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AI ADVISORY COUNCIL FOR SUSTAINABLE ECONOMIC GROWTH AND ETHICAL INNOVATION IN THE DOMINICAN REPUBLIC (CANIA)

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Abstract

The Dominican Republic is at a critical juncture in its technological development. The government's commitment to fostering innovation and positioning the country as a regional leader in artificial intelligence (AI) is evident through initiatives like the National AI Strategy (“ENIA”), Digital Agenda 2030, and the National Innovation Policy 2030. To fully harness the transformative potential of AI and effectively navigate its complexities, establishing a dedicated AI Advisory Council is essential. Comprising experts in AI, ethics, law, and key industries, this council would provide crucial guidance to policymakers. Its roles would include shaping a comprehensive national AI strategy, fostering collaboration within the country's AI ecosystem, and ensuring the responsible development and use of AI technologies. Anticipated outcomes encompass a thriving AI ecosystem, enhanced public services, a robust innovation ecosystem, and a more competitive and equitable society. We urge stakeholders—government officials, industry leaders, academics, and civil society organizations—and we provide an implementation roadmap and an impact assessment to support the formation of this vital council. Establishing the AI Advisory Council is a strategic investment in the Dominican Republic's future, ensuring that the nation leverages AI for the benefit of all its citizens.

1. Introduction

The global landscape is rapidly transforming due to advancements in AI, a technology with the potential to revolutionize industries, boost productivity, and address pressing societal challenges. Recognizing this, the Dominican Republic has proactively integrated AI into its national development agenda. Achieving the ambitious goals set forth in this agenda requires meticulous planning, coordination, and specialized expertise.

The country's policy framework, highlighted by ENIA, Plan Meta RD 2036, and the National Innovation Policy 2030, lays a strong foundation for cultivating a vibrant AI ecosystem [1]. These initiatives demonstrate the government's dedication to fostering innovation, stimulating economic growth, enhancing public services, and improving the quality of life for its citizens. While the government provides the necessary regulatory framework and strategic direction, the private sector brings practical experience and technological capabilities to the table.

Unlike in many countries where the government typically leads in establishing advisory bodies, the Dominican Republic's private sector is uniquely positioned to drive the integration of AI technologies. The agility, innovation capacity, and direct involvement of private enterprises in technological advancements make them ideally suited to spearhead AI adoption in partnership with the government. By leveraging the resources and expertise of the private sector, the council can accelerate the implementation of AI solutions, foster a culture of innovation, and ensure that policies are closely aligned with industry needs and global market trends.

2. Purpose of the Private Sector-Driven AI Advisory Council

Given the limited public investment in AI—illustrated by a Gross Expenditure on R&D (GERD) of just 0.086% of GDP and a scarcity of AI-focused educational programs—the private sector is uniquely positioned to catalyze economic leapfrogging through AI innovation [2]. The country's AI ecosystem faces significant challenges: minimal research output (only 68 AI-related publications between 2014 and 2023), limited talent development (an average of 10 active AI researchers per year), and a lack of comprehensive government-led AI initiatives in education and infrastructure [2]. These constraints highlight the need for a different catalyst. The private sector's agility, resources, and direct involvement in technological advancements make it ideally suited to spearhead AI adoption where government capacity is currently limited [3].

The proposed AI Advisory Council, driven by private sector leadership, aims to bridge the gap between AI innovation and practical needs. By leveraging the private sector's ability to invest in cutting-edge technologies and talent development, the council can accelerate AI implementation and foster a culture of innovation. Integrating insights from government, academia, and civil society ensures that AI policies are

adaptable and impactful, reflecting diverse societal interests. In essence, proactive private sector involvement is crucial for harnessing AI to drive economic growth, enhance productivity, and position the country as a competitive player in the global technology landscape.

3. Methods

To leverage private actors effectively we propose the establishment of The National AI Advisory Council (CANIA) with a three-layered approach:

1. Structure and Composition

Strategic Layer: Executive Council

A carefully balanced 15-member council will drive AI innovation through:

- 60% private sector leaders to ensure market responsiveness and innovation
- 20% government representatives to align with national priorities
- 20% academia and civil society experts to maintain ethical oversight

This composition maximizes agility in decision-making while safeguarding public interest through balanced representation.

