors. Such intention may be due to the significant behavior of EP towards BS, which fulfils all needs and successfully meets the person's expectations in the business's perception. Similarly, in specified economies, education plays a significant role in facilitating the establishment of new businesses. However, EP education excelled in teaching the young labour force about the challenges and their best solutions for entering the labour market and addressing business issues. Furthermore, the transition to a market economy also required a well-trained labour force to address the socio-economic challenges that new business owners face. Interestingly, after the Industrial Revolution, specific economies implemented several reforms to improve the quality of EP further. Additionally, EP can impact business activities in emerging economies in three ways. Firstly, the education level promotes brainpower, and it is a common phenomenon that a well-organized education system enhances the capabilities of EP to combat business challenges. Therefore, emerging economies have also proposed several initiatives to protect their populace from the trap of unemployment. They have trained their citizens through skillful techniques to earn a living that meets their basic needs; consequently, the business ratio has increased. Secondly, selected countries have robust business regulations that facilitate the effective intervention of EP in the business sector, thereby enhancing its productivity level. Finally, under the theme of the SDGs, the emerging seven economies have followed the UN's suggested goals, particularly in promoting gender equality. Due to the significant decline in gender inequality, many business sectors are now run by women, and China is a leading example in this regard. This outcome is in support of (Vodă, Florea 2019).

Any significant change in this factor would significantly increase the business sensitivity (BS) for emerging economies. However, in the business area, this association can be explained on behalf of the Portfolio Allocation Theory, as suggested by (Fedderke 2002). In the light of this theory, the FDI is a function of rate of return and risk. Therefore, FDI inflows are directly associated with the rate of return and vice versa for risk. Consequently, in selected countries, there has been a secure environment for new businesses, and investors have experienced minimal losses on their investments. Thus, the dominant behavior of return on risk encourages investors to invest in emerging economies and maximize profits from their investments. Similarly, host economies also offered some business-friendly

initiatives to catch their interest for investment; as a result, the employment level increased in the domestic market. Besides the theoretical, there may be logic that foreign investors are only interested in capturing profits from host economies, and the emerging seven economies are considered a hub for all businesses. For this hosting, the selected economies have solid contracts and access to trade across borders. Moreover, the emerging seven economies offer easy entry and exit from the business market. Such positive responses from host economies attract foreign investors, resulting in substantial FDI inflows and increased business activity. This outcome also supports the views of (Contractor et al. 2020; Dimitrova et al. 2022). Finally, the connection between financial inclusion and the specified economies is that they are more sensitive to providing financial services to new businesses at a minimum cost. However, financial penetration in business activities is astounding; it helps establish new companies and facilitates human and economic activities within the domestic economy. Therefore, specified economies must focus increasingly on financial facilities to secure the business sector at all levels, and this initiative may further bring business projects that will spur growth and create job opportunities. Undoubtedly, the specified economies have already made their best efforts to secure the business sector, and this study's outcome is leading evidence supporting government initiatives. This study's outcome aligns with the findings of (Tang et al. 2022).

5. Conclusion and policy recommendations

For the first time, this study introduces a new research theme in emerging economies, focusing on new business start-ups and socio-economic influential factors from 2005 to 2021. However, different estimators have been applied to investigate the study's objectives. Similarly, the basic model indicates that income, information technology, and entrepreneurship have a significant impact on business activities. However, urbanization has a positive but insignificant role in the business sector. Furthermore, the financial industry demonstrates the positive impact of FDI and financial inclusion on business start-ups. Similarly, the current empirical study employs the heterogeneity roust analysis to re-validate the estimated outcomes using the basic regression model. Similarly, to nominate the importance of information technology in daily life, this study also performs a systematic analysis. It supports the significant response of each IT proxy towards the new business.

5.1. Policy recommendations

Based on the investigated outcomes, this study also proposes some key policy implications to attract investors to new businesses. Firstly, an increase

in income raises the businesses' activities, which shows the rational behavior of domestic income holders. Under the Intertemporal choice theory, when a cash holder has money in liquid form, he has two choices: to invest in a decent business and decline today's consumption to a future one. When consumers exhibit such rational behavior, higher authorities must focus on these comments to further influence the rational consumer's mindset. Thus, the government should introduce measures to facilitate loan creation and further advance the business sector's progress. Moreover, the government should offer some green initiatives to attract domestic income holders and divert their attention away from the overexploitation of natural resources. They must try to invest in business activities. Additionally, unnecessary barriers in the business sector should be removed to increase investor interest in business activities.

