

# A Roadmap to Innovation Management and National Innovation System in Egypt

Original  
Article

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## ABSTRACT

Innovation is undoubtedly the secured path for developing countries to achieve overall economic health and to further realize sustainable and continuous economic growth. This paper evaluates the existing literature about innovation management and the national innovation system and combines them into a suggested model that suits the current socio-economic situation of Egypt. A scan is carried out for current efforts in Egypt according to “Egypt Vision 2030”, launched in 2016, to achieve sustainable development objectives in all areas. This scan is done to provide suggestions for improvement based on the hereby proposed model of an integrative and cooperative Egyptian National Innovation System, ENIS.

**Received:** 10 June 2021, **Accepted:** 30 July 2021

**Key Words:** Economic growth, egypt vision 2030, innovation ecosystems, innovation management, national innovation system.

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**ISSN:** 2682-4310, Vol. 2, 2021

## INTRODUCTION

There has been confusion for some between the two definitions “invention” and “innovation”. An invention is a new solution never existed before for a certain problem, whereas innovation is a creative process to make developments that grant an organization a possible competitive advantage, such as a product, process, business model, customer experience, new branding, etc (*Desai 2013*) which can develop new and better ways of creating value for customers (*Maital and Seshadri 2012*). For example, while invention concentrates on discovering new things, innovation concentrates on delivering something new to the market either by using new or existing inventions, using a well-used idea from one field to apply it in another, or combining many previous innovations into a new one that differentiates itself from all existing solutions in the market.

On the other hand, innovation management is a disciplined and methodical process of sustainably and continuously finding, producing, assessing, and choosing the best ideas in order to transform these ideas into new products, services, or processes that achieve success in the market with a faster time-to-market approach than the competitors through the whole lifetime of an organization (*Desai 2013*). There are various approaches to innovation management (*Ortt and Smits 2006; Bogers et al. 2018; Lennerts et al. 2020; Ricciotti 2020*), but the common base of all approaches is being a strategy that has to be aligned with the organization's vision, encouraged through participants' engagement, and nurtured through a common culture of the stakeholders. In addition, an

innovation management system can not be copied from one organization to another. Nevertheless, it has to be customized to match each organization's structure, objectives, readiness for innovation, and targeted market environment.

Innovation management can be carried out on one or more of the following levels: corporate level, cluster/network level “sectoral and/or regional level”, and national level. On the corporate level, the organization seeks a systematic approach to distinguish its products and services by internal idea generation and placing these products and services in the market. On the network level, the organization uses a value-chain approach to improve the full range of activities required to create a product or service by partnering through an innovation network with the supply chain, external network partners, and technological collaborators. Such cooperation extends the core competencies of the firm and allows inter-firm learning and the generation and execution of ideas. A company may decide to expand this term to open innovation in which an organization utilizes both internal and external ideas and pathways to the market to speed up innovation. Open innovation was first devised by Henry Chesbrough of the University of California, Berkeley (*Chesbrough 2003*). On the national level, the organization's innovation strategies are aligned with the direction and dynamics of the environment.

This allows for the introduction of the term “innovation ecosystem” which describes the different actors, stakeholders, and community members that are crucial for innovation. The popularity and application of this concept

have accelerated due to Ron Adner's publication in which he defined innovation ecosystems as “the collaborative arrangements through which firms combine their individual offerings into a coherent, customer-facing solution” (*Adner 2006*). An innovation ecosystem is distinguished by the interdependencies between the ecosystem actors, a shared collection of aims and objectives to deliver a unique value proposition to the customers, and knowledge sharing (*Nambisan and Baron 2013*). Granstrand and Holgersson compared 21 different publications and introduced a rather new definition of innovation ecosystem as “the evolving set of actors, activities, and artifacts, and the institutions and relations, including complementary and substitute relations, that are important for the innovative performance of an actor or a population of actors. In this definition, artifacts include products and services, tangible and intangible resources, technological and non-technological resources, and other types of system inputs and outputs, including innovations” (*Granstrand and Holgersson 2020*).

Another concept was earlier coined in which national policies intertwine with all innovation actors and activities in a network system to meet the country's needs and drive faster growth, even for countries with limited resources. This concept was first mentioned by Christopher Freeman who called it the National Innovation System (*Freeman 1988*). The national innovation system can be defined as a socio-economic system of interconnected public and private institutions whose relationships, activities, and interactions use, create, store, and transfer new and economically useful knowledge, skills, and artifacts in order to initiate, import, produce, modify, and diffuse new technologies in a way that depends on these institutions' incentive structures, competencies, and interaction to determine the rate and direction of technological learning and the innovative performance of the nation in which these institutions are either located within or rooted inside. This definition collects the elements of six definitions mentioned in various publications (*Freeman 1988; Lundvall 1992; Nelson 1993; Patel and Pavitt 1994; Metcalfe 1997; Gogodze 2016; Wilson et al. 2020*).