Tactical Layer: Specialized Committees

Driven by seven dedicated committees in the following focus areas:

- Ethics and Regulation: Developing frameworks for responsible AI deployment
- Sectoral Applications: Identifying and implementing AI solutions in priority sectors
- Education and Training: Building national AI capabilities
- International Cooperation: Fostering strategic partnerships

Operational Layer: Research Center (CENIIA)

A dedicated research and development hub that will:

- Execute priority research in health, education, agriculture, and security
- Provide advanced computing resources
- Foster partnerships with global technology leaders
- Serve as a regional AI innovation center

2. Operational Mechanisms

Transparent Selection Process:

An independent appointment committee comprising respected experts from academia, the private sector, and civil society will select members based on competence, ethical commitment, and demonstrated contributions to AI or relevant fields.

The process will include a **Merit-Based Rotating System**, in which members serve three-year terms and are eligible for re-election based on performance assessments. This approach not only fosters accountability but also enables the council to refresh perspectives and adapt to emerging challenges in AI.

Public Transparency and Education:

CANIA will publish regular reports detailing its findings, policy recommendations, and progress on key initiatives. Public consultations and open channels for feedback will provide citizens with opportunities to engage with the council's activities, building a culture of transparency and enhancing the legitimacy of AI governance. Every report must have a brief, include specific metrics and clear data sources, and be made with accessibility in mind.

3. Financing and Sustainability

CANIA will use a mixed-funding model to ensure the council's resilience and flexibility in adapting to emerging needs:

- **Government Funds:** Establish specific budget allocations to support CANIA's and CENIIA's core operations.

- **Innovation Support Fund (FAI):** Leverage FAI to finance innovative AI projects that align with national priorities, contributing to sustainable development and competitive advantage.
- **Public-Private Partnerships:** Partner with industry leaders for joint AI initiatives, sharing financial and technical resources, which can accelerate the development and deployment of AI solutions.
- **International Organizations:** Engage multilateral organizations and international donors to secure grants, technical expertise, and resources, thereby expanding CANIA's capacity for impactful AI governance

4. Case Study: Caribbean Expertise, Global Impact: From Call Centers to AI Safety

Recent studies highlight that while AI deployment is global, safety testing remains concentrated in a handful of Global North institutions [4]. For instance, Western red teams, despite their technical expertise, systematically miss crucial aspects of how these systems interact with, perform in, and impact Global South communities. Commonly overlooked factors:

Linguistic Complexity	Cultural Nuances	Socio-economic Realities	Digital Behavior Patterns
> Caribbean Spanish variations and regional dialects > Context-dependent meaning shifts > Non-standard grammar patterns > Emotional expression variations > Code-switching behaviors > Colloquial expressions and idioms	> Extended family structures > Religious syncretism > Community support networks > Local power hierarchies > Trust-building practices > Community-based decision making > Traditional healing practices > Intergenerational living patterns	> Informal and cash-based economy dynamics > Alternative payment systems > Remittance-dependent households > Limited internet connectivity	> Multi-user device sharing > Mobile-first user behaviors > Intermittent connectivity adaptations > Social media usage patterns > Digital literacy variations > Technology access strategies

The result is **significant governance gaps in three key areas:** (1) lack of context-specific ethical guidelines, (2) insufficient data protection policies, and (3) limited AI education/workforce development.

The Dominican Republic, with its unique position bridging the Caribbean and Latin America, presents an unprecedented opportunity to address these gaps while creating sustainable, high-skilled employment opportunities. The Dominican Republic's free zones currently employ over 198,000 workers, with call centers representing a significant portion [5]. This existing workforce offers: (1) proven cross-cultural communication expertise, (2) experience in problem identification and resolution, (3) multi-language capabilities, and (4) deep understanding of regional contexts.

