Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

NAVIGATING THE DIGITAL GOVERNMENT HORIZONS: A COMPREHENSIVE STUDY ON THE DESIGN OF AN INNOVATIVE COLLABORATION MODEL ARCHITECTURE AS A DIGITAL GOVERNMENT TOOL

NESREEN MOHAMMAD AHMAD HARAHSHEH
Ministry of Digital Economy and Entrepreneurship.

Abstract

This study delves into one proposed tool to be used by digital government systems during transformation from conventional to digital paradigms. Focusing particularly on the partnership architecture managing the collaborative efforts among key players, namely; government, industry, and academia, contribute to the transition towards digital government. The research aims to scrutinize the bidirectional collaboration between key players in the paradigms, achieving mutual exchange of support flow in an interactive process where each key player will not only receive support, but also provide it to the other side in a form of healthy long term strategic partnership, highlighting the role of entrepreneurship and academia through this evolution. The investigation encompasses a thorough exploration of the impacts associated with the digital government's management of partnership with key players. Special attention is given to the vital role of entrepreneurship in supporting the government, expanding the conventional one way government-entrepreneurs collaboration , supporting entrepreneurs by government, and pumping national resources in creating a friendly entrepreneurial ecosystem with operating incubators and accelerators, with now clear rewards to the government in return. Moving towards supporting government systems and decision making processes by entrepreneurs in the other direction. By examining these aspects, this study explores for providing insights into the challenges, opportunities, and strategic considerations involved in navigating the complex landscape of digital government partnerships. The research take on a multifaceted approach, by incorporating a blend of qualitative, quantitative methodologies. Among the literature review, theoretical frameworks, and empirical analyses, the study aims to contribute valuable knowledge for the academic and governmental spheres. The expecting outcomes of this study are to shed light on the effective collaborative partnership model as a tool employed during the government's digital transition, offering implications for policymakers, industry practitioners, startups, and academic researchers, with a healthy flow of communication and support in all direction in the paradigm. The comprehensive insights garnered from this research are poised to inform future endeavors in establishing sustainable, digitally and innovation driven governance models.

INTRODUCTION

In light of this overarching view, the spotlight on the critical role of technology in the new era of governance which cause an exploration into the active contributions of academia and entrepreneurship to governmental tasks. While government endeavors have been highlights in supporting entrepreneurship and startup companies enterprise and academia, it is vital to accept the equally role played by the academic sector and entrepreneurship in shaping the trajectory of governmental policies and practices. Triple play relationship known as the "Triple Helix" involving government, academia, and entrepreneurs becomes increasingly pertinent. The academic sector, with its riches of knowledge, research ability, and educational assets, serves as a foundation in this

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

collaborative model and theoretical base for each government decision. As governments actively seek innovative solutions and strive to the effective strategy implementations, the academic sector reacts as a catalyst, bridging the gap between theoretical knowledge and practical application. Similarly, the entrepreneurs, with their up-to-date technological capabilities, serve as an innovation hub for government procedures. The goal of this research is to establish a balanced and mutually useful relationship between the key stakeholders represented by government, academia, and entrepreneurs. Emphasizing the significance of a symbiotic flow of benefits and support, this study aims to shed light on the dynamics of this interconnected network. The focus is on fostering a healthy and bidirectional exchange of resources and expertise, ultimately contributing to the overall development of a cooperative innovation model architecture as a digital government tool to achieve national goals. In this era, governments are not only expected to support entrepreneurial ventures, but also navigating the delicate balance of receiving support from entrepreneurs in return. As the government finances in supporting entrepreneurial initiatives and receiving innovative contribution from startups, the impact of academia becomes pivotal in leading, shaping, and providing the required knowledge base for sustainable economic growth. Governments, recognizing the vitally important to stay alongside of the technological tidal wave, as well as a strong theoretical and knowledge base contribution have undergone a paradigm shift in governance models. This departure from conventional approaches underscores the need for adaptive, technologically-driven frameworks. By scrutinizing the interplay between technological evolution, academic sector capabilities, and governmental development, this research aims to offer valuable insights into the challenges, opportunities, and transformative potential within this shifting landscape. In conclusion, this study order to contribute to academic discussion, tell policymaking endeavors, enlarge entrepreneurial horizons, and enhance the broader dialogue surrounding the intersection of technology, new mode of governance, and economic progress. Through a comprehensive study of the Triple Helix model, it aims to set up a foundation of a tuneful collaboration that tackle the collective strengths of government, academia, and entrepreneurs for the benefit of societal advancement in the digital age.

