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Interplay between Policy, Finance, Education, and Technology Adoption: A Global Entrepreneurship Monitor (GEM) Evidence

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Abstract: The complex relationships among entrepreneurs in various economies concerning government regulations, entrepreneurial education, technology adoption, and finance availability are examined in this article. This paper examines how these vital resources impact entrepreneurial companies' adoption of new technologies and the development of technical skills based on the Resource-Based Theory (RBT). Using Partial Least Squares Structural Equation Modelling (PLS-SEM) on a multi-country sample, the empirical findings demonstrate that entrepreneurs' access to technology is positively and significantly impacted by access to finance, entrepreneurial education, and supportive government policies. These findings are consistent with the RBT's focus on obtaining and using valuable resources for competitive advantage. Entrepreneurial education is critical in developing the entrepreneurial environment and fostering technological readiness because it mediates the interaction between government policies and technology availability. It does not, therefore, operate as a mediator between finance and technology, suggesting that financial resources may directly influence the adoption of technology. The study improves and expands the use of the RBT in the contexts of technology adoption and entrepreneurship, hence advancing the theory. It also has practical implications for legislators, educators, and business owners by emphasising the need to foster an atmosphere encouraging technological innovation, facilitating access to these essential resources, and accelerating business growth in various economic and cultural contexts.

Keywords: Entrepreneurship; Technology Adoption; Access to Finance; Government Policies; Resource-Based Theory

I. Introduction

Globally speaking, entrepreneurship encourages economic expansion, innovation, and employment opportunities (Apostu et al., 2022; Muhtar et al., 2024). Entrepreneurial success and competitiveness in the fast-evolving and technologically driven 21st century depend critically on their ability to acquire and effectively exploit contemporary technologies (Stoica et al., 2020; None et al., 2024). Technological advancements have fundamentally altered the entrepreneurial environment by creating opportunities for optimisation operations, access to global markets, and innovative products and services to satisfy consumers' constantly changing wants (Brem et al., 2017; Yang et al., 2023). Despite the immense potential of technology to support entrepreneurial activities, various resource constraints often restrict the broad and effective use of new technologies. Significant barriers to the efficient application of modern technology into business operations have been identified as inadequate entrepreneurial education, unfavourable government rules, and limited funding availability (Audretsch et al., 2018; Bruton et al., 2014; Nabi et al., 2017). As is widely known, access to finance is a crucial instrument that enables company owners to get the equipment, skilled labour, and technology they want to launch and grow their enterprises (Svotwa et al., 2022; Urban & Ratsimanetrimanana, 2019). More funds may make it easier for business owners to purchase and implement new technology, limiting their capacity to grow and gain a competitive advantage (Bruton et al., 2014; Hajar et al., 2021). Moreover, government rules and regulations significantly influence the entrepreneurial climate and the adoption of new technologies. Favourable laws such as tax breaks, robust intellectual property protection, and supportive regulatory frameworks may encourage technological innovation and entrepreneurship (Audretsch et al., 2018; Fuerlinger et al., 2015; Helou & Neubert, 2022). However, excessively severe or onerous rules might make it more difficult for companies to adopt technology and build entry barriers, making it more challenging to compete in the continually changing market (Autio & Rannikko, 2016).

Entrepreneurship education is another vital instrument that may provide potential entrepreneurs with the knowledge, skills, and abilities required to effectively identify, obtain, and use technological resources (Gabrielsson et al., 2020; Nabi et al., 2017). Entrepreneurial education may help one see and grasp technological opportunities, which will encourage innovation and the use of technology in their companies (Galvão et al., 2020; Bauman & Lucy, 2019). Entrepreneurial education may also foster lifelong learning and adaptability, enabling entrepreneurs to stay updated with the latest technological developments and easily integrate them into their business operations. Given the importance of available capital, government policies, and entrepreneurial education in encouraging entrepreneurs to embrace new technology, this study examines the intricate

relationships between these resources and entrepreneurs' access to technology in various nations with developed, emerging, and developing economies. This study uses the Resource-Based Theory (RBT) as the guiding theoretical framework to further understand how different resource configurations impact technical capabilities and competitive advantage in entrepreneurial situations (Barney & Clark, 2007; Barney, 1991). The Resource-Based Theory holds that an organisation's ability to acquire, develop, and effectively use valuable, rare, unique, and non-replaceable resources mainly defines its competitive advantage and exceptional performance (Barney, 1991). Essential resources that support the use of new technologies and help to develop technical skills are finance availability, encouraging government policies, and entrepreneurial education (Vargas-Canales, 2023; Lepore et al., 2023; Arifin & Frmanzah, 2015). This article attempts to elucidate the complex relationships between these vital resources and how they impact the technical preparation and competitiveness of entrepreneurial activities in various economic and cultural contexts by using the insights of the Resource-Based Theory.

1.1 Research gap, motivation, and contribution of the study

Prior studies have examined the effects of government policies, entrepreneurial education, and access to capital on entrepreneurial activities in isolation (Shamsudin et al., 2016; O'Connor, 2013; Hasan et al., 2017; Lindh & Thorgren, 2016; Clark et al., 2020), but there is a lack of comprehensive research that examines the interplay and interaction of these factors in influencing entrepreneurs across economies to embrace new technologies. Moreover, a large portion of the research presently in publication ignores the unique challenges and dynamics faced by companies in emerging and developing markets in favour of concentrating on specific regions or industrialised economies (Autio & Rannikko, 2016; Aparicio et al., 2021). By analysing the relationships between these vital resources and technology access using a multi-country sample, this study can address this gap and provide perceptive details on the complex dynamics affecting the adoption of technology by entrepreneurs globally. The recognised need to use technology to support entrepreneurs' growth, inventiveness, and competitiveness drives the research (Wiredu et al., 2023; Zupic, 2014; Maria et al., 2022). Access to current technologies is a game-changer for entrepreneurs hoping to simplify operations, reach new markets, and produce cutting-edge products and services as the world becomes increasingly digital and technology-driven (Anwar & Daniel, 2016; Giones & Brem, 2019). However, a variety of resource constraints, such as limited access to capital (Fumey et al., 2024; Bruton et al., 2014), unfavourable government laws (Audretsch et al., 2019), and inadequate entrepreneurial education (Nabi et al., 2017), often prevent the adoption of breakthrough technologies.

The research will examine the roles played by these vital resources in fostering technology adoption to assist policymakers, educators, and entrepreneurs in identifying and overcoming potential barriers and creating an atmosphere conducive to technological advancement and entrepreneurial success. This study could be beneficial to theory and practice alike. Theoretically, we contribute to building and enhancing this theory in the context of entrepreneurship and technology adoption by using the Resource-Based Theory (RBT) as a basis (Barney, 1991). These findings provide empirical evidence to support or contradict the RBT's assumptions, expanding our understanding of how different resource configurations impact technical skills and competitive advantage in entrepreneurial settings (Ferreira et al., 2020). Furthermore, by demonstrating the effectiveness and utility of this advanced analytical method in analysing complex relationships between constructs, particularly when addressing multidimensional and interdependent variables, the work makes methodological contributions by using Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair et al., 2019; Sarstedt et al., 2017). Practically speaking, the study provides lawmakers, educators, and businesses with enlightening data. By identifying the relative importance and interaction of access to finance, government policies, and entrepreneurial education in promoting technology adoption, the results can direct the development of focused laws, educational initiatives, and support systems that promote an atmosphere favourable to technological innovation and entrepreneurial success (Autio & Rannikko, 2016; Bruton et al., 2014). Moreover, the global sample provides an advanced understanding of the opportunities and challenges encountered by entrepreneurs in various economic and cultural contexts (Kibler & Kautonen, 2014; Morris et al., 2017; Shirokova et al., 2021), which makes more tailored and effective interventions possible.