Secondly, urbanization attempts to promote new businesses, but its impact remains insignificant across all models and estimators. This condition for emerging economies is shocking because the urbanized sector has not paid considerable attention to new business. In the real world, the populations of specified countries have different priorities rather than trying to invest their significant income share in the business sector. In reality, the identified urbanized population has problems related to education, health, and other basic needs. Consequently, higher authorities must focus on providing social welfare initiatives to offset additional expenditures, such as health, education, and housing. With such initiatives, the government of specified countries can divert their attention to new business, which may significantly impact the long run. Overall, the primary and mediating role of information technology (IT) was found to be surprising in the selected economies. However, there is a further need to expand the reach of information technology across all sectors of the economy to become more dominant globally. Furthermore, the overall progress of entrepreneurship remains good, but its coefficient values have been minor; thus, entrepreneurship activities can perform well via the intervention of IT. Therefore, it is necessary to involve IT in significant business activities that enable entrepreneurs to understand business-related issues efficiently. Furthermore, foreign direct investment also promotes the level of business activities, and it is a green single for host economies to attract foreign investors to invest in their homeland. However, this attraction can be introduced via the ease of financial services and their accessibility to business zones. Similarly, host economies should relax their strict regulations to promote business and cooperate with foreign investors to ensure better access to essential goods, such as health, food, and other necessities. Additionally, if proper business information is transferred via information technology, it could help attract more investors due to perfect knowledge.

5.2. Study limitations

Finally, the current study has some limitations that should be addressed in forthcoming studies. The present study focuses on the seven emerging economies with the most favorable business environments. Therefore, future studies must consider other groups to compare their outcome with the current analysis. Secondly, due to the regression constraint, this study does not consider core factors such as political factors, including corruption, government stability, and the rule of law. Therefore, future studies should consider these factors to examine responses to the business environment. Thirdly, the current empirical analysis employs a limited number of estimators to demonstrate the study's objectives; it would be interesting if future studies considered other estimators to validate our outcomes. Fourthly, due to data constraints, this study was compelled to use financial inclusion; however, if possible, future studies should consider green finance for the business environment. Lastly, this theme should also be examined in other regions, such as the Middle East and North Africa (MENA) economies.

Abbreviations

BS: New Businesses, IN: Income per capita, UB: Urbanization, EP: Entrepreneurship, IT: Information technology, FDI: Foreign direct investment, FI: Financial inclusion, CSD: Cross-sectional dependence, CIPS: Cross-Sectionally Augmented panel unit root test, CADF: Covariate-Augmented Dickey-Fuller test, AMG: Augmented Mean Group, CCE-MG: Common Correlated Effect Mean Group, D-CCE: Dynamic Common Correlated Effect Mean Group, E7: Emerging Seven Economies.

References

[1] Abed, S.S. (2021) 'A literature review exploring the role of technology in business survival during the Covid-19 lockdowns', *International Journal of Organizational Analysis*, vol. 30(5), pp. 1045–1062, https://doi.org/10.1108/ijoa-11-2020-2501.

[2] Acs, Z.J. and Szerb, L. (2006) 'Entrepreneurship, Economic Growth and Public Policy', *Small Business Economics*, vol. 28(2–3), pp. 109-122, https://doi.org/10.1007/s11187-006-9012-3.

[3] Amezcua, A., Ratinho, T., Plummer, L.A. and Jayamohan, P. (2020) 'Organizational sponsorship and the economics of place: How regional urbanization and localization shape incubator outcomes', *Journal of Business Venturing*, vol. 35(4), 105967, https://doi.org/10.1016/j.jbusvent.2019.105967.