According to the World Bank (Moroz and Viollaz, 2024), at least 60% of workers in Central America and the Dominican Republic have jobs at risk of being automated [6]. To leverage these experienced professionals currently facing industry transition due to AI automation,the National AI Advisory Council (CANIA) would launch the Cross-Regional Red Team Initiative (CRRT)—Latin America and the Caribbean's first specialized AI safety hub. Based in the Dominican Republic, the initiative will transform the nation's call center industry into a robust ecosystem for cutting-edge AI safety testing. In doing so, it fundamentally reimagines how AI systems are tested for safety. The expected benefits are multi-fold and address all three governance gap areas:

Lack of Context-Specific Ethical Guidelines		Insufficient Data Protection Policies		Limited AI Education and Workforce Development	
Frontier Labs	Latin America	Frontier Labs	Latin America	Frontier Labs	Latin America

> Better understanding of Global South challenges > Early identification of potential deployment issues	> Direct influence on AI system development > Regional leadership in AI safety > International partnerships	> Reduced liability and reputation risks > Access to new markets and use cases > More robust AI systems	> Tech transfer and knowledge sharing > Local AI expertise > Improved AI solutions for local challenges	> Diversified talent pool and perspectives > Demonstrated commitment to inclusive AI > Real-world testing opportunities	> Capacity building in AI safety/ethics > Sustainable AI workforce > Brain drain reduction > Infrastructure development
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5. Scalability and Regional Adaptation

The establishment of an AI Advisory Council in the Dominican Republic holds significant potential beyond national borders, serving as a model for Latin America and contributing to the empowerment of the Global South in AI governance. According to the United Nations, AI is forecasted to contribute up to 5.4% to Latin America's GDP by 2030—three times lower than the 14.5% projected for North America (McKinsey, 2018). This lower uptake reflects limited public investment in science and technology, insufficient skill levels necessary to embrace AI, and a highly informal economy dominated by small enterprises.

By proactively addressing these challenges through a private sector-driven AI Advisory Council, the Dominican Republic can demonstrate effective strategies for AI adoption and governance. The council's initiatives—such as leveraging private investment for AI development, implementing targeted workforce training programs, and establishing ethical AI guidelines—can serve as a blueprint for neighboring countries facing similar obstacles. This approach showcases how collaboration between the private sector and government can accelerate AI integration, even in environments with limited public resources.

The AI Advisory Council can strengthen regional collaboration by sharing best practices, policies, and technological advancements across Latin America. Through regional conferences, international AI forums, and joint research projects, the council promotes knowledge exchange to tackle shared challenges like the digital divide and talent shortages, fostering a more unified and competitive regional AI landscape. In line with this vision, the Dominican Republic is actively involved in creating Latin America's first Large Language Model—a collaborative project led by Chile's National Center for Artificial Intelligence, set to launch in early 2025 [7]. This initiative empowers the region to contribute its unique talent and cultural insights to the AI revolution.

Through these collaborative efforts, the Dominican Republic contributes significantly to empowering the Global South in AI governance. By focusing on developing AI models that cater to local languages and cultures, the country ensures that AI technologies are inclusive and equitable. The council's work advocates for the inclusion of Latin American perspectives in global AI discussions, helping to shape international standards and policies that reflect the needs of developing nations.

6. Conclusion

Establishing a private sector-driven AI Advisory Council in the Dominican Republic is a strategic imperative that promises to advance the nation's technological development and position it as a leader in Latin America. By harnessing private investment, implementing targeted workforce training, and promoting ethical AI practices, the council can overcome current challenges and serve as a blueprint for neighboring countries. Through regional collaboration and contributions to initiatives like the first Latin American Large Language Model, the Dominican Republic can empower the Global South in AI governance, address shared obstacles, and drive collective progress. Embracing this opportunity will accelerate economic growth, enhance competitiveness, and ensure that the transformative potential of AI benefits all citizens.

7. References:

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Impact Assessment: Catalyzing Responsible AI Development Across All Sectors

AI, as a cognitive prosthesis, amplifies human intelligence, enhancing decision-making and problem-solving capabilities (Ford, 2015). Its transformative impact parallels that of electricity or the internet, driving innovation, economic growth, and public service improvements (McAfee, 2024). In the Dominican Republic, AI’s potential for national development is vast, yet its responsible integration requires strategic oversight. Establishing an AI Advisory Council would ensure ethical, technical, and societal guidance, promoting beneficial and responsible AI use across Dominican society. While the council's mandate is broad, the burgeoning semiconductor industry exemplifies how strategic oversight can yield significant benefits in a specific sector vital for national prosperity (Decreto). The Dominican Republic is poised to become a key player in global semiconductor assembly, test, and packaging (ATP) activities (Ezell, 2024). Success in this arena hinges on developing a skilled workforce and adopting cutting-edge technologies—objectives that align with the council's expertise.

Table 1. Supporting the Semiconductor Industry through AI.