II. Theoretical Underpinning and Hypothesis Development

2.1 Theoretical underpinning- Resource-Based Theory (RBT)

Resource-Based Theory (RBT) was created by Barney (1991) in "Firm Resources and Sustained Competitive Advantage." Resource-based theory holds that an organisation's ability to acquire, develop, and effectively use valuable, unique, and non-replaceable resources mainly defines its competitive advantage and exceptional performance. The idea is that firms may use their unique blend of resources and expertise to obtain a sustainable competitive advantage. Regarding the RBT, businesses within a specific industry have numerous resource bundles distributed differently (Lubis, 2022). The theory holds that resources cannot be moved entirely between businesses, so competitors cannot quickly get or copy rare and valuable resources—at least not

immediately. Under imperfect factor markets—labour, money, and technology—some businesses can acquire and use resources more successfully than others. The resource-based theory, which provides a theoretical framework through which entrepreneurs may adopt new technologies and advance their technological skills by having access to finance, government policies, and entrepreneurial education—all considered valuable resources—benefits the current study much. Essential assets and financial resources enable business owners to acquire and use other resources such as technology, human capital, and infrastructure. The RBT argues that having finance may give businesses a competitive advantage by allowing them to invest in and exploit new technology more effectively (Lubis, 2022; Gerhart & Feng, 2021; Chatterjee et al., 2021). The government's advantageous rules and regulations may be seen as crucial instruments that encourage the use of new technologies and entrepreneurial activities. This supportive legislation, claims the RBT, can create an environment that motivates company owners to acquire and maximise IT resources. The RBT recognises human capital as a valuable and unique resource. Entrepreneurs who get entrepreneurial education are better equipped to identify, develop, and use technological resources for a competitive advantage (Gabrielsson et al., 2020; Nabi et al., 2017). The research looks at the relationships between these resources (access to financing, government policies, and entrepreneurial education) and access to technology via the lens of the Resource-Based Theory. This study provides insights into how business owners may use these resources to enhance their technical capabilities and integrate new technologies more effectively, generating a long-term competitive edge. The research is further organised as follows: Section 2 gives the theoretical background and development of the theories. The method is the primary subject of Section 3. In Section 4, the results derived from the PLS-SEM analysis are expanded. Section 5 discusses this research, its management, and theoretical ramifications. Furthermore, the conclusion and suggestions for further study are included.

2.2 Hypothesis development

2.2.1 Nexus between access to finance and technology adoption

Finances are a significant factor in the adoption of technology in various sectors. Ethiopian research shows that money availability significantly influences farmers' adoption of agricultural technology, such as fertilisers and ICTs (Girma, 2022). In the United States before the Civil War, financial availability promoted agricultural innovation; this advantage diminished in areas where labour was abused (Mao & Jessie Jiaxu Wang, 2022). Mohammed (2022) found that financial access mixed with technology increases the complexity of company procedures and advances growth in underdeveloped countries. When households in India started using more high-yielding variety seeds due to the expansion of bank branches, official money was necessary to implement new technologies (Mukherjee, 2020). Further emphasising the significance of using technology to provide access to financial services, FinTech is seen as an essential enabler of financial inclusion, particularly for families with lower socioeconomic status (Young & Young, 2022). Financial inclusion is raised by mobile phones and the internet by providing access. Benefits for certain countries' market access and financial institutions (Bayar et al., 2021). The technology adoption model and the diffusion of innovation theory help SMEs get finance more effectively when fintech is adopted. Using financial technology wisely requires financial literacy (Sari & Agus Zainul Arifin, 2023). Using payment technology made it simpler for SMEs to get financing; a randomised controlled trial with Kenyan SMEs showed that the decision to utilise electronic payment instruments was influenced by financial transparency. Removed barriers to adopting a new payment system (Dalton et al., 2018). Another study claims that guaranteed loans improve farmers' access to capital and technological utilisation. Technology and money are promoted by micro and meso-level insurance on the drought index. A randomised control trial with 14 rural banks in Ghana combined loans with micro- and meso-level drought insurance measures. According to Hossain (2022), financial prosperity motivates companies to invest in production-boosting technology. Digital banking reduces transaction costs so that companies may adopt technology more readily. This article uses data from a sub-district-level corporate survey of 1100 manufacturing SMEs. Administrative data on Bangladeshi financial development are also given. In comparison, the presence of institutional finance helps Ethiopian technology uptake. Financial cooperatives affect technology usage more than MFIs (Abate et al., 2016; Abate et al., 2015). Based on the aforementioned empirical works, below is the hypothesis derived:

H1. Access to finance has a positive influence on access to technology

2.2.2 Nexus between entrepreneurial education and access to technology

Entrepreneurship education considerably expands students' access to technology and helps educate them for the ever-changing demands of the workforce. Students may be better equipped to grasp opportunities and experience reduced unemployment rates if entrepreneurship is included in technology education (Adri, 2022). Students may better understand how to utilise technology in practical settings by tying theoretical knowledge with real-world experience via work-integrated learning and open learning platforms (Johnston & Jacobsen, 2022). Furthermore, technology-based entrepreneurship education increases the number of entrepreneurs in a community and significantly improves business outcomes (Wardana et al., 2022). When included in entrepreneurship education programs, foresight sessions may help students become more competent

professionals and better handle the always-evolving technological landscape (Alekseeva et al., 2022). As to Dana et al. (2021), one significant mediator variable in the relationship between elements of entrepreneurial education and the expansion of technology-based businesses is motivation. By contrast, Souad (2019) found that digital literacy is necessary for entrepreneurs to obtain information effectively. Primarily, education prepares literate entrepreneurs. Education in entrepreneurship enhances strategic thinking and business expansion. The availability of technology improves entrepreneurial education for a company's success (Stănciulescu & Scarlat, 2012). This study employs a qualitative examination of family-owned, technologically oriented enterprises in Romania to explore the role of entrepreneurial education in company development. According to (Md. Forhad, 2022), who uses purposive selection and the difference in difference approach, having access to technology reduces the educational disparity caused by socioeconomic variables. With online learning, the availability of technology reduces differences in academic performance. Entrepreneurship success is primarily dependent on the collaboration of business and technical education. Entrepreneurs must have mastered technology and personal computers (Stamatis Dragoumanos et al., 2017). Technologies are also used in school programs to enhance entrepreneurial skills. The confidence to start their businesses was given to pupils by technologically oriented education (Giriraj Kiradoo, 2023). The education of entrepreneurs is related to better financial management for growth. Whatever their educational background, academic fieldwork unsatisfies businesspeople (Bartoš et al., 2015). A theory like the Technology Adoption Model (TAM) is often used in educational contexts to predict and explain people's technology adoption, primarily by sampling students (Riddell & Song, 2017). The relative benefit, complexity, and compatibility of technical breakthroughs are also stressed by the Diffusion of breakthroughs Theory as essential components for the practical acceptance of these innovations in engineering education (Kayode et al., 2019). Therefore, entrepreneurship education helps to guarantee that technology integration in many settings is effective overall and enhances people's ability to accept and utilise technology. Based on the aforementioned empirical works, below is the hypothesis derived:

H2. Entrepreneurial education has a positive influence on access to technology

2.2.3 Government Policies and Access to Technology Nexus

Government policy significantly affects how technology is accessible and impacts various businesses. Good government policies have been shown to increase substantially enterprises' access to capital, which in turn influences their plans for technological growth (Yang & Wang, 2017). These policies include tax incentives and industrial support. Access to money and firm growth are linked by technology, which particularly promotes growth by making corporate procedures more complicated (Mohammed, 2022). Global differences in government accessibility regulations highlight the importance of harmonising international standards to raise the profile of electronic access for persons with disabilities (Lazar & Wentz, 2012). Telecenters and public libraries are given top attention by governmental policies in countries like Colombia as ways to bridge the digital divide and promote social change and human development (Baron & Gomez, 2012). The government of Indonesia's policies prohibit the use of ICT by people with disabilities. The government website is challenging for persons with disabilities to use because of the uneven way that policies are implemented (Wahab, 2019). Qadri and Quadri (2018) found that cloud computing and other web-based elements of ICT advancement provide transparent and reasonably priced e-governance services. E-government projects can only be implemented economically with cloud computing. Government policy has a significant role in both ICT initiatives and productivity increase. The impact of state policies was investigated; the effects model was covered by net neutrality (Pick & Sarkar, 2015). The content in this article is examined after visiting and evaluating state government websites online, gathering and verifying facts. One had to visit every URL to ensure it was an authentic government website. Many studies stress the need for policies about labour, information, financial, and regulatory frameworks to demonstrate how government actions affect innovative entrepreneurship (Gnatchenko et al., 2012). According to the study, two examples of government policies that indirectly affect businesses' access to capital and, in turn, their plans for technological growth are industry aid and tax incentives (Yang & Wang, 2017). Furthermore, the relationship between economic development, entrepreneurship, and government policy is emphasised, showing how policy changes may encourage entrepreneurial activity and result in macroeconomic benefits (Obaji, 2014). Knowledge of how public policy impacts emerging entrepreneurship is necessary to support entrepreneurial activity and use knowledge investments for economic growth, particularly in technology-based companies (Kuratko & Menter, 2017). In significant part, government policies that ultimately promote economic development and innovation provide access to technology and encourage entrepreneurial activity. To ensure that laws reflect the needs and opinions of people, policymakers incorporate a wide variety of stakeholders in the formation of national-level digital policies as they highlight the benefits of inclusive and citizen-centric digital policymaking processes (Abah et al., 2022). Based on the aforementioned empirical works, below is the hypothesis derived:

H3. Government policies have a positive influence on access to technology

2.2.4 Mediation Role of Entrepreneurial Education

Mainly, entrepreneurial education affects entrepreneurial intentions and behaviours (Saoula et al., 2023; Khuram et al., 2022). Meditation on personal factors, including motivation, family support, and self-efficacy, affects the desire to launch a company (Qin & Chen, 2023). Furthermore, institutional reforms are necessary to support small business owners and foster an environment favourable to entrepreneurship because national entrepreneurship culture and government policies weaken the link between entrepreneurial desire and employment creation (Mohammed, 2022). Moreover, especially in emerging nations, the relationship between corporate development and finance indirectly influences technology availability, encouraging expansion by raising business operations' intricacy. These findings, taken together, demonstrate the interdependence of government policies, technological availability, and entrepreneurial education in creating the entrepreneurial climate and advancing economic growth. The mediation role of entrepreneurial education between capital availability and government policy significantly affects entrepreneurial purpose and performance. According to studies, entrepreneurial education positively enhances entrepreneurial intention (Zhang & Ayele, 2021), even though access to finance significantly impacts entrepreneurial behavioural control, affecting entrepreneurial intention (Ullah et al., 2021). Sustainability performance and finance access are slightly mediated by innovative performance; both are enhanced by access to domestic and overseas investment (Wang et al., 2020). As various research studies have shown, the promotion of technology adoption is facilitated by entrepreneurial education. Studies have shown that the growth of technology-based businesses benefits from entrepreneurial education and significantly mediates the relationship between individual self-efficacy, entrepreneurial motivation, family support, and entrepreneurial intention (Wibowo et al., 2023). Student aspirations for digital entrepreneurship and knowledge and education about it interact via digital entrepreneurial awareness (Saoula et al., 2023). Furthermore, significant predictors of entrepreneurial intents in vocational education students are social capital, psychological capital, and entrepreneurial orientation; entrepreneurial orientation is a mediator in these intentions (Mochamad et al., 2023). Education in entrepreneurship, therefore, fosters the aspirations of entrepreneurs and, via several mediating mechanisms, supports the use of technology. These literary works demonstrate the interrelationship of government policy, funding availability, and entrepreneurial education in affecting entrepreneurial outcomes, emphasising the need for a supportive environment to enhance entrepreneurial success and economic growth. Based on the aforementioned empirical works, below is the hypothesis derived:

H4. Entrepreneurial Education mediates the relationship between Government Policies and Access to Technology

H5: Entrepreneurial Education mediates the relationship between Access to Finance and Access to Technology

2.3 Conceptual Framework

The conceptual framework of this study depicts how access to finance, government policies, and entrepreneurial education combine in influencing the possibilities of entrepreneurs' access to technology across diverse economies. Based on the Resource-Based Theory, the framework positions these three resources as strategic enablers that enhance the technological readiness of firms for competitive advantage. While government policies and access to finance are conceptualised as external resource conditions that directly influence technology adoption, entrepreneurial education operates both as an independent driver of technology access and as a mediating mechanism-especially in translating supportive policy environments into practical technological capability. Figure 1 thus captures the direct paths from finance, education, and policy to technology access, as well as the indirect mediating pathway through entrepreneurial education, underlining the integrated nature of resource mobilisation in fostering technology-driven entrepreneurial ecosystems. The framework, therefore, acts as a structured basis for the development of hypotheses and informs the empirical analysis using PLS-SEM.