[4] Ancillai, C., Sabatini, A., Gatti, M. and Perna, A. (2023) 'Digital technology and business model innovation: A systematic literature review and future research agenda', *Technological Forecasting and Social Change*, vol. 188, 122307, https://doi.org/ 10.1016/j.techfore.2022.122307.
[5] Antonini, C. (2024) 'Accounting digitalization in the quest for environmental sustainability', *Current Opinion in Environmental Sustainability*, vol. 66, 101399, https://doi.org/10.1016/j.cosust.2023.101399.
[6] Audretsch, D.B. (2009) 'The entrepreneurial society', *The Journal of Technology Transfer*, vol. 34(3), pp. 245–254, https://doi.org/10.1007/s10961-008-9101-3.
[7] Audretsch, D.B. and Mahmood, T. (1995) 'New Firm Survival: New Results Using a Hazard Function', *The Review of Economics and Statistics*, vol. 77(1), 97, https://doi.org/10.2307/2109995.
[8] Bailey, D. and De Propris, L. (2019) '6. Industry 4.0, regional disparities and transformative industrial policy', *Regional Studies Policy Impact Books*, vol. 1(2), pp. 67–78, https://doi.org/10.1080/2578711X.2019.1621102.
[9] Barro, R.J. (1991) 'Economic Growth in a Cross Section of Countries', *The Quarterly Journal of Economics*, vol. 106(2), 407, https://doi.org/10.2307/2937943.
[10] Bayo-Moriones, A., Billón, M. and Lera-López, F. (2013) 'Perceived performance effects of ICT in manufacturing SMEs', *Industrial Management and Data Systems*, vol. 113(1), pp. 117–135, https://doi.org/10.1108/02635571311289700.
[11] Becker, G.S. (1983) 'A Theory of Competition Among Pressure Groups for Political Influence', *The Quarterly Journal of Economics*, vol. 98(3), pp. 371–400, https://doi.org/10.2307/1886017.
[12] Berné, C., García-González, M., García-Uceda, M.E. and Múgica, J.M. (2015) 'The effect of ICT on relationship enhancement and performance in tourism channels', *Tourism Management*, vol. 48, pp. 188–198, https://doi.org/ 10.1016/j.tourman.2014.04.012.
[13] Brady, M., Brodie, R., Fellenz, M.R. and Brookes, R. (2008) 'Researching the role of information and communications technology (ICT) in contemporary marketing practices', *Journal of Business and Industrial Marketing*, vol. 23(2), pp. 108–114, https://doi.org/10.1108/08858620810850227.
[14] Brockhaus, J., Buhmann, A. and Zerfass, A. (2022) 'Digitalization in corporate communications: understanding the emergence and consequences of CommTech and digital infrastructure', *Corporate Communications: An International Journal*, vol. 28(2), pp. 274–292, https://doi.org/10.1108/ccij-03-2022-0035.
[15] Calderon-Monge, E. and Ribeiro-Soriano, D. (2024) 'The role of digitalization in business and management: a systematic literature review', *Review of Managerial Science*, vol. 18, pp. 449–491, https://doi.org/10.1007/s11846-023-00647-8.
[16] Chege, S.M., Wang, D. and Suntu, S.L. (2019) 'Impact of information technology innovation on firm performance in Kenya', *Information Technology for Development*, vol. 26(2), pp. 316–345, https://doi.org/10.1080/ 02681102.2019.1573717.