Role	Initiatives/Actions	Precedent
Workforce Enhancement	- AI-Powered Training Programs: Collaborate with educational institutions to implement AI-driven personalized learning, improving training effectiveness and aligning skills with industry needs (Hooda 2022). - Skills Forecasting: Use AI to anticipate future skill requirements, ensuring the workforce remains competitive in a rapidly evolving industry (WEF, 2024).	Singapore's SkillsFuture Program: Provides tailored learning pathways using AI to enhance workforce skills.
Innovation and Competitiveness	- Promoting Research and Development: Encourage AI applications in semiconductor ATP processes to enhance efficiency and innovation. - Attracting Investment: Signal commitment to technological advancement, making the country an attractive destination for foreign investment.	Ireland's IT Sector Growth Model: Targeted policies that attracted global tech investments and boosted innovation.
Global Collaboration	- International Partnerships: Leverage AI to facilitate collaborations with global industry leaders, accessing new technologies and best practices.	Intel Costa Rica: Intel’s partnerships and knowledge transfers in Costa Rica have elevated local industry standards and fostered regional capabilities in high-tech sectors.
Risk Management	- Mitigating Technological Risks: Identify and manage potential risks associated with AI adoption, such as cybersecurity threats and workforce displacement.	UK's Frontier AI Taskforce: Focused on assessing and mitigating risks associated with advanced AI systems.

The AI Advisory Council can collaborate with INFOTEP, ITLA, and INTEC to modernize training programs for advanced electronics packaging (Ezell, 2024). Using AI-driven algorithms to analyze individual learning behaviors, training can be personalized, enhancing effectiveness for each trainee (Hooda et al., 2022). Additionally, VR-based training has shown a 35-40% improvement in skill acquisition over traditional methods (PwC, 2022), ensuring workers gain precise competencies needed for

semiconductor ATP processes. With the semiconductor industry projected to grow by over 80% by 2030 (Deloitte, 2024), proactive skills mapping can equip the Dominican workforce to meet the rising talent demand.

Extending Beyond a Single Industry

While the semiconductor industry serves as a timely and relevant example, the AI Advisory Council's role extends far beyond it. By guiding responsible AI development across all sectors, the council can significantly contribute to economic diversification and sustainable growth. AI's impact can ripple through several key sectors:

- **Healthcare:** Improve diagnostics, personalize treatments, and optimize hospital operations.
- **Agriculture:** Enhance crop yields through precision farming and predictive analytics.
- **Education:** Personalize learning experiences and improve administrative efficiency.
- **Public Services:** Streamline government processes, enhance service delivery, and increase transparency.
- **Finance and Banking:** AI has the potential to transform the financial sector by improving risk assessment, enhancing fraud detection, and personalizing customer service.
- **Tourism:** The tourism sector can leverage AI to personalize visitor experiences, optimize resource management, and enhance marketing efforts.

These initiatives underscore the Dominican Republic's potential for growth across sectors, driven by a comprehensive AI strategy supported by the Advisory Council. Drawing on examples like Intel's transformative impact on Costa Rica's GDP, which grew through high-value tech contributions (<https://researchrepository.ilo.org/esploro/outputs/report/Moving-up-the-global-value-chain/995218608102676>), the Dominican Republic can similarly benefit by establishing robust AI frameworks and partnerships.