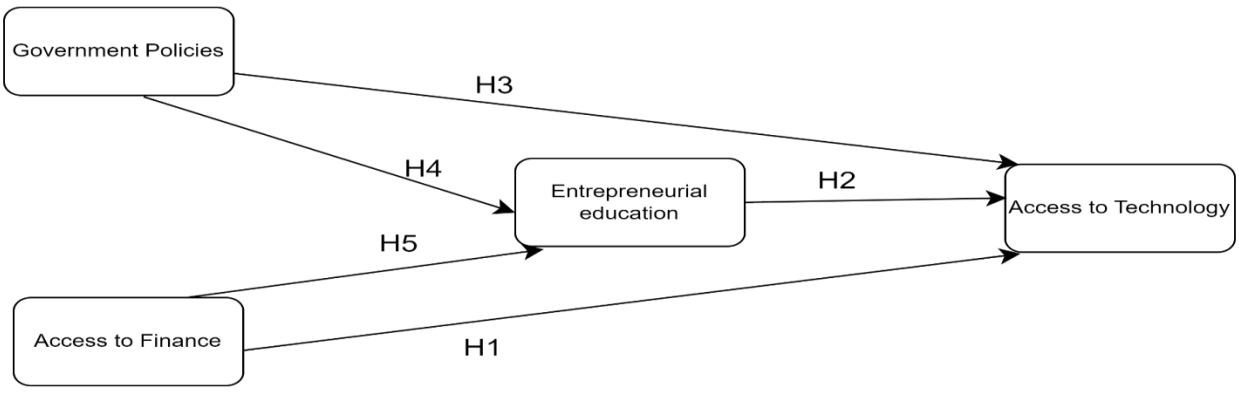

Figure 1: Conceptual framework

III. Methodology

3.1 Data Collection, Sample, and Measures

The information for this study was gathered from the Global Entrepreneurship Monitor (GEM) database, which offers vast and internationally comparable information on entrepreneurial activity, goals, and attitudes across many countries worldwide. The national expert and demographic surveys to gather the GEM data provide a robust and reliable database. Data from several countries across many regions make up the sample for this study: the United States, Russia, Egypt, South Africa, Greece, Netherlands, Spain, Italy, Switzerland, United Kingdom, Sweden, Norway, Poland, Germany, Mexico, Brazil, Chile, Colombia, Australia, Indonesia, Thailand, Japan, South Korea, China, India, Pakistan, Iran, Canada, Morocco, Madagascar, Portugal, Luxembourg, Ireland, Cyprus, Bulgaria, Latvia, Armenia, Belarus, Slovenia, Slovakia, Guatemala, Panama, Ecuador, Paraguay, Taiwan, Jordan, Saudi Arabia, Oman, United Arab Emirates, Israel, Qatar, and Puerto Rico. The countries were selected because the GEM database has relevant information for the pertinent variables. The primary emphasis of the research is on critical metrics obtained from the GEM database: Access to Finance: This metric measures how readily loans, venture capital, and government subsidies are available to entrepreneurs in each country. Government Policies: This index evaluates the level of support or restriction of economic activities in various countries. Entrepreneurial Education: This metric measures how easily and well programs that provide potential company owners instruction and opportunities to advance their skills are available. This indicator gauges how much modern technology—the internet, software, and hardware any country can access and how much it could foster creativity and entrepreneurship. With the GEM database, these indicators may be compared across countries and the entrepreneurial climate in the selected countries examined.

3.2 Method of data analysis

A reflecting indicator structural equation modelling (SEM) estimate method was used in the SMART PLS software analysis of the original data. PLS-SEM is commonly used in business research because it can successfully assess complicated prediction correlations. Peng and Lai (2012) are among the researchers who have recognised its extensive use. Because PLS-SEM gauges how well one model component predicts the values of the other components, researchers like (Bodoff and Ho, 2016; and Hair et al., 2017) suggest it as the best prediction technique for explanation-focused investigations. Based on 262 examples, the model was calculated using a minimum of 5000 bootstraps at a one-tailed significance level. The structural and measurement models were evaluated as part of a two-step process. This model estimates using the reflecting repeated indicator approach (Becker et al., 2022). The validity and reliability of the measurement and structural models were assessed using several important metrics. The data dependability was evaluated using composite reliability (≥0.7) and rho_A (≥0.7). These indices ensure that the measurements fairly represent the construct they represent, therefore indicating the internal consistency of the data. With average variance extracted (AVE) (≥0.5), which gauges how closely the measures are related to the underlying concept, convergent validity was evaluated. We assessed discriminant validity using the standard technique variance inflation factor (VIF) (<5.0) and the Heterotrait-monotrait ratio (HTMT) ratio (<1). Factor loadings (>0.7; p≤0.05) indicating that the indicator significantly contributes to the underlying construct and path coefficients with their matching effect sizes (f2 above 0.35 [strong], 0.15 [moderate], and 0.02 [weak]) were used to evaluate indicator reliability in the structural model evaluation. Additionally looked at was the coefficient of determination (r^2); values above 0.67 were deemed significant, 0.33 moderate, and 0.19 weak.

IV. Empirical Results

To investigate the impact of access to finance and government policies on access to technology, considering the mediating role of entrepreneurial education, the reflective model configuration (repeated indicator) was employed. This approach facilitated an in-depth examination of the causal relationships between various dimensions of access to finance, entrepreneurial education, and government support policies and their impact on technology adoption. The measurement model was initially evaluated with the two-stage models before the structural model test was carried out for significance. This process rigorously ensured that the measures accurately reflected the constructs and that the data was consistent with the current study on the impact of Government policies and access to finance on access to technology, considering the mediating role of entrepreneurial education.

4.1 Descriptive statistics

Table 1 provides various statistical measures for the constructs under consideration: Access to Finance, Technology, Entrepreneurial Education, and Government Policies. The table includes the mean, median, observed minimum and maximum values, standard deviation, excess kurtosis, skewness, number of observations used, Cramér-von Mises test statistic, and Cramér-von Mises p-value for each variable.

Table 1: Descriptive Statistics

Series	Mean	Median	Observed min	Observed max	Standard	Excess kurtosis	Skewness	Number of	Cramér-von	Cramér-von Mises	p

					deviation	s		observations used	Mises test statistic	value
Access to Finance	0.000	0.217	-2.141	2.028	1	-0.803	-0.256	57	0.12	0.059
Access to Technology	0.000	-0.024	-1.66	2.598	1	-0.452	0.458	57	0.091	0.147
Entrepreneurial Education	0.000	-0.038	-1.93	2.164	1	-0.486	0.279	57	0.05	0.511
Government Policies	0.000	-0.095	-2.106	1.997	1	-0.695	0.379	57	0.127	0.047

0.000 is the mean for all four variables, and the data seems normalised or centred on 0. Medians for government policies, entrepreneurial education, and technological availability are all negative but around 0. Normalisation of the data probably occurred because the standard deviations were equal. Usually ranging from -2 to +2, the observed minimum and maximum values are broad. The distributions of government policies and financial access are slightly flatter (platypurtic) according to negative excess kurtosis values. Positive excess kurtosis indicates more leptokurtic (more peaked) distributions for technology access and entrepreneurial education. The Access to Finance negative skewness points to a longer left tail. The other three variables exhibit positive skew and are characterised by shorter right tails. Given are P-values and the statistics of the Cramér-von Mises test to help one ascertain if the distributions significantly depart from a normal distribution. Possible deviations from normality at the 10% significance level are indicated by the p-values for government policies and financial access being less than 0.10.

4.2 Construct Reliability and validity

Reliability, as defined by Hair et al. (2019), is the degree to which a measuring scale is open and produces constant results. The use of composite reliability (CR) and Cronbach's alpha (CA) helped to assess the dependability of this work. The lowest value of. Seven is exceeded by every CA metric (Hair et al., 2019). By comparison, every CR construct exceeds the seven cutoffs. Comparably, validity describes how well a measuring scale assesses the desired assessment construct (Sahoo & Vijayvargy, 2020).

Table 2: Construct Reliability and Validity

Series	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Access to Finance	0.881	0.887	0.918	0.736
Access to Technology	0.892	0.894	0.925	0.756
Entrepreneurial Education	0.913	0.925	0.938	0.792
Government Policies	0.863	0.891	0.907	0.712

The constructs demonstrated strong internal consistency reliability, with Cronbach's alpha values above 0.7 for all measures. The rho_A scores also exceeded 0.7, indicating the constructs were reliably measured based on the primary data quality collected. Composite reliability scores were above 0.7 across all constructs, which is satisfactory. Moreover, the convergent validity assessments were adequate, with the average variance extracted (AVE) surpassing 0.5 for each construct measure. This suggests that the indicators appropriately represented their respective underlying constructs used in the study.

