

The Role of Government in Institutional Enhancement of Innovation and Competition

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The paper explores innovation policy's role in a globalized world. It focuses on how a policy of governmental intervention can propel innovation and secure a leading role in global markets. The world is in flux due to the transformative impact of technology and innovation, and competition between countries is intensifying. The role of governments in technology development is crucial and indispensable in a globalized world. This is because economic growth is intricately linked to innovation. As the research shows, governments have the most significant influence on innovation. They foster the creation of new innovative products and bolster the success of local companies in the global competition. Governments should lead a policy that champions innovation to triumph in global competition. This policy is deeply entrenched in the market and shapes the trajectory of technological advancement. It differs from previous policies that advocated free trade and allowed markets to dictate developments. The paper also demonstrates that government support for technological advancement and global competitiveness requires a robust economy, deregulation of financial markets, and technological supremacy in building human resources. Technology transfer is a vital conduit of cooperation for businesses and nations. Competition policy permits competitors to collaborate on innovation and empowers governments to contribute to private-sector investments in innovation. Open markets are not just desirable but imperative for countries in global competition. In a global world, competition between countries hinges on open markets and globalization, underlining the urgency of these factors. The research concludes that countries that lag in their technological development and secure economies are at risk of exploitation in a global economy and a globalized world. This is the nature of competition between countries, with technology and innovation serving as the bedrock for the economic survival of countries.

Keywords: Innovation, Technology, Competition, government, Public Sector

Introduction

In modern times, one of the most distinguishing factors among countries is their technological standing. Technology is critical in driving change due to its transformative power across multiple domains. Technological advancements often increase efficiency and productivity in various sectors. Automated processes, improved machinery, and streamlined workflows allow organizations to produce more with fewer resources, driving economic growth and development. Technology fuels innovation by providing tools and platforms for creativity and problem-solving; technology enables the development of products, services, and processes.

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The study aims to explore the dynamics of innovation policy within the context of globalization, mainly focusing on how government intervention can stimulate innovation and position a country as a leader in global markets. With the profound impact of technology and innovation, the international landscape is undergoing rapid transformation, intensifying competition among nations. In this context, the role of governments in fostering technological development becomes paramount, given the strong correlation between economic growth and innovation.

The research examines the central role of governments in driving innovation, emphasizing the need for proactive measures to encourage the creation of innovative products and support local companies in competing globally. In today's competitive environment, governments are urged to adopt policies that not only oversee markets but also actively stimulate innovation and shape the trajectory of technological advancement. As the paper elucidates, adequate government support for technology advancement and global competitiveness hinges on several factors, including a secure economy, deregulation of financial markets, and a focus on nurturing human capital.

The research underscores the complex interplay between technology, innovation, government policies, and global competition, highlighting the need for strategic approaches to navigate these interconnected realms effectively. It looks into governmental intervention policies as the mechanism that can drive innovation and secure a leading position in global markets. It shows that government intervention policies can serve as mechanisms to drive innovation and secure leading positions in global markets, indicating a proactive role for governments in shaping technological progress and competitiveness. It demonstrated that innovation requires financial investments and investments in human capital and institutional frameworks. These conclusions are based on the European Central Bank's (2019) finding that innovation should catalyze progress in societies and countries striving to bolster their competitive standing through technology investments, with structural measures such as increased spending on research and development and educational investments crucial for promoting innovation. This policy includes structural measures such as spending on research and development (R&D) and educational investments for innovation. The indicators commonly used for the OECD countries focus on R&D expenditures, R&D labor force, patents, and high-technology product exports (Erdin & Çağlar, 2022).

Research Methods

This research aims to provide a comprehensive understanding of the role of government in enhancing innovation and competition, offering valuable insights for policymakers, industry leaders, and scholars interested in the dynamics of technological and competitive advancements. The primary goal of this research is to investigate the role of government in fostering innovation and competition through institutional enhancements. This includes understanding how government policies, regulations, and interventions impact technological advancement, economic development, and competitive dynamics in various sectors. Specifically, the study aims to analyze the effectiveness of government strategies in promoting technological innovation and maintaining competitive advantages. It further examines how

government actions influence institutional frameworks that support innovation, aiming to identify best practices and strategies employed by different governments to enhance innovation and competition.