Problem Statement

The surge in technological innovation and its profound impact on governance, economic development, and regulatory landscapes have prompted nations worldwide to recalibrate their strategies in order to thrive in the digital era. However, as we embark on this transformative journey, an intrinsic challenge surfaces—one that requires meticulous examination and well-adjusted dialogue between the government, academia, and entrepreneurs to ensure that every party is a winner. Despite the burgeoning literature exploring the broader themes of digital governance and economic evolution, a noticeable gap persists in the in-depth examination of the multidirectional flow of support and partnership between parties within the digital government.

This study aims to address this deficiency by investigating several critical challenges that constitute the core problem of the research. One significant challenge is the existence of

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

a gap between the academic sector and the markets, which necessitates the government to guide the academic sector towards practical applied research to bridge this gap. Additionally, there is a need for the government to foresee future job requirements across various sectors.

Moreover, the government's expenditure on consulting firms and experts to study the theoretical framework and the current state of government projects could be covered by leveraging the expertise available in the academic sector, which is fundamentally in need of this type of knowledge.

Another challenge lies in the flaws in government spending on supporting entrepreneurs. The flow of government spending on entrepreneurs through funding and establishing incubators and accelerators lacks real investment, creating an imbalance in expenditure that drains national resources.

Furthermore, the lack of updated data within the government to support decision-making poses a significant challenge. The government's general reliance on annual and semi-annual surveys for decision-making in a rapidly evolving technological landscape contributes to this challenge.

Through a meticulous examination of existing literature and empirical analysis, the research aims to contribute to the global discourse on digital governance and address these specific challenges relevant to the Jordanian landscape. The primary objective is to understand and elucidate the challenges hindering the establishment of a well-adjusted dialogue between these key stakeholders and propose a cooperative innovation model architecture that ensures mutually beneficial outcomes for all parties involved. The findings are anticipated to offer practical insights for policymakers, regulatory bodies, and scholars, fostering a more robust and tailored approach to healthier digital government relationships during this era of unprecedented digital transformation.

Study Questions

- How do startup companies/ academic sector contribute to shaping the digital government ecosystem within all economic sectors, especially within the framework of Jordan's Triple Helix model?
- How does Triple Helix model contribute to solve national problem through redirecting national resources and prevent government expenditure inefficiencies?
- How does the Triple Helix model contribute to collaborative efforts among the government, industry, and academia in shaping effective regulatory strategies for unregulated utility sectors?

Study Objectives

- Investigate the contributions of startup companies in shaping the digital landscape of government services within all economic sectors. Specifically, explore how these startups collaborate with the government, industry, and academia in line with Jordan's Triple Helix model.

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

- Examine the role of the Triple Helix model in addressing national challenges by optimizing the allocation of resources and preventing inefficiencies in government expenditure.
- Investigate how collaborative efforts among government, industry, and academia, as framed by the Triple Helix model, contribute to the development and execution of effective regulatory strategies for all economic sectors during the digital transition.
- Propose a reference tool for maintaining balanced relationships between government, academia, and entrepreneurs, ensuring reciprocal benefits flow in all directions. This tool aims to prevent government expenditure inefficiencies, by proposing collaboration channels such as support form entrepreneurs to government emplying academic sector expert to affect government projects and decisions quality. The tool addresses the challenge of keeping academic research aligned with practical needs and avoiding detachment from real-world applications during the digital transition, as well as supporting government both with theoretical know-how and innovative capabilities and data from academia and startups consequently.