4.3 Common method bias (CMB)

At some time, the tendency of the CMB effect became impossible to ignore completely. Thus, to prevent the influence of CMB, this study used Harman's single-factor approach, distinct instructions for each variable, and separated them into various sections of the questionnaires. Less than half of the difference, claims Harman, is explained by the single-factor approach (Hair et al., 2019). This work used the variance inflation factor (VIF) coefficient to study the collinearity across variables. According to (Hair et al., 2019; and Rehman et al., 2021), the VIF coefficient should be less than 5.0. Therefore, the correlations in Table 3 demonstrate that CMB is unnecessary, given the range of VIF coefficient values from 1.505 to 4.84. Results indicated that CMB is acceptable in this work.

Table 3: Common Method Bias/ Multicollinearity

Series	VIF
NES_A01_MEAN10	2.255
NES_A02_MEAN10	2.153
NES_A04_MEAN10	2.525
NES_A05_MEAN10	2.714
NES_B01_MEAN10	3.253
NES_B02_MEAN10	3.062
NES_B03_MEAN10	2.286
NES_B04_MEAN10	1.505
NES_D01_MEAN10	2.413
NES_D02_MEAN10	4.84
NES_D03_MEAN10	3.584
NES_D04_MEAN10	2.919
NES_E01_MEAN10	3.713
NES_E02_MEAN10	3.643
NES_E03_MEAN10	2.525
NES_E04_MEAN10	1.992

The inner variance inflation factor (VIF) values assess the potential influence of common method bias on the structural model relationships. Ideally, VIF values should be below the conservative threshold of 5.0 to indicate a lack of standard method bias issues. In this model, all constructs exhibit acceptable VIF values under 5.0.

4.4 Structural Model Assessment

Table 4: Indicator Loadings

Series	Beta Coefficient	T statistics	P values
NES_A01_MEAN10 <- Access to Finance	0.843	17.032	0.000
NES_A02_MEAN10 <- Access to Finance	0.859	25.173	0.000
NES_A04_MEAN10 <- Access to Finance	0.858	22.802	0.000
NES_A05_MEAN10 <- Access to Finance	0.873	21.209	0.000
NES_B01_MEAN10 <- Government Policies	0.907	43.253	0.000
NES_B02_MEAN10 <- Government Policies	0.897	57.616	0.000
NES_B03_MEAN10 <- Government Policies	0.853	19.663	0.000
NES_B04_MEAN10 <- Government Policies	0.703	6.95	0.000
NES_D01_MEAN10 <- Entrepreneurial Education	0.856	22.639	0.000
NES_D02_MEAN10 <- Entrepreneurial Education	0.945	58.184	0.000
NES_D03_MEAN10 <- Entrepreneurial Education	0.889	26.908	0.000
NES_D04_MEAN10 <- Entrepreneurial Education	0.868	19.844	0.000
NES_E01_MEAN10 <- Access to Technology	0.911	32.912	0.000
NES_E02_MEAN10 <- Access to Technology	0.891	33.283	0.000
NES_E03_MEAN10 <- Access to Technology	0.871	21.72	0.000
NES_E04_MEAN10 <- Access to Technology	0.801	12.936	0.000

All indicator loadings are well above the 0.7 threshold and highly significant ($p < 0.001$), indicating that the indicators are reliable in representing their respective latent constructs. The t-statistics are very high, proving that the indicator loadings are statistically different from zero.

4.5 Assessing the reflective measurement model

4.5.1 Heterotrait-Monotrait Ratio

Table 5: Discriminant Validity – Heterotrait-monotrait ratio (HTMT) list

Series	Heterotrait-monotrait ratio (HTMT)
Access to Technology <-> Access to Finance	0.742
Entrepreneurial Education <-> Access to Finance	0.553
Entrepreneurial Education <-> Access to Technology	0.792
Government Policies <-> Access to Finance	0.739
Government Policies <-> Access to Technology	0.862
Government Policies <-> Entrepreneurial Education	0.754

The Heterotrait-Monotrait Ratio (HTMT) is another vital technique For examining the multicollinearity and validity of a model such as SEM-PLS. The HTMT ratio evaluates the attribute of correlations in the model; as stated by (Larcker, 1981; Hair et al., 2019), if the HTMT values are more significant than 0.90, then discrimination shall not be applied. Thus, the HTMT ratio must not exceed 0.90 (Hair et al., 2019). From Table 5, the outcomes supported all the standard principles established by earlier scholars. Hence, the results demonstrate the approval of the HTMT discriminant level within this research since all the construct values are below 0.9.

4.5.2 Factor Loadings

In Table 6, the factor loadings of the variables are further shown. According to the result, some variables are related to higher values for the matching item loadings than other structures. Thus, each variable in this work has a genuine convergent validity to its item loadings. This finding implies improved validity and reliability of the measurement instrument in this investigation. It is also inferred that the research model in the present study is unaffected by the measurement bias tendency (Shah et al., 2020; Ahmad & Shah, 2020).

Table 6: Factor loadings

Series	Outer loadings
NES_A01_MEAN10 <- Access to Finance	0.843
NES_A02_MEAN10 <- Access to Finance	0.859
NES_A04_MEAN10 <- Access to Finance	0.858
NES_A05_MEAN10 <- Access to Finance	0.873
NES_B01_MEAN10 <- Government Policies	0.907
NES_B02_MEAN10 <- Government Policies	0.897
NES_B03_MEAN10 <- Government Policies	0.853
NES_B04_MEAN10 <- Government Policies	0.703
NES_D01_MEAN10 <- Entrepreneurial Education	0.856
NES_D02_MEAN10 <- Entrepreneurial Education	0.945
NES_D03_MEAN10 <- Entrepreneurial Education	0.889
NES_D04_MEAN10 <- Entrepreneurial Education	0.868
NES_E01_MEAN10 <- Access to Technology	0.911
NES_E02_MEAN10 <- Access to Technology	0.891
NES_E03_MEAN10 <- Access to Technology	0.871
NES_E04_MEAN10 <- Access to Technology	0.801

4.5.3 Direct path analysis

Table 7 further shows the empirical outcomes for the hypothesised direct relationships for the study.

Table 7: Path Coefficient

Series	Beta Coefficient	Standard deviation	T statistics	P values
Access to Finance -> Access to Technology	0.238	0.100	2.379	0.017
Access to Finance -> Entrepreneurial Education	0.100	0.142	0.703	0.482
Entrepreneurial Education -> Access to Technology	0.333	0.099	3.369	0.001
Government Policies -> Access to Technology	0.384	0.108	3.566	0.000
Government Policies -> Entrepreneurial Education	0.622	0.132	4.718	0.000

Access to finance had a positive and highly significant effect on access to technology (β=0.238, p<0.005), with standard deviation and t statistics of (0.100 and 2.379), respectively; therefore, **H1** is thus supported. **H2** is also supported; entrepreneurial education also had a positive and highly significant effect on access to technology (β=0.333, p<0.005), with standard deviation and t statistics of (0.099 and 3.369), respectively. Government policies, in turn, had a moderate, positive, and significant impact on access to technology (β=384, p<0.005, standard deviation=0.108, T statistics =3.566). Thus, **H3** is supported. This provides evidence that all direct path analyses significantly influence access to technology adoption by businesses at all levels.

4.5.4 Mediation analysis

Table 8: Specific Indirect Effect

Series	Beta Coefficient	Standard deviation	T statistics	P values
Government Policies -> Entrepreneurial Education -> Access to Technology	0.207	0.071	2.922	0.003
Access to Finance -> Entrepreneurial Education -> Access to Technology	0.033	0.053	0.628	0.530

Entrepreneurial education mediates the relationship between Government policies and access to technology for businesses (β=0.207, p=0.003, standard deviation=0.071, T statistics=2.922); thus H4 is supported. However, Entrepreneurial education does not mediate the relationship between access to finance and access to technology (β=0.033, p=0.530, standard deviation=0.053, T statistics=0.628); therefore, **H5** is rejected.