The research explores the interplay between government policies and industry responses to technological and competitive challenges, particularly in advocating how government policies and regulations impact innovation and competition within different sectors. This question explores the relationship between governmental interventions and their influence on technological advancements and competitive dynamics. Another research question concerns the role of government institutions in shaping the innovation landscape. This analysis question focuses on understanding how various government bodies contribute to or hinder innovation and how their roles evolve in response to changing technological and competitive environments. The research attempts to demonstrate practices employed by governments to enhance institutional frameworks that support innovation and competition and identify effective strategies and practices that governments have used successfully to promote innovation and competitive advantages.

The central hypothesis of this research is that effective government interventions and institutional enhancements significantly contribute to fostering innovation and sustaining competitive advantages across various sectors. Governments that actively create supportive policies, provide funding, and facilitate infrastructure development will experience higher levels of innovation and more robust competition within their economies. Additionally, institutional frameworks integrating government support with industry needs and technological advancements are more likely to result in successful innovation outcomes and competitive market positions.

This study employs a multifaceted approach to examining the dynamics of innovation policy within the context of globalization. It focuses on the role of government intervention in fostering technological advancement and enhancing global competitiveness. The methodology integrates qualitative and quantitative research methods to analyze how government policies influence innovation and technological progress comprehensively. This study examines the pivotal role of technological supremacy in driving global innovation, competitiveness, and economic development. Technological supremacy is a country, organization, or entity's significant advantage over others regarding technological capabilities across various sectors. This advantage can be evidenced through advanced research and development (R&D), state-of-the-art infrastructure, a highly skilled talent pool, and effective technology deployment in diverse applications.

At the heart of this supremacy is the catalytic effect on innovation. Technological supremacy accelerates progress, drives economic growth, and facilitates societal advancement. Countries or entities with superior technology often produce better products, services, and solutions, translating into increased market share, higher revenues, and robust economic growth. They influence global standards, shape regulations, and set industry trends, thus directing the course of worldwide innovation.

The study emphasizes that innovation is inherently linked to technological supremacy and is crucial for contemporary global business and inter-country competition. Technological advancements have revolutionized the global economy and become central to competitive strategy. As nations and organizations contend

in a globalized environment, policies must evolve to address international competition challenges, necessitating technological creation, acquisition, absorption, and dissemination strategies.

The study underscores the role of governments in driving technological innovation and competitiveness. Governments are integral in funding R&D and creating supportive frameworks for innovation. Innovation is increasingly a component of national economic growth and competitive positioning strategies. Effective governmental policies include public venture capital for early-stage funding and initiatives to mitigate risks associated with innovation. These policies are essential for maintaining global competitiveness and fostering technological advancements. In the public sector, innovation is driven by the need to address public issues and improve service delivery. Governments must encourage innovation and investment in digital systems to enhance public services and drive economic growth. Implementing innovation in public systems requires overcoming these obstacles and ensuring effective policy frameworks.

The research maintains that technological supremacy is critical in shaping global competitiveness and economic development. Governments that support innovation and technology can enhance their competitive advantage and contribute to broader economic growth. As the global landscape evolves, the interplay between technological advancement, economic strategy, and public sector innovation will continue to be pivotal in determining success and stability on the world stage. The study formulates policy recommendations for governments to enhance innovation capacities and global competitiveness. These recommendations address vital areas such as investment in R&D, support for human capital development, and creation of conducive regulatory environments. The goal is to provide actionable guidance for policymakers to design and implement effective innovation strategies. The approach provides a comprehensive understanding of the factors influencing technological advancement and the role of policy in shaping competitive advantages.

Government Intervention

This research highlights governments' critical role in shaping technology and innovation and ultimately participating in global competition. Examining the role of governments emphasizes how closely intertwined technology, innovation, and international competition are. With the impending reality of international competition, governments face pressure to enhance innovation and public sector performance while containing expenditure growth (Curristine et al., 2007). Innovation presents equal opportunities to all countries, yet those leading in generating advanced technologies and leveraging their digital economies gain strategic competitive advantages (Schwab, 2018). With technology's rapid growth, the digital economy has transformed government and business operations and reshaped global competition dynamics. However, although technological advancements and innovation are key drivers of competitiveness worldwide, and innovation is portrayed as offering equal opportunities to all countries, not all countries may be equally positioned to take advantage of these opportunities. Countries that generate advanced technologies and

utilize digital economies gain significant strategic advantages in global competition. This reflects the idea of technological leadership as a determinant of competitiveness.