Study Hypotheses

- Engaging in collaborative innovation with startups positively influences the attractiveness of government innovative and policies and precise decision making in the digital era, contributing to an enhanced public perception of efficiency, adaptability, and responsiveness. This collaborative engagement is further turn up by the active provision of innovative technical solutions and real time data generated by startup business to government data pools.
- Engaging in collaboration involvement with academic sector positively influences the attractiveness knowledge-based policies and decision making in the digital era, through Think Tanks, which plays a crucial role in supporting governmental decision-making processes. Think Tanks act as strategic advisors, offering insights and expertise to help the government leverage innovative solutions from startups, thereby enhancing the overall effectiveness and perception of public services.
- Proactively engaging the academic sector in foresighting future jobs, competencies and market needs by the government contributes systematically to the evolution of the academic sector, leading to bridge the gap between market needs and academic outcomes, reduction consequently reducing future unemployment rates. This impact to extends to market expansion, the establishment of new businesses, and the guidance of entrepreneurs towards innovative solutions, thereby mitigating unemployment challenges and fostering economic growth.
- Fostering collaboration within the Triple Helix model, involving government, industry, and academia, significantly enhances the effectiveness of government policies, strategies and decisions during the transition towards digital government, leading to more responsive and adaptive governance.

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

CHAPTER TWO

Theoretical Framework

Introduction

The relentless progression of technology has propelling governments worldwide towards a comprehensive transition from traditional to digital economies. This transformative journey is particularly discernible all sectors, where the convergence of technological advancements and regulatory dynamics creates a nuanced and complex terrain. The theoretical foundation of this research rests on a multifaceted exploration of the intricate interplay between digital transformation, governance tools and frameworks, and the unique dynamics of entrepreneurship. Our endeavor is to construct a conceptual framework that not only elucidates the impacts of modernizing the governance tools, but also unravels the healthy contribution between all parties employed to navigate the digital horizon and maximize the benefits for all. At its core, this chapter aims to synthesize existing theories and models pertinent to digital government ecosystems, and the Triple Helix framework within the context of all economic sectors. By grounding the study in established theoretical frameworks, It seek to provide a robust analytical lens through which the complexities and challenges of this digital transition can be comprehensively understood and solved in an innovative collaboration tool that directs all efforts towards the national goals, as well as achieving a win-win situation for all contributing parties. Through this chapter, we will explore the dynamic interplay between digital transformation, governance tools, and the entrepreneurial landscape. This exploration will provide a theoretical lens to analyze the multifaceted dimensions of the ongoing digital transition, within all economic sectors. Moreover, the chapter seeks to delve into the Triple Helix model, emphasizing its role in shaping collaborative efforts among the government, academia, and entrepreneurs. Additionally, the chapter will shed light on the role of startup companies and academia in shaping the digital government landscape. Through the lens of the Triple Helix model, we will unravel the collaborative efforts among government, industry, and academia and their contributions to effective regulatory strategies. In essence, this theoretical framework serves as the intellectual scaffold that supports our empirical investigation, guiding our exploration of the multifaceted dimensions inherent in the government's transition to a digital economy within all economic sectors.

Digital Government Ecosystems

In the pursuit of more efficient and improved governance, governments have consistently explored innovative avenues. Technological advancements, in particular, have emerged as promising solutions to achieve this objective. The integration of Information Technology (IT) within government operations has been a subject of scholarly inquiry since the 1970s. However, the term "e-government" gained prominence in the late 1990s, coinciding with the transformative impact of the internet on the computing landscape , The field of e-government research originated in the late 1990s, initially evolving as a domain primarily navigated by practitioners grappling with the novel challenges posed by

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

the incorporation of the internet as a medium in government operations. In its nascent stages, the focus was on practical strategies to adapt to this transformative technological shift. Subsequently, a substantial proportion of conferences in this field have been inclined towards a practitioner-oriented approach, reflecting the ongoing commitment to addressing real-world challenges and implementing tangible solutions in the realm of electronic governance [1]. Often abbreviated as electronic government, e-government signifies the utilization of information and communication technology (ICT) tools and applications to elevate the efficiency and effectiveness of government functions and services, but not yet to use such technologies to make decisions. However, this generation focused on braking government silos moving towards single-window system rather than dealing with multiple government agencies in multiple locations.