4.5.5 Hypothesis testing

The path co-efficient findings are attained by measuring the structural model. This paper applied a resampling bootstrap technique to get the T-statistics and original means (βÞ in the PLS-SEM approach). This study processed the data using 5000 bootstrapped samples (Hair et al., 2012). The direct path hypotheses' (p-value) vary between .000 and .05, as revealed in Tables 8 and 9 and Figures 2 and 3, respectively.

Table 9: Hypothesis testing results

Series	Beta Coefficient	Standard deviation	T statistics	P values	Decision
Direct Path					
H1: Access to Finance -> Access to Technology	0.238	0.100	2.379	0.017	Supported
H2: Entrepreneurial Education -> Access to Technology	0.333	0.099	3.369	0.001	Supported
H3: Government Policies -> Access to Technology	0.384	0.108	3.566	0.000	Supported
Mediation analysis					
H4: Government Policies -> Entrepreneurial Education -> Access to Technology	0.207	0.071	2.922	0.003	Supported
H5: Access to Finance -> Entrepreneurial Education -> Access to Technology	0.033	0.053	0.628	0.530	Not supported

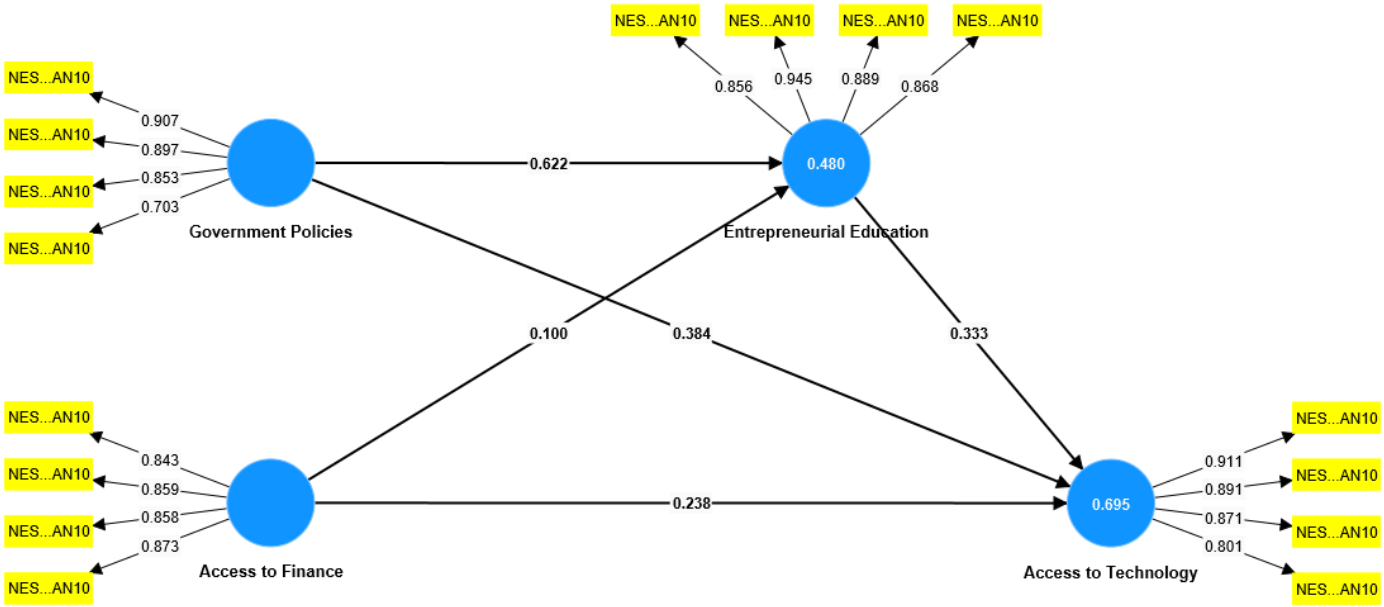

Figure 2: Structural Model (Factor loadings)

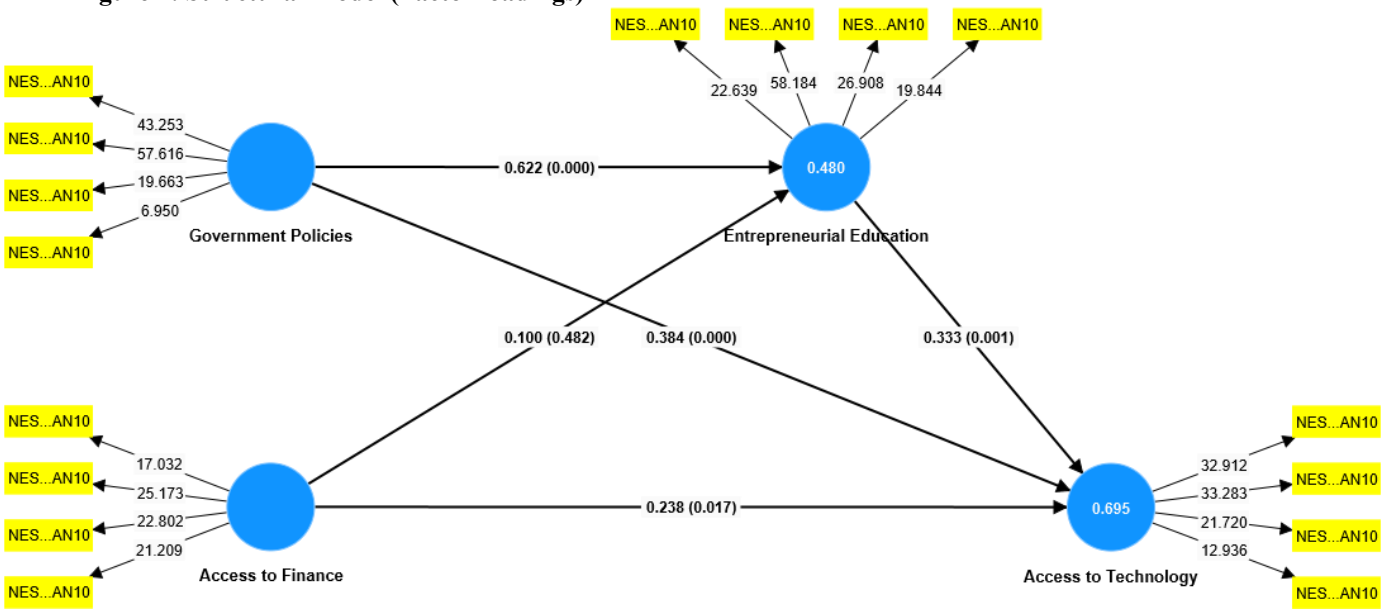

Figure 3: Structural Model with Parameter Estimates

4.5.6 Robustness

Table 10: PLS Predict

Series	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
NES_E01_MEAN10	0.456	0.643	0.532	0.666	0.519
NES_E02_MEAN10	0.469	0.787	0.579	0.887	0.654
NES_E03_MEAN10	0.557	0.707	0.541	0.573	0.457
NES_E04_MEAN10	0.314	0.957	0.756	0.917	0.729
NES_D01_MEAN10	0.475	0.825	0.653	0.803	0.649
NES_D02_MEAN10	0.416	0.726	0.563	0.774	0.604
NES_D03_MEAN10	0.156	0.746	0.554	0.777	0.604
NES_D04_MEAN10	0.255	0.669	0.503	0.636	0.505

The Q-predict values evaluate the predictive significance of the model. These figures should be higher. As such, the prediction error of the PLS route model is less than that of the naïve benchmark (Hair Jr., 2020). Most access to technology indicators (E01–E04) had Q^2predict values between 0.314 and 0.557. This Turns out to be

somewhat to moderately predictive. With values ranging from 0.156 to 0.475, the entrepreneurial education variables (D01–D04) show lower predictive usefulness for some items. Comparing the indicators to the LM benchmark, their RMSE and MAE values are low. The model demonstrates explanatory solid power for the key constructs of interest. Changes in entrepreneurial education cause 46.1% (moderate) variance in access to technology.