As explained by Pingali et al. (2023), the rapid growth of technology has led to transformative changes in how governments and businesses operate in the public sector and innovating their service delivery, communication, and data management. Accordingly, strategic government intervention can lead to resource concentration in specific industries and entities, with governments having a critical role in directing resources towards priority areas or deemed sectors crucial for national competitiveness. Such policy facilitates the relationship between innovation, technology, government policies, and global competition, emphasizing the importance of proactive measures to foster innovation and maintain competitiveness in the contemporary economy. As explained by Wang et al. (2021), a particular lesson from the consequences of the COVID-19 pandemic is that governments have initiated steps to balance economic policy objectives to address the social and public crisis to revive economic growth and innovation systems to stabilize their economies.

Innovation system refers to the institutions, actors, and infrastructures that shape innovation activities within national boundaries (López-Rubio et al., 2024). Edquist, (2009) defines global innovation as the capability of a nation's financial influence on the creation, diffusion, and adoption of new ideas and technologies. Innovation is widely recognized for its societal benefits and crucial contribution to economic growth. It transforms novel ideas into products, processes, or organizational structures. It aims to enhance and streamline performance while bolstering organizational productivity and enabling private and public entities to adapt to evolving environments. Initially focused on private organizations, innovation has become intricately linked with globalization and technological progress.

Collaboration and technology transfer between businesses and nations are highlighted as essential avenues for fostering innovation, facilitated by competition policies encouraging competition among competitors and government contributions to private-sector investment in innovation, given the imperative of open markets in global competition, countries that lag in technological development and economic security risk vulnerability to exploitation in the interconnected global economy. This underscores the contemporary nature of competition among nations, where technological innovation is a cornerstone for financial resilience and survival in the globalized world.

Traditionally, government intervention in innovation was confined to facilitating private-sector initiatives, allowing businesses to pursue their interests largely independently. Governments typically adhered to traditional innovation policies, which were believed to create an environment conducive to innovation rather than actively stimulating it. This approach was rooted in the notion that the state's involvement in the economy should be minimal, intervening only when market failures occurred. However, as Deleri (2015) explained, this policy had significant shortcomings, primarily because it socializes risks while privatizing rewards.

In contrast, acknowledging the state's role in shaping innovation allows for public investments as a catalyst for driving innovation and economic growth. A heightened interest in fostering innovation within the public sector has emerged, driven by the imperative for public organizations to adapt to global and technological

shifts and secure strategic advantages crucial for sustainability. Many countries have recently strengthened antitrust enforcement to maintain a fair market competition environment, mainly targeting digital platform companies. Recognizing the state's role in shaping innovation allows governments to increase economic growth through public investments. This shift in perspective allows for the strategic allocation of resources toward research and development, infrastructure, education, and other initiatives that directly support innovation efforts. In doing so, governments can effectively leverage their influence to create an environment where innovation flourishes, benefiting society and the economy.

Innovation has increasingly intertwined with globalization and technological advancements (Niebel, 2018). There has been a growing interest in nurturing innovation within the public sector. This interest is driven by governmental organizations' need to respond to global and technological transformations and gain strategic advantages essential for their sustainability. These initiatives encompass management strategies, services, processes, products, and technologies to advance administrative systems and foster regulatory and legislative frameworks conducive to public sector innovation (Eldar & Fagerberg, 2017).

Innovation policies have evolved significantly, transitioning from addressing market failures through indirect governmental involvement to actively leading the market through direct intervention. This policy shift is rooted in the changing landscape characterized by intensified competition among nations, underscoring the crucial role of governments in driving technological development. Unlike before, governments now play a pivotal role in fostering innovation by proactively creating new markets rather than solely rectifying existing ones. This recognition of the indispensable role of public investments in shaping and establishing new markets marks a fundamental departure from previous approaches. According to Wang (2017), government intervention is paramount in supporting research and development initiatives since relying solely on markets may not provide sufficient incentives for knowledge generation and production. He argues that the government serves as a critical determinant of innovation capacity, although the extent and nature of its involvement in innovation remain subjects of debate. Consequently, government intervention varies across economies, from directive intervention, where governments actively advise industrial policy and invest in selected sectors, to facilitative intervention, where governments focus on creating a conducive environment and providing public goods for industries.