[17] Ching, H.L. and Ellis, P. (2004) 'Marketing in Cyberspace: What Factors Drive E-Commerce Adoption?', *Journal of Marketing Management*, vol. 20(3–4), pp. 409–429, https://doi.org/10.1362/026725704323080470.
[18] Contractor, F.J., Dangol, R., Nuruzzaman, N. and Raghunath, S. (2020) 'How do country regulations and business environment impact foreign direct investment (FDI) inflows?', *International Business Review*, vol. 29(2), 101640, https://doi.org/10.1016/j.ibusrev.2019.101640.
[19] De La Roca, J. and Puga, D. (2017) 'Learning by Working in Big Cities', *The Review of Economic Studies*, vol. 84(1), pp. 106–142, https://doi.org/10.1093/restud/rdw031.
[20] Dimitrova, A., Triki, D. and Valentino, A. (2022) 'The effects of business- and non-business-targeting terrorism on FDI to the MENA region: The moderating role of political regime', *International Business Review*, vol. 31(6), 101976, https://doi.org/10.1016/j.ibusrev.2022.101976.
[21] Ding, C. and Zhao, X. (2014) 'Assessment of Urban Spatial-Growth Patterns in China During Rapid Urbanization', *The Chinese Economy*, vol. 44(1), pp. 46–71, https://doi.org/10.2753/ces1097-1475440104.
[22] Dong, K., Hochman, G., Zhang, Y., Sun, R., Li, H. and Liao, H. (2018) 'CO_2 emissions, economic and population growth, and renewable energy: Empirical evidence across regions', *Energy Economics*, vol. 75, pp. 180–192, https://doi.org/10.1016/j.eneco.2018.08.017.
[23] Dung, L.T. (2024) 'We do not want to leave: technology in the digital realm, business model innovation and the decline of SMEs global presence', *Journal of Strategy and Management*, vol. 18(2), pp. 349–385, https://doi.org/10.1108/jsma-07-2024-0163.
[24] Duvivier, C., Polèse, M. and Apparicio, P. (2017) 'The location of information technology-led new economy jobs in cities: office parks or cool neighbourhoods?', *Regional Studies*, vol. 52(6), pp. 756–767, https://doi.org/10.1080/00343404.2017.1322686.
[25] Edwards, M.G. (2021) 'The growth paradox, sustainable development, and business strategy', *Business Strategy and the Environment*, vol. 30(7), pp. 3079–3094, https://doi.org/10.1002/bse.2790.
[26] Egere, O.M., Maas, G. and Jones, P. (2022) 'A critical analysis of the Nigerian entrepreneurial ecosystem on transformational entrepreneurship', *Journal of Small Business Management*, vol. 62(3), pp. 1187–1218, https://doi.org/10.1080/00472778.2022.2123109.
[27] El Kadiri, S., Grabot, B., Thoben, K.-D., Hribernik, K., Emmanouilidis, C., Cieminski von, G. and Kiritsis, D. (2016) 'Current trends on ICT technologies for enterprise information systems', *Computers in Industry*, vol. 9, pp. 14–33, https://doi.org/10.1016/j.compind.2015.06.008.
[28] Fedderke, J.W. (2002) 'The virtuous imperative: modeling capital flows in the presence of non-linearity', *Economic Modelling*, vol. 19(3), pp. 445–461, https://doi.org/10.1016/s0264-9993(01)00072-4.

[29] Frees, E.W. (1995) 'Assessing cross-sectional correlation in panel data', *Journal of Econometrics*, vol. 69(2), pp. 393-414, https://doi.org/10.1016/0304-4076(94)01658-m.
[30] Friedman, M. (1937) 'The use of ranks to avoid the assumption of normality implicit in the analysis of variance', *Journal of the American Statistical Association*, vol. 32(200), pp. 675-701.
[31] Fritsch, M., Kritikos, A. and Pijnenburg, K. (2014) 'Business cycles, unemployment and entrepreneurial entry–evidence from Germany', *International Entrepreneurship and Management Journal*, vol. 11(2), pp. 267–286, https://doi.org/10.1007/s11365-014-0326-3.
[32] Gabrys, J., Pritchard, H. and Barratt, B. (2016) 'Just good enough data: Figuring data citizenships through air pollution sensing and data stories', *Big Data and Society*, vol. 3(2), https://doi.org/10.1177/2053951716679677.
[33] Gebauer, H., Fleisch, E., Lamprecht, C. and Wortmann, F. (2020) 'Growth paths for overcoming the digitalization paradox, *Business Horizons*, vol. 63(3), pp. 313–323, https://doi.org/10.1016/j.bushor.2020.01.005.
[34] Gërguri-Rashiti, S., Ramadani, V., Abazi-Alili, H., Dana, L.P and Ratten, V. (2017) 'ICT, innovation and firm performance: the transition economies context', *Thunderbird International Business Review*, vol. 59(1), pp. 93–102, https://doi.org/10.1002/tie.21772.
[35] Hensen, A.H.R. and Dong, J.Q. (2020) 'Hierarchical business value of information technology: Toward a digital innovation value chain', *Information and Management*, vol. 57(4), 103209, https://doi.org/10.1016/j.im.2019.103209.
[36] Hannan, M.T. and Freeman, J. (1989) Organizational ecology, Cambridge, Massachutsetts; London, England: Harvard University Press.
[37] Kapetanios, G., Pesaran, M.H. and Yamagata, T. (2011) 'Panels with nonstationary multifactor error structures', *Journal of Econometrics*, vol. 160(2), pp. 326–348, https://doi.org/10.1016/j.jeconom.2010.10.001.
[38] Kohtamäki, M., Leminen, S. and Parida, V. (2024) 'Conceptualizing digital business models (DBM): Framing the interplay between digitalization and business models', *Technovation*, vol. 133, 103013, https://doi.org/10.1016/j.technovation.2024.103013.
[39] Kopf, O. and Homocianu, D. (2016) 'The business intelligence based business process management challenge', *Informatica Economica Journal*, vol. 20(1), pp. 7–19, https://doi.org/10.12948/issn14531305/20.1.2016.01.
[40] Korunka, C., Kessler, A., Frank, H. and Lueger, M. (2010) 'Personal characteristics, resources, and environment as predictors of business survival', *Journal of Occupational and Organizational Psychology*, vol. 83(4), pp. 1025–1051, https://doi.org/10.1348/096317909x485135.
[41] Leek, S., Turnbull, P.W. and Naude, P. (2003) 'How is information technology affecting business relationships? Results from a UK survey', *Industrial Marketing Management*, vol. 32(2), pp. 119–126, https://doi.org/10.1016/S0019-8501(02)00226-2.