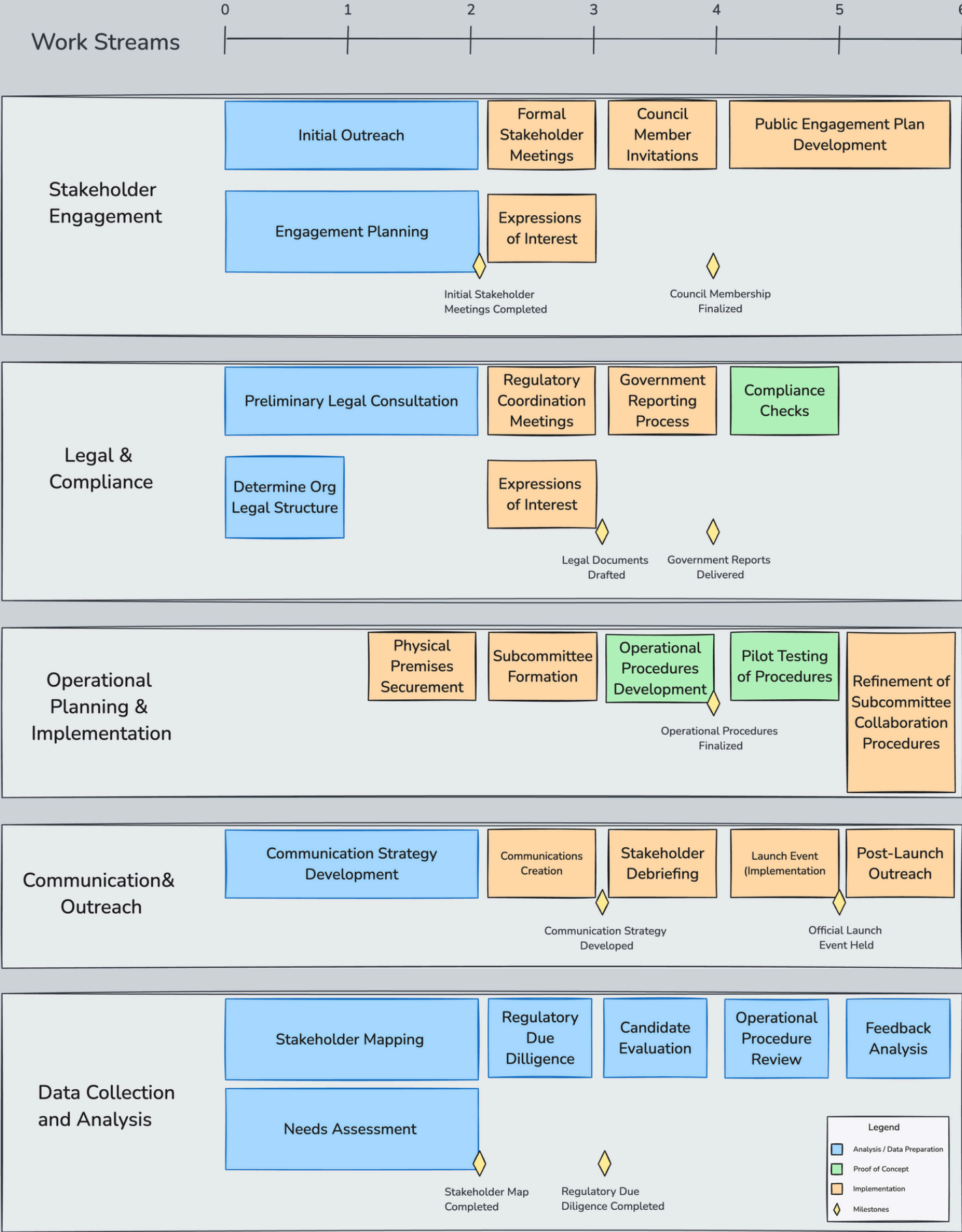
Conclusion

AI's function as a cognitive prosthesis and its status as a general-purpose technology make it a powerful catalyst for national development. Establishing an AI Advisory Council in the Dominican Republic is not just advantageous but essential. The council will provide the strategic oversight necessary to harness AI's potential responsibly, ensuring ethical practices, fostering innovation, and promoting inclusive growth across all sectors.