A sound understanding of the concepts of national innovation systems, innovation ecosystems, the actors needed to participate, and the factors affecting innovation is essential for formulating, developing, and continuously assessing a national innovation system that suits the country-specific characteristics.

The factors that affect innovation are mainly inherent to the environment surrounding innovation in a certain nation. The main factors can be explained as follows:

1. Technological factors: the know-how of new technologies is a big challenge especially for developing countries, which require technology and knowledge transfer in addition to policy changes to attract certain foreign investments. Some examples of these technologies are semiconductors fabrication, quantum computing, renewable energy materials and their related industrial manufacturing, biotechnology, advanced information technology/artificial intelligence/machine learning, and cybersecurity. These technological challenges require skilled and trained labor that is capable of understanding and developing these technologies and eventually creating new practices, processes, products, and services.
2. Economic factors: the global rise in the prices of raw materials in 2020 and 2021 has shown its profound effect on many industries and on global inflation. On the other hand, fluctuations in currency rates and changes in interest rates highly affect the market, trade, import, and export prices. The scarcity in nature for some of the raw materials forms, however, an extra global hurdle for many industries. On the other hand, structuring the tax regulations and specialized industrial zones inside the country can form a highly attractive factor for foreign companies to start or transfer their business to the nation. However, the challenges with the Gross Domestic Product GDP and the State's General Budget for developing countries motivate the Ministry of Finance MoF to use all possible means to achieve citizens' economic and social objectives with its limited resources. Finally, funding and access to finance play a major role in a stable innovation environment. The existence of grants, loans, equity finance, venture capitals, investment banks, risk-tolerant investors, and business incubators creates essential access for startups to finance.
3. Competitive factors: there is no doubt that the competitive environment is now more global and more challenging than it was in the previous decades. The needs for low-cost production of high-quality products in addition to creating new products and services that attract new customers are the main pillar of surviving in such an environment. Innovative business models play also a big role in reaching customers more easily and in new ways.
4. Social factors: in our modern societies, the complexity of customer needs is continuously rising, which forms a difficulty to define the critical to customer characteristics and to forecast future demands. In addition, an innovative product or service in one society may not succeed in another due to differences in values, needs, opinions, and lifestyle trends. Furthermore, even in one society, the rise of new segments of customers which have their own distinguished needs, demands, and predilections can cause market fragmentation and introduce uncertainty for placing innovations in the market.

5. Legal factors: both national and international markets have their requirements to perform trade. Compliance with such regulations is a necessity for any success of innovative products or services. In many cases, the protection of such innovation by filing intellectual property rights in many markets is a total necessity to survive and compete on both national and international levels. There are many laws and regulations that an investor or entrepreneur may need to comply with when starting or carrying on new businesses or trades, such as anti-trust law, discrimination law, copyrights, employment law, consumer protection and e-commerce laws, health and safety laws, data protection, regional legislations, and any necessary certifications and standards to comply with. The role of the government is to facilitate these regulations and provide all required information in a transparent, easy, and accessible way.
6. Environmental factors: in order to sustain innovation and growth, it has to be environmentally friendly. Some of these requirements are forced by law in some markets, while others need to be taken care of for the sake of customers' benefits, firms' image, and the wellbeing of next generations. Some examples that need to be taken care of are weather, climate change, environmental pollution, attitudes towards and support for renewable energies, waste management, attitudes towards green or ecological products, recycling, and energy consumption. An extra point of view for environmental factors needs to take into consideration the possibility of natural disasters or pandemics that require to be dealt with using risk management, contingency plans, and totally new and innovative solutions for emerging problems.