The next generation of governance was the SMART government that aims to harness the benefits of emerging technologies such as social media, mashup, mobile applications, and big data analytics. These technological advancements empower citizens to connect more effectively with their governments, prompting a shift towards more responsive and interconnected governance models.[2]

E-governance plays a pivotal role in establishing SMART governance within society, characterized by simplicity, morality, accountability, responsiveness, and transparency (S=M=A=R=T), it fosters accountability within the government by making all data and information accessible online to citizens, NGOs, and the media. The reduced reliance on paperwork, coupled with increased communication speeds, results in more responsive government agencies. Moreover, technology can transform an irresponsible government into a responsible one by providing increased access to information, empowering citizens to make informed decisions. In this way, the integration of technology contributes to the creation of a responsible and transparent government. [3] Smart governance, refers to the utilization of technology and innovation to facilitate and support enhanced decision-making and planning within government agencies. This concept aims to improve democratic processes and transform the delivery of public services. Within the realm of smart governance, the acronym 'Smart' as encompassing Social, Mobile, Analytics, Radical-Openness, and Trust. It emphasize how the generation, analysis, and utilization of vast amounts of data facilitated by smart cities through a connected infrastructure, thanks to the Internet of Things, enable a new, more democratic, inclusive, and sustainable model of public management.[4]

The term 'citizen-centricity' underscores the idea that the citizens' needs should serve as the foundational cornerstone for the reconfiguration of government structures and processes [5]. Citizen-Centric Government also characterized by “My Government”, where friendly customized profiles are designed for citizen depending on their preferences. It also depends on designing an innovative platforms in partnership between citizens and government, accumulating SMART government characteristics.

This innovative approach extends beyond mere customization, aiming to establish collaborative platforms forged through partnerships between citizens and the government. The objective is to create an environment where the principles of SMART

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

governance By harnessing the power of technology and citizen engagement, this collaborative ecosystem ensures that government services align with the diverse and evolving needs of the populace. Moreover, in a Citizen-Centric Government, the emphasis on innovation becomes paramount. This involves not only adapting to existing technologies but actively seeking novel solutions and platforms that enhance the overall efficiency and effectiveness of public services. By fostering a culture of innovation, the government can stay ahead of evolving citizen expectations and rapidly changing technological landscapes. In essence, the transformation towards citizen-centric governance encapsulates a holistic approach, encompassing personalized service delivery, collaborative platforms, and a commitment to continuous innovation. This multifaceted strategy aims to create a symbiotic relationship between citizens and the government, fostering a dynamic and responsive governance model that evolves in tandem with the ever-changing needs of the society it serves.[6] Citizen-centric approaches signify transformative paradigms and emerging directions for governments, coupled with an increased reliance on digital technologies. The integration of these approaches frequently entails enthusiastic exploration into the myriad ways digitalization can significantly enhance public organizations, making them more attuned to the needs and preferences of their citizens. The essence of citizen-centricity lies in prioritizing the citizens' experiences and expectations, fostering an environment where government services are not only tailored to individual preferences but are also seamlessly integrated into the fabric of daily life. Furthermore, the exploration of citizen-centric digital initiatives extends beyond mere efficiency gains. It delves into the realm of creating meaningful connections between governments and their constituents, fostering a sense of trust and cooperation. The pursuit of citizen-centric approaches within the digital realm represents a visionary shift in the landscape of governance. It is not merely about adopting technological tools but embracing a holistic transformation that places citizens at the heart of decision-making processes, shaping a future where governments are more adaptive, accessible, and attuned to the evolving expectations of their diverse citizenry.[7]

The trend toward the digitization of governmental information systems has been a persistent force for several decades. This transition is not just a continuation of the move toward efficiency and transparency but represents a paradigm shift towards what is now termed "Digital Government." In this new era, Digital Government emerges as the next evolutionary step after Citizen-Centric Government “My Government”. It involves the utilization of digital tools and platforms to drive innovative and creative approaches to governmental decision-making, policies and regulatory schemes. One essence lies in maximizing the benefits and rewards flowing between the government and all stakeholders. In Digital Government, there is a deliberate focus on leveraging digital technologies to transform traditional bureaucratic processes, ensuring adaptability, efficiency, and responsiveness to the ever-changing needs of society, as well as employing digital tools to perform government work.. This evolution reflects a commitment to harnessing the full potential of the digital age, fostering collaboration, and ultimately enhancing the overall governance experience for citizens.