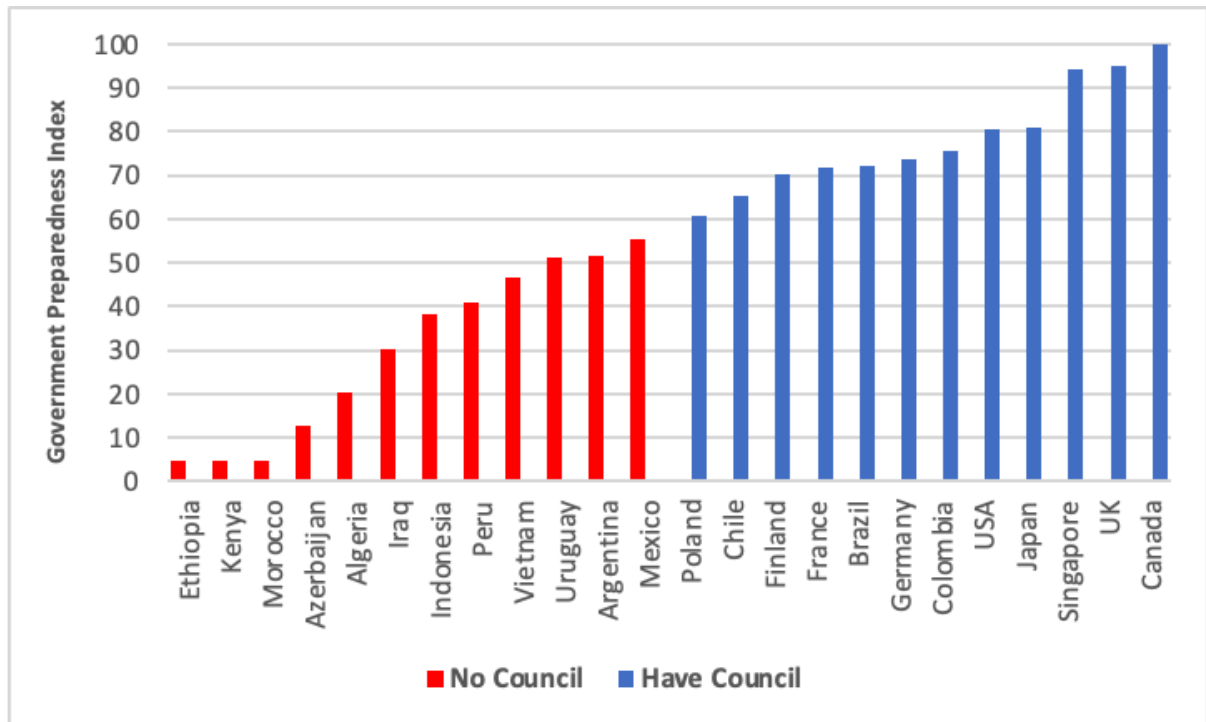
By doing so, the Dominican Republic can position itself at the forefront of AI adoption in the region, driving economic prosperity and improving the well-being of its citizens. The semiconductor industry's development is a compelling illustration of what can be achieved with the council's guidance, but the ultimate goal is a comprehensive advancement of Dominican society through AI.

Implementation Roadmap:

AI Advisory Council for Sustainable Economic Growth and Ethical Innovation in the Dominican Republic (CANIA)



Appendix I: Government Preparedness Indices for Selected Countries With and Without AI Advisory Councils



From The Global AI Index, illustrating the disparity between the preparedness of countries with and without AI advisory bodies [8].

Structure of the National AI Advisory Council (CANIA)

The National AI Advisory Council (CANIA) is structured into three layers to ensure effective governance, coordination, and implementation of artificial intelligence initiatives in the Dominican Republic:

1. Strategic Layer (Executive Function)
 2. Tactical Layer (Coordinating Function)
 3. Operational Layer (Research and Development Center)
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1. Strategic Layer (Executive Function)

Roles and Responsibilities

- **Define Vision and Mission:** Establish the overarching vision, mission, and strategic objectives of CANIA.
- **Policy Formation:** Develop general policies and guidelines to steer AI initiatives.
- **Oversight:** Monitor and evaluate the overall performance of the organization to ensure alignment with strategic goals.

Positions (Total: 9)

1. **General President of the Advisory Council (PGCA):** 1 position
2. **Executive Vice President (EVP) / Director of CENIIA:** 1 position
3. **Strategic Directors:** 7 positions, each leading a key area:
 - Strategic Planning
 - Human Rights and Intellectual Property
 - Business Innovation
 - Scientific and Technological Research
 - Governance and Public Policy
 - Education and Training
 - International Cooperation and Alliances

Additional Notes

- **Rotation Policy:** Implement a rotation system for strategic positions to foster diversity of perspectives and ensure leadership continuity.
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2. Tactical Layer (Coordinating Function)

Roles and Responsibilities

- **Strategy Implementation:** Coordinate the execution of strategies and policies established by the Strategic Layer.
- **Specialized Advice:** Provide the Strategic Layer with expert information and recommendations.
- **Progress Monitoring:** Track the advancement of initiatives and projects, ensuring they meet established goals.
- **Communication Facilitation:** Serve as a liaison between the Strategic Layer and the Operational Layer (CENIIA).