Table 10: Coefficient of Determination

	Q^2predict	R-square	R-square adjusted
Access to Technology	0.602	0.695	0.677
Entrepreneurial Education	0.436	0.48	0.461

V. Discussion of Empirical Findings

Resource-Based Theory (RBT) is the driving theoretical framework used in this study. As to the RBT, a company's ability to acquire, develop, and effectively use valuable, unique, and non-replaceable resources broadly defines its competitive advantage and exceptional performance (Barney, 1991; Lubis, 2022). Financial availability, encouraging government policies, and entrepreneurial education are considered critical resources within the framework of this study that facilitate entrepreneurs' adoption of new technologies and the development of their technological skills (Girma, 2022; Mohammed, 2022; Adri, 2022; Kayode et al., 2020; Wahab, 2019). The actual findings provide solid evidence in favour of the hypothesised favourable impacts of financial availability (H1), entrepreneurial education (H2), and government policies (H3) on entrepreneurs' access to technology. These results validate the fundamental thesis of the RBT, which emphasises the requirement of acquiring and using necessary resources to attain a competitive advantage (Mishra, 2018; Wardana et al., 2022; Yang & Wang, 2017). The study indicates that entrepreneurial education substantially mediates government policies and access to technology (H4). This finding highlights how these components are interrelated and how important entrepreneurial education is to transforming beneficial government policies into actual technical skills for companies. By giving potential entrepreneurs the necessary knowledge, abilities, and competencies, entrepreneurial education may enhance their ability to capitalise on advantageous policy circumstances and facilitate the effective adoption of innovative technologies (Saoula et al., 2023; Khuram et al., 2022). No evidence, however, was found to support the mediation role of entrepreneurial education in the relationship between technology and financial access (H5). This suggests that money availability may directly affect technological adoption even with a lack of entrepreneurial skills. Wealthy entrepreneurs may purchase and integrate new technologies into their companies without needing protracted educational interventions if they possess the necessary technical expertise or can get outside help (Mochamad et al., 2023; Ullah et al., 2012). Partial Least Squares Structural Equation Modeling (PLS-SEM) is used in the work, which advances the field by demonstrating the effectiveness and usefulness of this advanced analytical technique for analysing complex relationships between constructs, mainly when dealing with multidimensional and interdependent variables. Furthermore, verifying the robustness of the model and its ability to describe and forecast the interactions among the components effectively are the PLS-SEM analysis and predictive relevance assessments (Q^2predict, RMSE, and MAE) (Bodoff & Ho, 2016; Hair et al., 2017).

Furthermore, the research's multi-country sample provides perceptive details on entrepreneurs' opportunities and challenges in different economic and cultural contexts. Understanding the dynamics and resource configurations that may vary throughout regions and economies, this cross-country perspective enables a more complex comprehension of the factors influencing technology adoption in entrepreneurial settings. Together, this study's theoretical basis and empirical findings improve our understanding of the complex connections among government rules, entrepreneurial education, technology adoption, and finance availability in the entrepreneurial sector. The findings stress the significance of establishing a conducive environment that makes these vital resources available since they collectively affect entrepreneurial activities' technical capacities and competitive advantage (Kuratko & Menter, 2017).

The research findings will greatly influence educators, business owners, and policymakers. Policymakers may use these results to develop targeted legislation and supportive regulatory frameworks that advance technological innovation, financial access, and an entrepreneurship-friendly environment. Educational institutions and training programs may use these findings to organise and implement effective entrepreneurial education programs that provide potential company owners with the knowledge and abilities to identify, obtain, and effectively use technological resources. The study highlights the significance of actively seeking out and using helpful resources, like access to money, supportive government policies, and entrepreneurial education, to enhance their technical abilities and foster innovation within their companies. Understanding how these resources are connected and how they combined impact competitive advantage allows entrepreneurs to strategically allocate resources and make informed decisions to promote a technology-driven and creative

entrepreneurial environment. Furthermore, by indicating potential avenues for further research, the study's findings may lead to subsequent studies. For example, more information could be obtained by examining the exact mechanisms by which financial availability directly influences technology adoption or by examining the moderating effects of factors such as organisational structures, cultural characteristics, or industry characteristics on the relationships between the resources under research and technological capabilities. Lastly, this research advances the understanding of the critical role that government regulations, entrepreneurial education, and financing availability play in encouraging technology adoption and competitive advantage among entrepreneurial endeavours across various economic and cultural settings.

5.1 Theoretical Contributions

The Resource-Based Theory (RBT) is further extended in this work and applied to the setting of entrepreneurship and technology adoption. A firm's capacity to recognise, nurture, and efficiently use priceless, unique, and irreplaceable resources determines its competitive edge in RBT. In this work, we experimentally investigate how vital resources—financial availability, supportive government policies, and entrepreneurial education—enable entrepreneurs to embrace new technologies and improve their technical abilities, corroborating the RBT's claims. The relevance of this work is found in its application to the dynamic area of entrepreneurship, especially in the technical one, as well as in its validation of the current RBT concepts. Clarifying the mediating function of entrepreneurial education in the connection between government policies and technology adoption is one of the main theoretical advances this research has made. In this sense, the study emphasises the critical relationships that magnify the benefits of government programs that encourage the use of technology educational programs. This is quite a significant result as it shows how education may help connect policy goals with actual technology developments, providing a more comprehensive knowledge of resource mobilisation within the RBT framework. Moreover, the analysis shows that, while mediating the relationship between government policies and technology adoption, entrepreneurial education does not mediate the relationship between money and technology. This variance complicates our knowledge of the relationships and consequences of various resources on entrepreneurial activity.

Moreover, by including these resources' complex and interconnected character in the RBT framework, our study broadens the theoretical range. Partial least squares structural equation modelling (PLS-SEM) is used in this work to demonstrate methodological rigour and well-understood complicated interactions between components. This systematic work is essential as it shows how to use PLS-SEM to evaluate multivariable complicated models, expanding the variety of analytical methods accessible for study in this field. The work provides a better knowledge of how many elements affect technology adoption and entrepreneurial success using PLS-SEM capture of the complex dynamics. The study's worldwide sample thoroughly explains entrepreneurs' chances and difficulties in various economic and cultural settings, extending the theoretical contributions further. Using a cross-country approach, one may examine more closely how various resource arrangements affect technology uptake and competitive advantage in entrepreneurial contexts.