[42] Lobo, S.R., Samaranayake, P. and Subramanian, N. (2017) 'The impact of TQM and information communication technology (ICT) as an enabler in the quality management assessment framework (QMAF) on business outcomes', *International Journal of Systems Science: Operations and Logistics*, vol. 6(1), pp. 69–85, https://doi.org/10.1080/23302674.2017.1344329.
[43] Lucas Ancillo de, A. and Gavrila Gavrila, S. (2023) 'The Impact of Research and Development on Entrepreneurship, Innovation, Digitization and Digital transformation', *Journal of Business Research*, vol. 157, 113566, https://doi.org/10.1016/j.jbusres.2022.113566.
[44] Mehta, S. (2022) 'Upgrading within global value chains: backward linkages, forward linkages and technological capabilities', *Asian Journal of Technology Innovation*, vol. 30(3), pp. 581–600, https://doi.org/10.1080/19761597.2021.1938152.
[45] Miller, D. (1983) 'The correlates of entrepreneurship in three types of firms', *Management Science*, vol. 29(7), pp. 770–791.
[46] Mostaghel, R., Oghazi, P., Parida, V. and Sohrabpour, V. (2022) 'Digitalization driven retail business model innovation: Evaluation of past and avenues for future research trends', *Journal of Business Research*, vol. 146, pp. 134–145, https://doi.org/10.1016/j.jbusres.2022.03.072.
[47] Nica, M. (2020) 'Economic development and business creation', *Economic Change and Restructuring*, vol. 54(1), pp. 219–239, https://doi.org/10.1007/s10644-020-09274-9.
[48] Pesaran (2004) 'General diagnostic tests for cross section dependence in panels', *Cambridge Working Papers. Economics*, vol. 1240, 1, https://cir.nii.ac.jp/crid/1370002214340987648.
[49] Pesaran, M.H. (2007) 'A simple panel unit root test in the presence of cross-section dependence', *Journal of Applied Econometrics*, vol. 22(2), pp. 265-312.
[50] Pesaran, M.H. and Yamagata, T. (2008) 'Testing slope homogeneity in large panels, *Journal of Econometrics*, vol. 142(1), pp. 50-93, https://doi.org/10.1016/j.jeconom.2007.05.010.
[51] Racela, O.C. and Thoumrungroje, A. (2020) 'Enhancing Export Performance through Proactive Export Market Development Capabilities and ICT Utilization', *Journal of Global Marketing*, vol. 33(1), pp. 46–63, https://doi.org/10.1080/08911762.2018.1549302.
[52] Rasel, F. (2016) 'Combining Information Technology and Decentralized Workplace Organization: SMEs versus Larger Firms', *International Journal of the Economics of Business*, vol. 23(2), pp. 199–241, https://doi.org/10.1080/13571516.2015.1106065.
[53] Rae, J. (1834) 'Statement of some new principles on the subject of political economy. Exposing the Fallacies of the System of Free Trade, and of some other doctrines maintained in the "Wealth of Nations"' Hilliard, Gray & Co.