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

Governance Structures in the Digital Age -Digital Government Era

Presently, a diverse range of countries globally exhibits varying degrees of implementation in the realm of e-government. These leading countries have successfully transitioned public services to be accessible online, ensuring mobile-friendly interfaces, transparency in service delivery, and extending availability to citizens across borders. This marks a significant stride toward fostering efficient, accessible, and collaborative governance on both national and international scales. The emphasis is often placed on the citizen-centric nature of e-government initiatives, heralded for its potential to deliver numerous benefits to citizens [8].

However, a paradox emerges as despite this focus, numerous e-government systems and applications experience low adoption rates [9], possibly attributed to a misalignment between the developed services and the goals and requirements of citizens and stakeholders [10]. This misalignment not only hinders the realization of promised benefits for both government and citizens but also diminishes the public value of these systems. Consequently, understanding and rectifying this paradox becomes imperative for ensuring the successful navigation of the digital horizon and the realization of the full potential of the digital government ecosystem.

Digital Government, commonly defined as the use of digital technologies to revolutionize government operations and enhance effectiveness, efficiency, and service delivery, transcends the boundaries of wealthier nations. Contrary to a misconception, innovation in leveraging the Internet for governance is not exclusive to affluent countries; rather, some of the most groundbreaking applications are emerging in the developing world.

The Triple Helix Model in All Economic Sectors

The Triple Helix Model, initially proposed by Etzkowitz and Leydesdorff, delineates a collaborative approach involving three key actors: government, industry, and academia. In the uncontrolled utility sectors, the implementation of this model is especially very important as it can trigger a lot of innovation, increase the synergies between stakeholders and also stimulate overall economic growth. This section explores the specificities of applying the Triple Helix Model, focusing on collaboration and policy issues that can inform innovation and development in all sectors [11]. Etzkowitz and De Mello (2004) provide a historical account of the origins of the Triple Helix model of innovation, tracing it back to 1967.[12] The inception of this conceptual framework can be attributed to Julius, the Director of the Netherlands Central Organization for Applied Scientific Research. In his articulation, he introduced the notion of a "triangle," emphasizing the intricate balance sought by those responsible for the crucial economic development of their countries within the multifaceted relationships existing in the modern eternal triangle of government, industry, and science [13] .This historical context underscores the recognition of the intertwined roles played by government, industry, and science in fostering economic development. The Triple Helix Model, as conceptualized later by Etzkowitz and Leydesdorff, builds upon this foundation, framing innovation as a collaborative process involving these three key actors. The Triple Helix Model continues

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

to be a pivotal tool in understanding and promoting innovation in ecosystems, with implications extending to all sectors, including unregulated utility sectors in the contemporary digital landscape. Building on the initial concept of the "triangle," Sábato further developed and applied this idea as a diagnostic tool to analyze the relationships among science, academia, and industry in Latin America. Etzkowitz and De Mello (2004) elaborate on how Sábato observed an almost complete absence of these "triangles" in Latin American countries. This absence, he argued, could be a significant hindrance to economic development in the region.[12] Sábato's diagnosis pointed towards a crucial factor impeding progress in Latin America, emphasizing the need for the establishment of dynamic science and technology interactions. These interactions, he suggested, should contribute positively to societal benefits. By advocating for the creation of such "triangles" or collaborative relationships, Sábato envisioned a pathway for fostering innovation and driving economic development in the Latin American context. The foundational concept of the "university-industry-government" cooperative innovation model is geared towards fostering regional innovation endeavors by leveraging the distinctive resource advantages and capabilities of each entity. Professor Etzkowitz's Triple Helix innovation model introduces a novel perspective to the interactions among university, industry, and government. Beyond their traditional roles, these three entities assume additional functions within their collaborative dynamics. In this model, universities extend their role beyond education and basic research to support government. They can leverage their research and development outcomes to establish new markets, increase the quality and accuracy of decisions made by government, and actively contribute to enterprise development in the digital era.