Technological Supremacy

This study emphasizes the central role of technological supremacy in driving innovation, competitiveness, and economic development in the global landscape. This aspect refers to a state where a country, organization, or entity possesses a significant advantage over others regarding technological capabilities across various fields. This advantage can manifest in advanced research and development, cutting-edge infrastructure, a superior talent pool, and effective technology deployment in multiple sectors.

Technological supremacy catalyzes innovation, driving progress, economic growth, and societal advancement. Its impact on innovation provides a significant competitive edge in the global market. Countries with superior technology can offer better products, services, and solutions, leading to increased market share, higher revenues, and enhanced economic growth. These countries significantly influence the global stage by setting standards, shaping regulations, and influencing industry trends, thereby shaping the direction of innovation worldwide.

Innovation revolves primarily around technological supremacy, which is crucial in contemporary global business and inter-country competition. Technological advancements have revolutionized the global economy and emerged as a significant component of competitive strategy since policies must adapt to meet the challenges of international competition, necessitating a national strategy for technology creation, acquisition, absorption, and dissemination across various economic sectors. As a result, the government's role in advancing technology has become indispensable for countries' global and economic development, given the transformative impact of technological advancements that integrate economies into a unified market (Akis, 2015). In a globalized world, technology is increasingly important for countries' prosperity and competitiveness, with innovation playing a crucial role in nations' competitiveness. Developed and developing countries rely on investments in science and technology as critical components of sustainable development. According to Reghunadhan (2020), technological supremacy has become an inherent aspect of national and strategic positioning among countries.

Technology is critical in driving change to adapt, innovate, and thrive. Digital technologies represented by big data and artificial intelligence are profoundly changing enterprises' business models and competitive landscapes (Bresciani et al., 2021). Digital economy and technological advancements have transformed individual organizations and reshaped the dynamics of global competition. This implies a shift in traditional notions of competitiveness and the emergence of new factors driving success in the worldwide marketplace (Feliciano-Cestero et al., 2023). The proliferation of digital technologies has connected people and businesses, interconnecting the exchange of ideas, knowledge, and resources and driving collective advancements in science, medicine, education, and beyond. Technology influences socio-economic dynamics by shaping how people interact, work, and live. From the rise of digital economies to the democratization of information, technology has also profoundly affected employment patterns, income distribution, social mobility, and quality of life. Digitalization is critical for enterprises to mitigate risks, enhance competitiveness, and ensure survival.

Technological advancements have revolutionized the global economy, driving technological progress and staying ahead, which are crucial for success in contemporary global business and competition among countries. Appio et al. (2021) emphasize the roles of innovation, digital adoption, and financial technologies in driving the economic and financial landscape. Di Vaio et al. (2021) explain that success in global competition is increasingly tied to technological capabilities and innovation since technology has become a vital component of competitive strategy for businesses and nations. According to Huesig and Endres (2019), given the challenges of global competition, nations must formulate a national strategy focused

on technology creation, acquisition, absorption, and dissemination across various economic sectors. This reflects the recognition that policies must adapt to the realities of global competition to foster technological advancement and competitiveness by playing a crucial role in shaping the technological landscape through policies to ensure sustainable development and maintain competitiveness on the world stage. This includes initiatives such as public venture capital for early-stage funding and assistance in mitigating risks associated with innovation.

Technology and innovation encourage global competitiveness and economic development, underscoring the need for strategic policies and investments to foster technological advancement and maintain competitive advantages. In a contemporary economy, innovation is a crucial driver of financial growth, complemented by technology's openness to the global market and the deregulation of financial markets. In a globalized world, where economies are interconnected, competition among countries is predicated on innovation. Falling behind technological advancement and economic stability renders countries vulnerable to exploitation in this competitive landscape. Caragea et al. (2024) show that greater competition increases the probability of innovation. Wang (2017) explains that adequate government support targeted at companies significantly enhances their innovation performance, with strategic government intervention leading to resource concentration in specific sectors and entities.