The paper gives insightful information on RBT's general applicability and constraints by analysing the particular dynamics of industrialised and emerging countries. Such a comprehensive approach improves and generalises the conclusions by introducing a variety of situations to the theory. Furthermore, the synergistic benefits of pooling many resources are examined in the research, significantly increasing the RBT. The paper claims that an excellent entrepreneurial education, encouraging government regulations, and financial access create an environment conducive to company success and technical innovation. Against common belief, this comprehensive perspective demonstrates how resource combinations—rather than individual resources drive competitive advantage. This viewpoint implies that resource management and use in commercial enterprises must be re-evaluated and that a coordinated strategy may provide better results than concentrating on different resource streams.

Furthermore, enhancing the RBT is the temporal dynamics of resource allocation and consumption included in this study. It looks at how the efficiency of technology adoption techniques varies with time and method of getting and utilising these resources. The study looks at the long-term elements of resource management to provide a further understanding of the strategic planning procedures that support practical company activities. Enriching the theoretical framework, this temporal component emphasises the need to organise the allocation of resources throughout time in addition to their ownership. This study shows how various resource configurations may promote technological innovation and entrepreneurial success, therefore validating the fundamental ideas of RBT and expanding its application. The results emphasise the requirement of an ecosystem that supports technology usage by combining financial resources, legal frameworks, and entrepreneurial education. This publication substantially improves the theoretical landscape of entrepreneurship and technology adoption by offering the chance for future studies to investigate the precise processes by which these resources interact and affect entrepreneurship results. This paper established a new standard for further study in this area. It prompted more in-depth and multidimensional studies of the intricate world of entrepreneurship because of its thorough approach and creative use of methodological tools.

5.2 Managerial implications

The study findings will greatly influence lawmakers, educators, and company owners regarding management. The paper stresses that business owners must actively seek and use necessary resources, including capital, supporting government policies, and entrepreneurship education. Through knowledge of the interactions between these resources, entrepreneurs may strategically distribute resources and make informed decisions to support innovation and technological development inside their firms. In a quickly evolving technological industry, doing this will give company owners a competitive edge. One significant implication is that entrepreneurial education must be prioritised in a strategic plan. By continuously investing in learning and development, entrepreneurs may provide their teams and themselves with the most current technological knowledge and skills. Their ability to handle the complexity of modern business scenarios is improved, and they find it simpler to adopt new technologies when they have a proactive approach to education. Entrepreneurs could seek partnerships with academic institutions and corporate executives to provide specialised training courses that address specific technological and management problems. The report stresses to educators and programmers developing training programs the importance of entrepreneurial education in bridging the gap between government policy and technology adoption.

Education institutions must design and implement programs that provide would-be entrepreneurs with the skills and knowledge required to identify, obtain, and use technological resources. Such courses should emphasise real-world, practical experiences that reflect actual business problems and prepare students to manage the intricacy of modern corporate environments. To prepare graduates for the demands of the continually changing market, the curriculum must also be regularly updated to reflect the most current advancements in technology and business trends. Lawmakers will find important information in this report to help draft targeted legislation and regulatory frameworks supporting technological innovation and entrepreneurship. Policies that, for instance, provide tax incentives, robust intellectual property rights, and accelerated regulatory processes may create an environment favourable to entrepreneurship. Moreover, suppose the mediation role of entrepreneurial education is recognised. In that case, authorities may collaborate with academic institutions to create integrated programs that maximise the impact of their efforts on the adoption of technology and economic growth. Part of this cooperation may include funding for educational initiatives, incentives for industry-academy collaborations, and establishing innovation centres that encourage collaboration among lawmakers, company leaders, and teachers.

Furthermore, emphasised in the research is the need for collaboration among lawmakers, educators, and entrepreneurs. Working together, these stakeholders may create a logical atmosphere that promotes scientific advancement and economic success. Legislators should provide financial assistance for these alliances as well as advantageous laws. For example, alliances between industry and educational institutions could ensure that the curriculum satisfies the contemporary market's needs. Such collaborative ventures may create support networks that address entrepreneurs' challenges, from raising financing to developing cutting-edge technological skills.

Moreover, the research findings provide doable suggestions for overcoming barriers to technology use. Entrepreneurs might use these findings to identify and solve issues such as limited access to funding or inadequate educational resources. Those entrepreneurs who create targeted strategies to overcome these challenges could maintain a competitive advantage in their particular sectors and advance their technological abilities. Using digital platforms for continuous education and skill development and seeking alternative funding sources like crowdsourcing or venture capital can be part of this. This article presents an all-inclusive framework for fostering an environment that encourages technological innovation and corporate success. Practically, a road plan for the wise allocation of resources, the development of educational initiatives, and the formulation of legislation may help businesses, educators, and lawmakers all. Using this information, interested parties may progress in technologically sophisticated entrepreneurial ecosystems and sustainable economic growth. The paper stresses the importance of a thorough resource management approach, combining legislative, educational, and financial resources to support technological progress and corporate success.

VI. Conclusion

In many economies, government policy, entrepreneurial education, and technology adoption for entrepreneurs are all intertwined in intricate ways. The research aimed to increase understanding of how these essential resources impact the development of technical skills and the adoption of new technologies in the commercial effort, with the Resource-Based Theory (RBT) acting as its theoretical foundation. The empirical findings offered significant new information and were derived by careful analysis utilising Partial Least Squares Structural Equation Modeling (PLS-SEM). First, consistent with the RBT's emphasis on acquiring and using valuable resources to create competitive advantage, access to finance, entrepreneurial education, and favourable government laws significantly and positively impacted entrepreneurs' ability to acquire technology. The study showed how entrepreneurial education mediates between government policy and technology availability. It became evident from this outcome how closely these components are tied to creating the entrepreneurial climate

and encouraging technical readiness. However, entrepreneurial education did not moderate access to money or technology, indicating that financial resources may impact technology adoption independently of educational interventions. The work's theoretical contributions extended and enhanced the RBT's usefulness in the context of entrepreneurship and technological acceptance. By empirically examining these critical resources and their relationships, the study enhanced this theory in entrepreneurship and supported the RBT's assumptions.

Moreover, the multi-country sample used in the study offered perceptive information about the different chances and issues that entrepreneurs face in different economic and cultural contexts, so enabling a more sophisticated understanding of the factors influencing the adoption of technology in entrepreneurial contexts. Significant implications will be found by the study's findings by businesses, educators, and policymakers. Policymakers may utilise these results to create targeted legislation and supportive regulatory frameworks that advance technological innovation, financial access, and an entrepreneurship-friendly environment. Educational institutions may plan successful entrepreneurial education programs that teach potential company owners the information and skills required to identify, obtain, and use technological resources.

The paper emphasises for entrepreneurs the importance of actively looking for and using essential resources, like access to money, supportive government policies, and entrepreneurial education, to enhance their technological abilities and foster innovation within their companies. Entrepreneurs who know how these resources are connected and how they combined impact competitive advantage may strategically allocate resources and make informed decisions to promote a technology-driven and creative entrepreneurial environment. At last, the present study represents a significant advancement in understanding the complex relationships among government rules, entrepreneurial education, technology adoption, and finance availability in the entrepreneurial sector. This study advanced theoretical knowledge by applying rigorous analytical techniques and resource-based theory as a framework. It provided practical recommendations for fostering economic growth, the development of entrepreneurs, and technological innovation in various contexts.

6.1. Limitations and Future Research Agenda

Even as the study produced significant findings, it is crucial to acknowledge its limitations and identify areas that need further research. Investigating the mechanisms through which financial resources influence technology adoption and the moderating effects of factors such as industry traits, cultural factors, or organisational structures on the relationships between the studied resources and capabilities could yield more information and help develop the theoretical and practical implications.

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