[54] Ranta, V., Aarikka-Stenroos, L. and Väisänen, J. M. (2021) 'Digital technologies catalyzing business model innovation for circular economy – Multiple case study', *Resources Conservation and Recycling*, vol. 164, 105155, https://doi.org/10.1016/j.resconrec.2020.105155.
[55] Reich, R.B. (1987) Entrepreneurship reconsidered: the team as hero, *Harvard Business Review*, vol. 65, pp. 77–78, Online, Available: https://cir.nii.ac.jp/crid/1570572701684373888 [8 Oct 2025].
[56] Saleem, F., Salim, N., Altalhi, A.H., Ullah, Z., AL-Malaise AL-Ghamdi, A. and Mahmood Khan, Z. (2020) 'Assessing the effects of information and communication technologies on organizational development: business values perspectives', *Information Technology for Development*, vol. 26(1), pp. 54–88, https://doi.org/10.1080/02681102.2017.1335279.
[57] Shapiro, C. (1989) 'The theory of business strategy', *RAND Journal Economics*, vol. 20(1), pp. 125–137, https://doi.org/10.2307/2555656.
[58] Shu, C. and Simmons, S.A. (2018) 'Firm survival in traded industries: does localization moderate the effects of founding team experience?', *Small Business Economics*, vol. 50(3), pp. 643–655, https://doi.org/10.1007/s11187-017-9912-4.
[59] Singh, J.V. and Lumsden, C.J. (1990) 'Theory and research in organizational ecology', *Annual Review of Sociology*, vol. 16(1), pp. 161–195.
[60] Stoica, O., Roman, A. and Rusu, V.D. (2020) 'The Nexus between Entrepreneurship and Economic Growth: A Comparative Analysis on Groups of Countries', *Sustainability*, vol. 12(3), https://doi.org/10.3390/su12031186.
[61] Tang, C., Irfan, M., Razzaq, A. and Dagar, V. (2022) 'Natural resources and financial development: Role of business regulations in testing the resource-curse hypothesis in ASEAN countries', *Resources Policy*, vol. 76, 102612, https://doi.org/10.1016/j.resourpol.2022.102612.
[62] Thurik, R. and Wennekers, S. (2004) 'Entrepreneurship, small business and economic growth', *Journal of Small Business and Enterprise Development*, vol. 11(1), pp. 140–149, https://doi.org/10.1108/14626000410519173.
[63] Vodă, A.I. and Florea, N. (2019) 'Impact of Personality Traits and Entrepreneurship Education on Entrepreneurial Intentions of Business and Engineering Students', *Sustainability*, vol. 11(4), 1192, https://doi.org/10.3390/su11041192.
[64] Wang, Z., Lin, S., Chen, Y., Lyulyov, O. and Pimonenko, T. (2023) 'Digitalization Effect on Business Performance: Role of Business Model Innovation, *Sustainability*, vol. 15(11), https://doi.org/10.3390/su15119020.
[65] Westerlund, J. (2007) 'Testing for error correction in panel data', *Oxford Bulletin of Economics and Statistics*, vol. 69(6), pp. 709–748, https://doi.org/10.1111/j.1468-0084.2007.00477.x.

Summary

Over the last few decades, the business landscape has undergone significant changes, and new investors have faced severe challenges in achieving their desired goals. The business sector has compelled practitioners to introduce some innovative methods that promote the business's activities at lower intrinsic costs. Thus, the inclusion of digital transformation in business activities has been proposed as the best solution to avoid the business loss trap. In the era of development, digital transformation has received immense attention from higher authorities to spur information technology in business activities. It behaves in a friendly manner across different regions of the globe in problematic situations such as pandemics, financial crises, and energy shocks. Therefore, for the first time, this study tries to demonstrate the critical role of information technology in new business activities for **seven emerging economies** from 2005 to 2021. However, this study employs different estimators to evaluate its objectives. The results of the basic model indicate that income, information technology, foreign direct investment, and financial inclusion make significant contributions to business start-ups. The entrepreneurial role remains positive and significantly contributes to new businesses by 0.005%. However, urbanization shows a positive but insignificant role in business activities. Additionally, this study examines the mediating role of information technology on income, entrepreneurship, foreign direct investment, and financial inclusion, revealing a significant impact on business start-ups. Finally, the systematic information technology analysis supports business activities in specified countries. Based on the findings, this study proposes some imperative implications for attracting investors to invest in new business projects.

JEL codes: M21, P25, P44, F35, L26

Keywords: *information technology, New Business, entrepreneurship, foreign direct investment, financial inclusion*

Received: March 26, 2025.
Accepted: September 30, 2025.