This approach emphasizes how technology's openness to the global market contributes to economic development. Technological advancements facilitate cross-border transactions and market integration, fostering economic growth on a worldwide scale. The deregulation of financial markets is a significant factor in innovation and technology, as it removes barriers to market entry and fosters competition. In a globalized world, where economies are interconnected, nations must continuously strive to stay ahead in technological advancements to maintain competitiveness on the global stage. In contrast, falling behind in technological advancement and economic stability leaves countries vulnerable to exploitation in the competitive global landscape. This highlights the importance of innovation in avoiding being marginalized or taken advantage of by more technologically advanced competitors.

Economic Security

The research underscores the growing significance of governmental involvement in technology development as competition intensifies between countries. It asserts that governments are central in driving innovation and funding new markets to foster technological progress. One of the primary advantages of innovation is its contribution to economic growth, which can yield substantial benefits for both consumers and businesses. Through their innovative initiatives, nations can achieve a competitive advantage. López-Rubioa et al. (2023) explain that competitiveness has become a sustainable development strategy worldwide, allowing countries to implement policies to boost national competitiveness. However, not all countries have been prosperous because each country has unique characteristics that apply

only within its national borders. According to the European Central Bank (2019), for innovation to fully realize its benefits, it must permeate the economy and benefit companies across various sectors and sizes equally.

Economic security is vital to technological advancement and global competitiveness (OECD, 2018). This fosters economic growth and stability while upholding living standards, education, and consumer welfare (World Bank, 2016). Rapid technological advancements and accelerated globalization alter the context for economic development, offering developing and emerging countries opportunities for increased productivity and access to new resources and markets. However, the characteristics of research and development activities often result in lower financial benefits for investing entities than the overall market benefit. Consequently, private investment may fall short of the optimal level perceived by the market, and government intervention is necessary to mitigate these market failures and incentivize investments in research and development (Lamba & Malhotra, 2009).

The outcome of this reality in a global economy demonstrates the critical role of innovation, government policies, and competition in driving economic growth and competitiveness in the contemporary global landscape. It emphasizes the need for proactive measures to foster innovation in the private and public sectors, focusing on leveraging technology and creating supportive frameworks for innovation. The most distinctive factor that differs between countries in modern times is their technological status since technology is a crucial driver of change (Borrás & Edquist, 2013). Governments must have and should play a vital role in innovation and creating new markets rather than merely rectifying existing ones. These include public venture capital for early-stage funding and assistance in mitigating technical, commercial, and financial risks associated with innovation. By funding R&D programs and demonstration projects to alleviate these risks, the government provides the private sector with a clearer understanding of the potential demand for innovative products.

The interplay between competition and innovation has been a longstanding focus for economists and scholarly investigations into global competition among nations (Petropoulos, 2015). Globalization typically brings about market expansion (Vives, 2008), driven by technological advancements that lead to the integration of economies into a single market. Technological progress and open markets are imperative for countries engaged in global competition, as competition among nations in a globalized world is based on open markets and globalization, contrasting with economies centered on closed markets. Government policies must foster competition to comprehend the dynamics of global competition among countries and the role of technology in a globalized context. As Petricevic and Teece (2019) explain, the global economic order requires fundamental business and management practices shifts. Doğan (2016) explains that technology and innovation are the predominant factors shaping countries' competitive status globally since each category's defining characteristic is its innovation policy, as innovation's role in global competition has become pivotal for both developed and developing nations. Eldar & Fagerberg (2017) concluded that a common thread among all countries is the essential nature of innovation policy for their competitive advantage, prompting

policymakers to consider all stages of the innovation process when formulating and implementing policy.

This role of governments needs to advance the multifaceted relationship between business innovation, government policies, global competition, and technological advancement. There has been increasing recognition of the role of business innovation in facilitating substantial societal advancements and enhancements. Research by Cainelli et al. (2004) suggests that innovating firms outperform non-innovators in terms of productivity levels and economic growth. Farida and Setiawan (2002) explain that business innovations have become indispensable strategies for enterprises to cultivate competitiveness and market potential in the fiercely competitive global landscape. Jung and Shegai (2023) found that digital market innovation directly and indirectly affects the firm's performance.