1. Bilateral Relationship between Government and Academia: eEncourage Collaborative Research and Innovation.

In a balanced collaboration between government and academic sector using the triple helix model, benefits and rewards flows in bidirectional ways in a win-win situation. While most governments focuses on supporting the academic sector through direct R&d fund The government and academia join forces to form a collaborative link can invest in the available resources to maximize benefits for both parties. The government's role encompasses product procurement, venture investment, and financial services. This relationship facilitates a mutual advancement that benefits both economic and social progress. Academia plays vital role in creating a “Think Tank” for government , Think tanks are comprehensive platforms that bring together elite talents, cutting-edge scientific and technological achievements, innovative research projects, and professional papers and works. They aim to assist leaders by providing objective, fair, and high-value dynamic data storage and display systems. Think tanks gather data from various sources, including think tank reports, surveys, and statistics on talents and experts in specific regions, as well as their papers, works, major scientific research projects, and achievements.[14] To achieve real-time updates, think tanks use web crawlers deployed on servers to crawl and store data from these sources periodically. Think tanks are increasingly recognized as civil society phenomena, closely linked to the transformation of civil society structures and systems of interest representation. They should be

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

understood as allies rather than competitors to established forces in civil society.[15] in this symbiotic partnership, academia gives its expertness and research abilities to the table, subsidizing government's expenses paid for consultancy firms. While the government on the other side provides pivotal financial support and a conducive environment for research, defining applied R&D topics based on the national priorities and needs, foresighting future jobs and skills needed, and connect with worldwide research opportunities for exchanging experts and collaborative research. This dynamic collaboration make sure that cutting-edge research findings are translated into empirical applications, driving economic growing and societal development as well as keep the academic sector up-to-date in all fields and bridge the gap between market needs and academic sector outcomes, minimizing un-employability rates consequently.

2. Bilateral Relationship between Government and Startups through Entrepreneurs: Comprehensive Support for Projects and Innovation

In a familiar practices, the government's plays sponsor role in supporting entrepreneurship, through the encompasses of product procurement, venture investment, and financial services. In this partnership, entrepreneurs benefit from the government's resources, financial support, and strategic guidance. The government, in turn, fosters an entrepreneurial ecosystem, stimulating economic development and job creation. The government is the policy maker, who create the national entrepreneurship ecosystem of incubators and accelerators, forming government's role as a supporter and guide for entrepreneurial projects. On the other side, startup companies can play vital role in supporting government by providing real time data generated from startup's processes. Such data can be the corner stone in the new mode of governance, with responsive and agile decision making processes. This relationship should be gavern through signed agreements and licenses between both parties to facilitates a mutual advancement that benefits both economic and social progress. This support includes product procurement, venture investments, and the provision of financial services. This collaboration responds to the needs of entrepreneurs, guiding them towards investment opportunities and sustainable growth areas based on national priorities specified by government, thus innovatively opening new markets. Government also directs entrepreneurs to solve national challenges. This reciprocal relationship contributes to a thriving entrepreneurial landscape, aligning government priorities with the innovative endeavors of entrepreneurs. As well as moving towards an agile responsive digital government.

3. Bilateral Relationship between Entrepreneurs and Academia: Stimulating Research and Technical Training

Academic sector can focus on supporting research and entrepreneurial initiatives. This collaboration is exemplified through project funding and the improvement of the operational environment to enhance technological exchange between research institutes and enterprises.

The relationship between entrepreneurs and academia reflects a dynamic interaction where, under specific conditions, startups take on roles akin to universities. This

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

transformation includes organizing training initiatives and engaging in development research at a level comparable to universities. This collaboration assist the transfer of knowledge between the two institution parties, fostering sustainability and enhancing skills and capabilities. Entrepreneurs, adopting roles similar to universities, actively engage in research and development activities, contributing to advancements in technology and industry. Simultaneously, academia benefits from real-world applications of their research, ensuring practical relevance and encouraging innovation in both realms. Academia can also build incubators and accelerates to support entrepreneurs including students entrepreneurs and applied research and graduation projects. This interconnectedness between entrepreneurs and academia strengthens the overall innovation ecosystem, generating a synergy that moves societal progress.