## **MATERIAL AND METHODS**

The approach of this paper is mainly to review existing literature about innovation management, innovation ecosystems, and national innovation system. This is followed by comparing this knowledge with the existing systems and efforts by the government in Egypt especially the vision of Egypt 2030 that has been adopted in 2016. The results of such a comparison lead the way in this work to make suggestions for improvement and propose a model for a national innovation system that is suitable for the socio-economic situation in Egypt. In this model, it is assumed that the government is the main facilitator of the innovative environment in the country and the leader of a network of public and private institutions. This leadership model follows an entrepreneurial approach. The aim here is not to radically or fundamentally rebuild a new national innovation system in Egypt, but rather to build on all the accomplishments and efforts done the previous decades while gradually and continuously improving and upgrading the system to reach its maturity through implementing the promising pillar of knowledge,

innovation and scientific research in Egypt Vision 2030. The work in this paper serves as preliminary work for a qualitative study to be done soon by interviewing business leaders and entrepreneurs from large organizations as well as small and medium enterprises SMEs in Egypt.

## **RESULTS AND DISCUSSION**

With a population of about 102.2 million inhabitants, Egypt is, by so far, the most populated Arab country and the third most populated in Africa after Nigeria and Ethiopia (CAPMAS; Worldometers). Although such a populous country, like Egypt, is confronted with many challenges, it is also graced by a vast marketplace and vast opportunities for many businesses that can have access to an immense number of customers. The GDP of Egypt in 2020 was 363.069 Billion USD (The World Bank national accounts data) and the total external debt has reached 134.8 Billion USD as announced by the Central Bank of Egypt in July 2021 (Ahrām Online). The Moody's Investors Service also announced in July 2021 maintaining Egypt's credit rating at B2 with a stable outlook, which means that Egypt continues to be exposed to volatile financing conditions which are, however, counteracted by Egypt's improved shock resilience during the COVID-19 pandemic (Moneim, Ahrām Online). As a result, unlike most emerging markets, Egypt has undergone a positive growth rate in 2020.

The composition of GDP in Egypt in 2019/2020 by sector shows the highest percent of 16.1% by manufacturing industries, followed by 13.6% for wholesale and retail trade, and followed by agriculture "11.3%", real estate "10.3%", mining "9.7%", general government "8.6%", and construction and building "6.3%" with a diminished contribution of tourism due to COVID-19 pandemic as 2.3% (Statista). Surprisingly, the information sector contributed with the least amount of 0.3% (Statista).

Egypt has witnessed a leap of development in many sectors during the last decade and in particular in Science, Technology, and Innovation STI. Egypt Vision 2030 represents the strategic plans in the country to achieve holistic developments in all areas and sectors. This vision was initiated in 2016 to achieve economic, social, and environmental developments that lead to high, inclusive, and sustainable economic growth while leading all institutions by carrying out various reforms, continuously assessing all activities, and amplifying local administrations. One of the main strength points of Egypt Vision 2030 is that it defined quantifiable Key Performance Indicators KPIs of the sustainable development in the country with targeted values to achieve. The sustainable development strategy was mentioned in the vision as follows: "the Government is committed to continue supporting a market, competitive, diversified, knowledge-based, and private-sector led economy, characterized by a stable macroeconomic environment, sustainable inclusive growth, maximizing value added, and generating adequate and productive job opportunities. By 2030, the Egyptian economy will be an active player in the world economy, capable of adjusting to

international developments and well positioned to join the ranks of the world's medium-income countries" (Official Publication of the Government of Egypt 2015).

A vital part of this vision is the Knowledge, Innovation & Scientific Research Pillar. Various institutions of the government have formed their own STI strategies separately such as those generated by the Ministry of Higher Education and Scientific Research MoHESR focusing on STI environment, knowledge transfer, and localization, and those generated by the Ministry of Trade and Industry MTI focusing on supporting the entrepreneurial environment and the industry-academia partnerships through clusters creation and supporting companies to commercialize their innovations. Also, the Ministry of Communications and Telecommunication Technology has focused on ICT-based innovation through skills training and supporting tech-entrepreneurs. Although many ministries and governmental institutions have already developed a strategy, the lack of interconnectivity and interoperability between activities of each institution creates a considerable gap in the innovation system and breaks the network into fragmented powerful but rather standalone initiatives which raise a big challenge to monitor and assess the efficiency and impact on the economy (Nesta).

In 2020, The Global Innovation Index GII ranked Egypt as 96<sup>th</sup> out of 131 countries, having a score of 24.23 out of 100, and with Egypt coming as the 11th between Arab countries after the United Arab of Emirates, Tunisia, Saudi Arabia, Qatar, Morocco, Kuwait, Bahrain, Jordan, Oman, and Lebanon, in order from the first to the tenth in Arabic countries (*Cornell University et al. 2020*). The GII is composed of 80 indicators that measure various aspects of the innovation ecosystem in a country such as knowledge creation, education, political environment, and infrastructure. It is worth mentioning that the report indicated that Egypt's performance in 2020 came under the expected one and that it came on a later level than that in 2019 in which Egypt had the 92<sup>nd</sup> position with a score of 27.5.