Innovation determines firm performance (Bauweraerts et al., 2022). Digital services and technologies enable firms to accurately portray customers' credit and reduce information asymmetry in financial lending. They also help firms deliver information to consumers very quickly. Digital technology apps have also lowered transaction costs through the flow of credit funds (Feng et al., 2022). Financial innovation, digitalization, and sustainable development have emerged as crucial forces in today's rapidly changing global business landscape (Yang & Zhang, 2020). Global competitiveness motivates firms to make different strategies to increase their profits by increasing market shares, consolidating comparative advantage, and improving product efficiency (Goel et al., 2022). Technological innovation combined with financial and digital breakthroughs has revolutionized how businesses work (Han et al., 2023) and given a potential route toward a more sustainable future as the world struggles with severe environmental concerns (Tabbasam et al., 2023).

The Public Sector

The public sector plays a crucial role in fostering and embracing innovations, which leads to higher levels of trust and satisfaction with governmental operations. Innovation processes within the public sector are geared towards implementing novel ideas to generate public value while leveraging technology to address public issues and enact governmental policies. These efforts encompass policies to sustain economic progress and development and support management strategies, services, processes, and technologies across public organizations. They encompass changes in policy formulation, revision of policy-setting processes, and initiatives to foster and disseminate innovation.

Governments should encourage and support innovation and public and private investment in digital systems in the global landscape (Wang et al., 2023). Among all areas of public service, digital services hold the most significant potential for economic growth, driving innovation in products, services, processes, business models, and organizational arrangements. The significance of innovation culture in global competition underscores the role of government policies and regulations in fostering or hindering innovation. Cinar et al. (2024) argue that while there is growing literature on innovation types in the public sector, prior studies have

analyzed data from a single country. This can be achieved by depending on local strategic partners to mentor newly-born companies and providing access to scientific facilities in universities or hospitals. Friedmann and Pedersen (2024) found that innovation policies should facilitate knowledge creation and diffusion within national innovation systems. According to Devarakonda (2024), the role of government venture capital is to promote startup innovation within transition economies, which is valuable for entrepreneurs and policymakers in transition economy contexts.

The Organization for Economic Co-operation and Development (OECD) defines innovation in the public sector as implementing a new or substantially improved product or process, marketing method, or organizational method in business practices, workplace organization, or external relations. OECD countries aim to deliver user-focused, better-defined services aligned with user demand. Public service employees play a pivotal role in enhancing the public supply of services or introducing new services. Technology facilitates increased citizen awareness and engagement with government services, necessitating more innovative approaches within the public sector. However, as further explained by the OECD (2018), there still needs to be more knowledge and application of public sector innovation and its outcomes, costs, and enabling environment. Public sector innovation is sporadically institutionalized in government budgets, roles, and processes, necessitating more consistent application of the full range of tools available to policymakers for accelerating innovation. To aid governments in fostering more innovative practices, the OECD has developed an integrated framework for mapping existing approaches and policies supporting public sector innovation in human resource management, training, and regulations.

The Global Risks Report (2022) highlights the rapid digitalization efforts in developing economies but also cautions about the potential deepening of digital divides due to limited technical and financial resources. The World Bank report (2016) emphasizes the criticality of adopting an innovation culture in the public sector to fully leverage the digital age's potential and ensure institutional coordination and resource mobilization for both the private and public sectors.

Implementing innovation in public systems is fraught with complexities, particularly in environments needing more practical competition and characterized by bureaucratic hurdles. These obstacles dampen motivation for innovative processes within central governments and their public branches. Developed countries' experiences demonstrate that effective intervention necessitates robust government support, yet disparities emerge between developed and developing countries. Experiences from developed countries underscore the importance of strong government support for effective intervention in terms of their ability to implement such interventions effectively. The evolving role of governments in fostering innovation highlights a growing recognition of their instrumental role in driving technological progress and economic growth on a global scale. Governments are under pressure to improve the performance of their public sectors while also managing expenditure growth. This suggests a dual challenge of improving services and efficiency while considering costs.