Future Works

In response to the identified need for a seamless communication infrastructure facilitating collaboration among the government, academia, and entrepreneurs, we propose the development of a comprehensive digital platform. This platform will serve as an integrated hub for sharing ideas, insights, and resources, fostering a dynamic exchange of knowledge and expertise. The proposed digital platform aims to revolutionize collaboration among government entities, academic institutions, and entrepreneurial ventures. By providing a cohesive and efficient communication infrastructure, it will empower stakeholders to harness collective expertise and drive innovation for societal advancement in the digital age.

There is several key features designed to optimize this collaboration and communication among government officials, academic researchers, and entrepreneurs. Firstly, it offers a Unified Communication Interface, providing a seamless environment where stakeholders can engage in real-time discussions, video conferencing, and document sharing. This fosters efficient interaction across diverse groups, facilitating the exchange of ideas and expertise. Secondly, the platform implements Content Categorization and Tagging features, enabling users to organize discussions, documents, and resources based on relevant topics or projects.

This enhances accessibility and streamlines information retrieval, ensuring stakeholders can easily navigate the platform's vast repository. Thirdly, the platform includes a Contribution Tracking and Attribution system, recording and acknowledging contributions from each participant. This promotes transparency and incentivizes active engagement, fostering a culture of collaboration and knowledge sharing. Additionally, it hosts a centralized Resource Repository, housing a wide array of resources such as research papers, case studies, and funding opportunities.

Continuously curated and updated, this repository equips users with valuable insights and support for their endeavors. Moreover, the platform integrates Analytics and Reporting functionalities, empowering stakeholders to make data-driven decisions and evaluate performance. Users gain access to metrics and insights on collaboration activities, engagement levels, and impact assessment, facilitating continuous improvement and

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

optimization of collaborative efforts. Furthermore, the platform prioritizes User-Friendly Interface and Accessibility, catering to users with diverse backgrounds and technical competencies. Intuitive interfaces, guided workflows, and multi-platform compatibility ensure all stakeholders can effectively engage with the platform, irrespective of their technological proficiency.

Finally, the platform implements robust Security and Privacy Measures to safeguard sensitive information and maintain data privacy. Encryption, authentication mechanisms, and access controls are employed to mitigate risks and uphold confidentiality, fostering trust and confidence among platform users. Collectively, these features underscore the platform's commitment to fostering collaboration, innovation, and knowledge exchange among stakeholders, driving collective progress and societal advancement.

A "think tank" would act as the bridge between government and academia, facilitating collaboration which address pressing societal issues. This think tank would strategically select academic experts based on government-defined priorities, ensuring a diverse pool of specialists with relevant expertise. Once assembled, the think tank would engage in rigorous research, analysis, and recommendation generation, drawing upon the collective knowledge of academia to propose evidence-based solutions. Emphasis would be placed on interdisciplinary collaboration and the synthesis of academic research into actionable insights and policy recommendations tailored to governmental needs. From ongoing dialogue and collaboration, the "think tank" purpose is to drive innovation, inform policymaking and participate to societal advancement.

The establishment of an Observatory within the servers of the Ministry of Digital Economy and Entrepreneurship to monitor data pertaining to relevant sectors is proposed. This Observatory will serve as a centralized platform for collecting, analyzing, and disseminating real-time data related to various industries and areas of interest. Furthermore, it will encompass the provision of a Data Pool or repository dedicated to instantaneous data for different sectors, overseen jointly by the government and the relevant sector. This initiative aims to enhance data-driven decision-making, facilitate evidence-based policy formulation, and promote informed strategic planning across the spectrum of governmental and sectorial activities.

The proposed framework entails the establishment of a digital legal framework for agreements among the government, entrepreneurs, and academia, facilitating project funding and business acceleration without the need for direct financial compensation. The aim of this original process is in facilitating communication and uniting the triple helix model, eliminating liaison officers between governmental organs and other sectors. By leveraging digital platforms stakeholders can easily communicate and exchange information, clarifying their respective responsibilities and commitments. The framework cover the development of regulations and guidelines that rule the operations of the think tank and entrepreneurship laws in a digital context.