However, Egypt has come a long way from being 105th in GII 2017 due to the efforts being done with legal and economic reforms in addition to increasing the output of knowledge creation such as publications and patents. Nevertheless, the existing gap in the ecosystem is mainly due to the low diffusion of this knowledge into the market and the industry despite the existence of skilled and knowledgeable human capital. Therefore, the main remedies of such a barrier can be represented in:

- Coordinating and integrating various efforts and strategies from various ministries through a network that supervises the linkage between them, coordination of their efforts, and networking with other actors of the research, business, and finance for both public and private sectors in the country.
- Enhancing and amplifying academia-industry partnerships to solve challenges on the real ground

of the market and tackle the problems faced by industrial leaders and startups leading to market-driven innovations.

- Identifying and setting up national priorities and challenges in the form of well-identified problems that need to be solved to achieve science, technology, and innovation advancements and motivating skilled human capital to adopt working on these priorities in research, industry, and financing institutions while giving a rewarding scheme to those actors, e.g., by grants, tax-cuts, awards, etc.
- Establishing a tracking system for evaluating, documenting, and sharing the outcomes of all initiatives.
- The main strength of the innovation environment in Egypt is that it has what any innovation ecosystem dreams of - well-established clusters and institutions. Such clusters are involved in the development of science, technology, innovation, and entrepreneurship in the county. The clusters as mentioned can be divided into four categories:
- Science and technology cluster: in this category, there are well-established institutions and governance bodies in the Science, Technology, and Innovation STI system reformed by the Ministry for Scientific Research in 2007 and comprised of e National Council for Education and Scientific Research NCESR, Ministry of Higher Education and Scientific Research MoHESR, Academy of Scientific Research and Technology ASRT, Science and Technology Development Fund STDF, Research, Development and Innovation RDI program, and Research Institutions and Universities. Furthermore, the Egyptian Science, Technology and Innovation Observatory ESTIO, established in 2014 and affiliated to ASRT, monitors, assesses, and manages the STI indicators to support evidence-based policymaking in Egypt. This STI system played a vital role in improving the research and development environment in Egypt and accomplishing an active research base with more than 100,000 pieces of research, 50 universities, 120 research centers, and more than 61,058 full-time researchers (Nesta).
- Business associations cluster: with the existence of these clusters, many entrepreneurs have the chance of receiving support for their businesses. There are organizations such as Egyptian Private Equity Association EPEA, Egyptian Junior Business Association EJB, and Middle East Council for Small Businesses and Entrepreneurship MCSBE.
- STI funding cluster: many entities provide funding for activities in both research, entrepreneurship, and product development such as STDF, ARDF, IMC, ITIDA, ASRT, TIEC, INTILAC, NilePreneurs, GAFI, etc.

- Science and technology parks STPs: Smart Village in Cairo, City for Scientific Research and Technology Applications SRTACity investment zone in Borg El-Arab, and Technology Valley in Ismailia are great examples of these clusters. Abdel-Fattah et. al. summarized the elements of a successful STP as: a central component, a university or research center, accommodation for commercial activities, access to technical facilities, and support services that give commercial consultation to the companies located in the STP (*Abdel-Fattah et al. 2013*).
- Technology transfer networks: two main clusters are present and active in Egypt. The first one was initially founded by the Ministry of Industry and Foreign Trade and is run by the Industrial Council for Technology and Innovation, which is the Egyptian Technology Transfer and Innovation Centers ETTICs. The second one was initiated by the Academy of Scientific Research and Technology ASRT, which is Technology, Innovation and Commercialization Centers running a funded network of 35 institutions comprising ministries, universities, and industry. However, a linkage between these two clusters does not exist.

What we have mentioned so far shows that the innovation ecosystem in Egypt is comparatively sophisticated. Nevertheless, it suffers from the main deficiency of coordination that is required to enable those clusters to work together effectively, in addition to a lack of a well-developed unified vision and policy. This required vision and policy should provide clear objectives and tasks in addition to a cooperative engagement strategy so that a national innovation system can achieve a degree of efficiency and effectiveness. The above-mentioned actors and clusters are like the vital organs for the body of the innovation system. In analogy to biology, the body organs require a well-networked nervous system that transfers communications to and from a governing brain and spinal cord to all organs, as well as a circulatory system that transfers in and out what each organ needs to function and survive. In the same way, for an innovation system to be well-functioning, all actors and clusters must be well-networked under the supervision of a governing committee that provides a unified innovation policy, innovation standards, innovation strategy, and the vital environment for knowledge transfer and resource sharing and distribution. There is no wonder why the term ecosystem was primarily borrowed from ecology and biology where all living and non-living components of an ecosystem are well-connected and well-interacted to function together as a unity. Accordingly, connectivity and interaction should be the main concern in the network of all actors in the innovation ecosystem. Furthermore, leadership is the significant catalyzer for all innovation efforts in any organization and any networked system and should be the main maestro orchestrating the innovation in the nation.