Despite the significant impact of innovation on reshaping industries, the concept of innovation in the public sector and its implications for political, social, and cultural systems have yet to receive adequate attention. This neglect must be addressed, given the imperative to enhance public services and deliver value for the public good (Lee et al., 2012). The practices observed across different countries underscore the complexities associated with implementing innovation in public systems that operate without practical competition and within an environment deemed secure for their continuity and political stability. In developed and developing nations, the digital divide and bureaucratic hurdles pose significant obstacles to progress, dampening motivation for innovative processes within the central government and its public branches. As explained by Chaudhry and Garner (2006), countries lagging in technological advancement and economic stability become more susceptible to exploitation, which demonstrates the finding of Deleri (2015) that gaining a favorable position in the global competitive landscape hinges on devising appropriate strategies for innovation and establishing supportive frameworks by public authorities to support private business initiatives.

A critical aspect of fostering an innovation culture is addressing the digital divide, which delineates access to information and communication technologies and the capacity to utilize them. The OECD (2018) asserts that digitalization can alleviate poverty by enhancing underserved populations' access to education, health, government, and financial services. However, a stark contrast exists in Israel between governments' success in cultivating an innovation culture and innovation policy for the public sector. Bureaucracy embodies the administrative authority of the state and its public institutions and manifests when citizen services are limited. Efforts to reform bureaucracy aim at enhancing governance quality. However, Meier et al. (2019) contend that significant governance failures in developed and developing nations stem from political rather than bureaucratic issues. They argue that political institutions often need to be able to set clear policy goals, allocate sufficient resources to address problems adequately, or grant bureaucracy adequate autonomy in implementation, leading to additional governance challenges that could have been avoided with proper political functioning. The OECD characterizes this lack of reform policy as a political state where no significant reform initiatives emerge (OECD, 2010).

Conclusion

The impact of technological innovation and global competition underscores the critical role of governments in shaping policies that foster innovation and economic growth. As explored throughout this study, technological advancements have become synonymous with progress, driving change across various sectors and reshaping the dynamics of global commerce. The study shows that government intervention in innovation policies has shifted from traditional approaches, where governments merely facilitated private-sector initiatives, to proactive measures to drive innovation through direct intervention, acknowledging the state's critical role in shaping technological development and fostering economic growth. By

strategically allocating resources toward research and development, infrastructure, education, and other initiatives, governments can create an environment conducive to innovation and ensure that their countries remain competitive globally.

Technological supremacy has been identified as a critical determinant of competitiveness in the contemporary global landscape. Countries that generate advanced technologies and leverage their digital economies gain significant strategic advantages, shape industry trends, influence global standards, and examine the public sector's role in fostering innovation and leveraging technology to address public issues effectively.

Technological advancements catalyze innovation, driving progress, economic growth, and societal advancement. Nations with superior technology enjoy competitive advantages in the global market, influencing industry trends and setting standards worldwide. However, achieving and maintaining technological supremacy requires proactive government policies that foster innovation and create conducive environments for technological advancement. As the global landscape evolves, governments face pressure to enhance innovation and competitiveness while containing expenditure growth. Strategic government intervention can lead to resource concentration in priority sectors, driving technological progress and ensuring national competitiveness. Policies that foster innovation include increased spending on research and development, investments in human capital, and the creation of supportive regulatory frameworks.

Innovation extends beyond the private sector to encompass the public sector, where governments play a crucial role in fostering innovation and embracing technological advancements. Implementing innovation in public systems presents complexities, but adequate government support can drive progress and improve public services. Addressing bureaucratic hurdles and promoting an innovation culture is essential for enhancing public sector innovation and delivering value for the public good.

The research concludes that technological supremacy, government intervention, and innovation are interconnected components driving global competitiveness and economic development. Governments must adopt strategic policies to foster innovation, enhance competitiveness, and leverage technological advancements to navigate the worldwide economy's complexities successfully. By investing in technology, fostering innovation, and promoting an innovation culture, nations can position themselves as global market leaders and drive sustainable growth and prosperity. By adopting strategic approaches and encouraging collaboration between the public and private sectors, countries can position themselves as leaders in technological advancement. As we look toward the future, it is clear that innovation will continue to shape the trajectory of global development, with governments playing a central role in driving progress and prosperity for their citizens.

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