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

This holistic approach requests to formalize collaborations, enhance transparency, and enable the efficient interchange of resources and skills. By establishing clear digital guidelines the framework aims to create a seamless environment for innovation, entrepreneurship, and collaborative problem-solving, thereby fostering socioeconomic development and progress.

A proposed initiative for developing the Legal Framework involves several critical steps to modernize regulatory processes, ensuring fairness for entrepreneurs. Firstly, it includes digitizing operations and establishing a legal framework to support this transition, emphasizing data security and privacy. Secondly, clear laws explaining the roles of "think tanks" and entrepreneurship are significance to the promoting innovation and research. In addition, particular legal parameters for entrepreneurship including registration and intellectual property rights, must be outlined.

Tailored conditions and licenses for entrepreneurs are crucial, reflecting their unique needs while ensuring accountability. Collaborative oversight by regulatory bodies like the Telecommunications Regulatory Authority and the Ministry of Industry and Trade ensures comprehensive support for entrepreneurial ventures, fostering a dynamic business ecosystem.

References

1) Gronlund, A., & Horan, T. A. (2005). Introducing e-gov: History, definitions, and issues. Communications of the Association for Information Systems, 15

2) Fang, Z. (2002). E-government in digital era: concept, practice, and development. International journal of the Computer, the Internet and management, 10 (2), 1–22.

3) Ghosh, S. (2016). The Essence of E-Governance in the Modern Era of Indian Public Administration Today. Guest Faculty, Bethune College, Kolkata (Govt. of West Bengal), Sarojini Naidu College for Women, Kolkata. Research Scholar, Department of Political Science, University of Calcutta, India.

4) Burbano, L. (2023, March 22). What Is Smart Governance? Tomorrow.City. https://www.tomorrow.city/what-is-smart-governance/

5) Janssen, M., & Shu, W. S. (2008). Transformational government: Basics and key issues. In Proceedings of the 2nd International Conference on Theory and Practice of Electronic Governance (ICEGOV '08), 117–122. ACM.

6) Sundberg, L., & Holmström, J. (2023). Citizen-centricity in Digital Government Research: A Literature Review and Integrative Framework. Journal Name, Volume (Issue), 1-18.

7) Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. ((2006)). New public management is dead long live digital-era governance. Journal of Public Administration Research and Theory, 16: (3), 467-494.

8) European Commission. (2016). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: EU eGovernment Action Plan 2016-2020, accelerating the digital transformation of government, Brussels.

9) Venkatesh, V., Thong, J. Y. L., Chan, F. K. Y., & Hu, P. J. H. (2005). Managing citizens' uncertainty in e-government services: The mediating and moderating roles of transparency and trust. Information Systems Research, 27, 87–111.

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 57 Issue: 04:2024
DOI: 10.5281/zenodo.11032199

10) Alshibly, H., & Chiong, R. (2015). Customer empowerment: Does it influence electronic government success? A citizen-centric perspective. Electronic Commerce Research and Applications, 14(6), 393–404.

11) Leydesdorff, L. and Etzkowitz, H. (1998) The Triple Helix as a model for innovation studies. Science and Public Policy, 25(3): 195-203

12) Etzkowitz, H. and Carvalho de Mello, J. M. (2004): “The rise of a triple helix culture: Innovation in Brazilian economic and social development”, International Journal of Technology Management and Sustainable Development, vols. 2-3, pp. 159-171

13) Ciapuscio, H (ed.) (1994), Repensando la Politica Tecnologica: Homenaje a Jorge A. Sabato .Buenos Aires: Ediciones Nueva Visión.

14) Shaozhong, Cao, Yanhong, Yang, Bingjie, Zhang. (2022). Dynamic real-time research hotspot data track and visualization platform for Think Tank Information. 28-34. doi: 10.1109/ICINC58035.2022.00014

15) Pelle, Åberg, Stefan, Einarsson., Marta, Reuter. (2020). Organizational Identity of Think Tank(er)s: A Growing Elite Group in Swedish Civil Society. Politics and Governance, 8(3):142-151. doi: 10.17645/PAG.V8I3.3086