The development of a strong and well-functioning national innovation system should be one of the top priorities in Egypt, as it is the safe and sustainable way to have a healthy economy and to achieve continuous development. The rest of this paper proposes a model for the Egyptian National Innovation System ENIS built on the achievements accomplished so far in Egypt and the existing innovation actors that can carry on their efforts at an efficient and faster pace following this model.

The elements of the proposed model are as follows:

- The Environment: setting up a suitable and appropriate environment for innovation in the country is the main and essential factor of success for NIS. As cultivating land in the desert requires a long process of preparing the soil and all necessary supply systems, the environment for innovation needs a sophisticated preparation and lifelong nurturing of the resources supporting innovation. Although it seems easy to propose the following, this is actually the most difficult step and the most time-consuming process. It starts by fighting corruption in the country and putting continuous measures to combat power exploitation, fraud, bribery, and injustice in the whole society. The next step is to take all measures to reach political, legislative, and governmental stability in the country. Then eliminating or reducing bureaucracy in the governmental and public sector, accelerating e-government and digitalization of all services, and developing the working force in the governmental services to be highly skilled, well engaged, and generally caring of the benefits for the clients. The most effective part of the environment is the high political will toward innovation and deeply believing in its responsibility of innovation leadership in the country and providing an environment for a stable macroeconomic situation. As a result, adequate resources shall be given to the policymakers to take the right actions to reach policy stability and to put the right regulatory environment. On the other hand, a great part of setting the environment should be done by serious reforms of the educational system in Egypt at both schools and universities levels. Furthermore, building an effective infrastructure that meets the needs of various actors is necessary for the success of the system.
- The Actors: this refers to all players in the innovation system that carry out actions in the country contributing to the innovation process. These actors can be classified as follows:
  - » Supreme Innovation Council: This one is a proposed entity that should be responsible for harmonizing, leading, connecting, and motivating all actors in the system. The innovation system should be designed as a pull system that defines

the needs in the society, problems to be solved, and challenges in all fields and aspects of the country. Based on that, the council defines the priorities to be addressed in the innovation system and plans the innovation framework to address critical socio-economic problems, industrial needs, technology barriers, and required social innovations. We recommend that this council should be under the supervision of the prime minister and comprised of representatives from all actors in the innovation system, in addition to consulting support from national and international experts. A fair mix of participants from public and private sectors can guarantee the democratization of power and the devoting engagement of all actors because they participate in the decision-making.

- » Policymakers: “Cabinet Members, ministers council, parliament, ministerial committee, Top executive management at the key ministries and Coordinating Councils, Director Generals of Key Institutions, Deputy Director Generals and Directors of Key Institutions, MHESR, MCIT, MTI, MPMAR, MIIC, MSMEDA, CBE, STDF, ASRT, TIEC, ITIDA, ICTI, TICs, FEI, IDA, GAFI” (Nesta).
- » Performance Measuring and Monitoring Actors: Egyptian Science, Technology, and Innovation Observatory ESTIO.
- » Financial System Actors: STI funding cluster, banks, Venture Capitals VC, crowdfunding, investors, equity finance networks, non-banking financial institutions,
- » Business & Industrial Actors in Public and Private Sectors: suppliers, customers, competitors, partners, industry experts, domain and functional specialists, large firms, SMEs, startups, spinoffs, industrial leaders, entrepreneurs,
- » Universities and Research Institutions: both public and private universities and research centers provide human capital for knowledge-based innovation.
- » Science and Technology Cluster: as explained above.
- » Business Associations Cluster: as explained above.
- » Science and Technology Parks STPs: a separate entity for managing STPs, as explained above.
- » Technology Transfer Networks: integrated foreign and domestic networks, and as explained above.
- » Support Organizations: incubators, innovation enablers, startup accelerators, patent analysis firms, rapid prototyping firms, big data analysts, business development and marketing consultants, trend analysis and forecasting consultants, market

research agencies, cybersecurity, networking & coordination, facilitators, regulations & compliance experts, database developers, training centers, media & influencers, mentors, innovation labs,

- » Intellectual Property Rights: Egyptian Patent Office, IP examination, IP digital platform, patents analysis.