Committees and Subcommittees

A. Committee on Strategic Planning and Tactical Implementation

- **Function:** Oversee the practical implementation of strategic plans.
- **Leadership:**
 - **President:** Strategic Director of Strategic Planning
- **Members:** 4 additional members (including representatives from the Ministry of Economy, Planning, and Development (MEPyD))
- **Total Positions:** 5
- **Key Initiative:** Establish a monitoring and evaluation system with Key Performance Indicators (KPIs) to assess performance and impact.

B. Committee on Ethics and Regulation

- **Function:** Develop and update legal, ethical, and regulatory frameworks for AI.
- **Leadership:**
 - **President:** Strategic Director of Human Rights and Intellectual Property
- **Members:** 4 additional experts in ethics, law, and regulation
- **Total Positions:** 5

C. Committee on Business Strategy and Innovation

- **Function:** Promote innovation and foster collaboration with the business sector.

- **Leadership:**
 - **President: Strategic Director of Business Innovation**
- **Members: 4 additional members (including representatives from Barna Management School, EDUCA, and the American Chamber of Commerce of the Dominican Republic (AMCHAM))**
- **Total Positions: 5**

D. Committee on Scientific Research and Technological Development

- **Function: Plan and coordinate AI research and technological development projects.**
- **Leadership:**
 - **President: Strategic Director of Scientific and Technological Research**
- **Members: 3 additional researchers or technologists**
- **Total Positions: 4**

Subcommittees:

1. **Subcommittee on Computational Cognition**
 - **Members: 3 experts in AI cognition**
 2. **Subcommittee on Advanced Microelectronics**
 - **Members: 3 specialists in microelectronics**
 3. **Subcommittee on Data Science and Quality**
 - **Members: 3 data scientists focusing on data integrity and quality**
- **Total Subcommittee Positions: 9**

E. Committee on Governance and Public Policy

- **Function: Formulate public policies related to AI governance.**
- **Leadership:**
 - **President: Strategic Director of Governance and Public Policy**
- **Members: 4 additional members (including representatives from:**
 - **Office of the Government's Information and Communication Technologies (OGTIC)**
 - **Dominican Institute of Telecommunications (INDOTEL)**
 - **Ministry of Industry, Commerce, and Mipymes (MICM))**
- **Total Positions: 5**

F. Committee on Education and Talent Development

- **Function: Develop educational and training programs in AI.**
- **Leadership:**
 - **President: Strategic Director of Education and Training**
- **Members: 4 additional members (including representatives from:**

- Las Américas Institute of Technology (ITLA)
- National Institute of Technical and Vocational Training (INFOTEP)
- Universidad del Caribe (UNICARIBE))
- **Total Positions: 5**

G. Committee on International Cooperation and Alliances

- **Function:** Establish and manage international collaborations and alliances.
- **Leadership:**
 - **President:** Strategic Director of International Cooperation and Alliances
- **Members:** 4 additional members (including representatives from:
 - National Entrepreneurship and Innovation Directorate (GENIA)
 - Ministry of Foreign Affairs (MIREX)
 - Leading tech companies: AWS, Google, Microsoft)
- **Total Positions: 5**
- **Key Role:** Secure funding and technical support through international partnerships.

Inclusion of NGOs and Unions

- **Cross-Sector Participation:** Each main committee will include 1 representative from non-governmental organizations (NGOs) or unions to ensure diverse perspectives.
- **Selection Criteria:** Representatives will be chosen through transparent, merit-based processes.

Additional Mechanisms and Criteria

- **Main Committees:**
 - **Sector Representation:** Carefully select key representatives from various sectors relevant to AI.
 - **Diversity and Inclusion:** Strive for a balanced representation of genders, backgrounds, and expertise.
 - **Specialized Subcommittees:**
 - **Expert Involvement:** Invite individuals with specialized experience and knowledge pertinent to the subcommittee's focus area.
 - **Citizen Participation:**
 - **Public Engagement:** Implement mechanisms such as public consultations, workshops, or digital platforms to involve citizens in AI discourse and decision-making.
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3. Operational Layer (Research and Development Center)

Roles and Responsibilities

- **Daily Operations:** Manage the day-to-day functions related to AI projects and initiatives.
- **Research and Development:** Conduct practical research and technical activities to advance AI technologies.
- **Strategy Implementation:** Execute strategies and plans as coordinated by the Tactical Layer, ensuring alignment with overall objectives.