• The Activities: (Examples)

- » Formulating a unified view of NIS, innovation policy & regulatory environment, innovation standards, innovation framework that addresses critical socio-economic problems & social innovation, measures to overcome legislative obstacles, and regional innovation strategies.
- » Building a unified digital innovation platform for all policies and connecting it to portals of all above-mentioned actors.
- » Connecting the innovation platform with open innovation activities where actors can participate and interact.
- » Building bridges and knowledge exchange opportunities inside the innovation platform, while adding a database for the profiles, capabilities, and opportunities at each actor.
- » Integrating the strategies, efforts, and resources of similar organizations or between those having similar goals, e.g., a central coordination unit between ASRT and TICO.
- » Restructuring research goals and unifying research objectives to meet industrial needs, society challenges, and existing business problems.
- » Strengthening academia-industry partnership through building trust and applying incentives and rewards for such cooperation.
- » Integrating national and international networks and encouraging the use of the expertise of Egyptian expats.
- » Upgrading STPs to become innovation clusters, where integrates with specialized industrial zones.
- » Encouraging Direct Foreign Investments by special measures and facilitating governmental requirements, procedures, and tax cuts that remain stable over an identified period. Such efforts should be well-marketed and well-commercialized.
- » Ideation: shared knowledge between actors to find, create, evaluate and apply promising ideas.
- » Learning by doing
- » Learning by using
- » Learning by interaction

- » Training and mentoring for actors about the new capabilities of the system
- » Organizing focused workshops between actors.
- » continuously monitoring the effectiveness of each policy on the system and actors and measuring the outcomes related to each policy implementation.
- » Encouraging sharing resources between actors.
- The Outcomes: (Examples)
  - » achieving predefined KPIs on a gradual basis that is measured each year.
  - » increasing the revenues of the business & industrial actors in the public and private sectors.
  - » reducing idea-to-market time.
  - » reducing time and efforts required to start a new business.
  - » reducing time and efforts for filing patents.
  - » increasing direct foreign investments, foreign currency reserves, and exports.
  - » reducing imports and localizing industries and services that used to be imported.
  - » improving Egypt's rank in GII, GCI, publications, patents.
  - » achieving predefined short-term, medium-term, and long-term objectives which were set by the unified innovation policy.

## CONCLUSIONS

A unified Egyptian National Innovation System ENIS should be built on the well-understanding and analysis of all stakeholders in the innovation process in the country. Egypt has done lots of achievements in improving the environment for innovation through reforms and new legislation. However, lots of efforts are still awaiting to reinforce this environment and to build networking and collaboration strategies between various actors and clusters in the innovation ecosystem, while measuring the outcomes of applying each policy measure. These are vital requirements and essential approaches to attain an efficient and effective National Innovation System that can contribute to the overall economic health and economic growth.

## ACKNOWLEDGMENT

I am grateful to the Egyptian Science, Technology, and Innovation Observatory ESTIO, and especially to Dr. Mohamed Ramadan, for his previous discussions six years ago about the work of ESTIO and for his follow-up during the writing of this paper.

## CONFLICT OF INTERESTS

There are no conflicts of interest.

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الملخص العربي

## خارطة طريق لإدارة الابتكار ونظام الابتكار الوطني في

مصر

محمود ربيع

قسم هندسة التصنيع وتكنولوجيا الإنتاج، الأكاديمية الحديثة  
للهندسة و التكنولوجيا، القاهرة ، مصر

الابتكار هو بلا شك الطريق الآمن للبلدان النامية لتحقيق الصحة الاقتصادية الشاملة ومواصلة تطويرها لتحقيق النمو الاقتصادي المستدام والمستمر. تقيّم هذه الورقة البحثية ما تم نشره مسبقاً حول إدارة الابتكار ونظام الابتكار الوطني وتجمعها في نموذج مقترح يناسب الوضع الاجتماعي والاقتصادي الحالي في مصر. يتم أيضاً في هذه الورقة البحثية إجراء مسح للجهود الحالية في مصر، لتحقيق مبادئ وأهداف التنمية المستدامة والمستقبلية في جميع المجالات وفقاً لرؤية مصر 2030. ويتم ذلك لتقديم اقتراحات للتحسين بناءً على النموذج المقترح لنظام الابتكار الوطني المصري (ENIS).