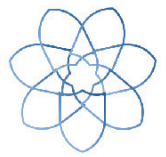




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مجلس السياسات
POLICY COUNCIL



POLICY IMPLICATIONS OF THE FOURTH INDUSTRIAL REVOLUTION AND PUBLIC PRIVATE PARTNERSHIPS



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About the Council

Mohammed Bin Rashid School of Government took the initiative to launch the Policy Council, a round table dialogue program, to promote meaningful dialogues that will enrich shared knowledge within government entities. The Council also aims to highlight vital public topics and policies of high priority within the framework of the renown achievements realized by government entities in the UAE in various fields, positioning them locally, regionally, and globally as leaders within their specializations. Additionally, the Council strives to encourage the dissemination of expertise, promote knowledge sharing, and ensure that all government entities benefit from the same. In this context, the School aims for participant diversity at every session, so as to include federal and local levels, central authorities, and specialized authorities, in addition to promoting the engagement of influential non-government stakeholders in relevant discussions. This will enable meaningful, comprehensive dialogues and the ability to tackle topics from a variety of perspectives, as the School seeks to restructure the Policy Council with a view to integrating it within comprehensive action agendas that will enable the Council to conduct in depth discussions of topics on the table. This, in turn, will enhance common understanding and knowledge-sharing efforts. The objectives of the Council can be summarized in providing a platform for cognitive dialogue between experts, specialists and stakeholders involved in the government sector with a view to highlighting issues of priority and importance on government and community levels. The Council also aims to document and disseminate dialogue in a balanced, comprehensive and practical manner to enrich cognitive content within government. Additionally, the Council strives to encourage individual and organizational communication and relationships, and to strengthen the cognitive network within government to enhance effective organizational cooperation. Finally, the Council strives to present insights and recommendations that will have an effective impact on joint action and the development of government performance.

Introduction

The massive digital transformation across societies, the growing maturity of the knowledge economy, and the advent of the “Fourth Industrial Revolution” are fuelling new forms of innovations in public private partnerships. However, the rapid technological advancements associated with this transformation and the growing number of applications of Artificial Intelligence, Big Data, Blockchain and the Internet of Things among others, are also creating new sets of challenges and dilemmas for policymakers and business leaders alike.

The UAE enjoys one of the most *avant-garde* governments in terms of adopting cutting-edge and transformative digital applications, coupled with an open economic model that encourages solid and mutually beneficial partnerships between the public and private institutions. Given these digital-age realities, what are the existing policy dilemmas facing business leaders and policymakers today towards fostering new partnerships? What venues of partnership can be leveraged in the future? What policy responses are required to enable future innovations in technologies associated with the fourth industrial revolution? What societal, institutional, legal and ethical frameworks do we need to put in place to ensure PPPs continue to drive growth in our smart cities, in our governments, and across societies in the next decade? As a regional hub, can new models of PPP in the UAE drive sustainable development agenda around the region? These are some of the questions tackled by policy heads and industry leaders across the UAE during the policy council.

Aims of this Policy Council

The purpose of this Policy Council is to gather policy leaders in the UAE together for an exploratory discussion on the future of public private partnerships, with the following objectives:

- Trigger a dialogue between experts, specialists and policymakers involved in different aspects of the Fourth Industrial Revolution's ecosystem, to highlighting policy implications related to emerging public private partnership models.
- Document policy directions highlighted by participants for further research.
- Advocate future policy responses and recommendations to generate more value for government and businesses in the era of the Fourth Industrial Revolution.

Discussion Themes

The key themes that emerged during the policy council centered on the themes posited to frame the debate:

- 1. Challenges:** What are the existing policy challenges and dilemmas facing business leaders and policymakers towards fostering new partnerships in the era of the Fourth Industrial Revolution?
- 2. Change and Reforms:** What societal, institutional, legal and ethical frameworks do we need to put in place to ensure PPPs continue to drive growth in our smart cities, in our “digital” government structures, and across a hyper-connected society in the next decade?
- 3. Future Directions:** What venues of partnership can be leveraged in the future?
- 4. Policy Responses:** What policy responses related to PPPs are required to overcome challenges and enable future innovations in technologies associated with the Fourth Industrial Revolution?
- 5. Sustainable Development:** As a regional hub, can new models of PPP in the UAE drive sustainable development agenda around the region?

I. THE ROLE OF GOVERNMENT

The role of the government when it comes to embracing and advancing the technologies of the fourth industrial revolution was the main area of discussion. Up until this point, the private sector has driven innovation in this field, embracing cutting-edge technologies that have disrupted regulated government and industry functions. It has been challenging for governments worldwide to embrace the pace of change and be at the forefront of these changes. In the UAE this challenge is being addressed full on with changes occurring at rapid paces, often requiring adjustment to existing process that have become redundant.

Effective governance will lie in the nexus of various actors, from government, NGO's, civil society all operating at multiple levels. It also necessitates signification technological, organizational and workforce updates to have effective, and efficient streamlined governments. Advancements like open government are leading towards these networks and governments must develop their capacities to operate effectively within these networks. The government and citizens will all inevitably be affected by the growth of these technologies, as they are all customers and users. However, the public sector is a main user of these technologies as well as a regulator, with the ability to enact policies that benefit all users. Governments will have to adapt their approach to service delivery, playing the role of enabler for innovators and the private sector to problem solve in the public sphere.

This belies the belief was that incremental optimization of the existing system would not be effective at addressing current and future challenges. Rather, a complete change of strategy would be in order that better enables the private sector to act effectively. There is also a criticism of the abundance of new strategies with no clear outline for their execution and milestones. The implementation of policy in relation to these technologies is critical. On implementation, many felt that while the current policy approaches may be quantitatively different, they were not qualitatively different than before. To effectively respond to changes, government must be proactive in addressing changing needs, and creating and delivering public value. Government must be incentivizing social and environmental goals in order to facilitate solutions to social problems. Governance will become outcome-based and as a result, the model of government will develop to reflect new realities. In this sense, the use of technology in governance is most effective when part of the citizen centered approach, and when it is accompanied by an enabling environment and supportive frameworks both technological and otherwise. This requires governments to be extremely adaptive to citizen's expectations and able to operate in an increasingly complex arena with various organizations and systems interacting.

II - AN ENABLING PUBLIC POLICY ENVIRONMENT

There was a shared concern about the enabling environment revolving around public private partnerships. There was agreement that government should shy away from attempting to take the operator role in relation to the technologies of the fourth industrial revolution. These disruptive technologies have demanded smart contracts, smart services, access to more data, and less centralized control. In trying to further solutions the government should play a regulatory role that protects assets while enabling private sector innovation rather than hindering it.

Many believe that the current environment has represented the traditional model that approaches PPP's with a procurement and finance focus. This creates rigidity and a prevalent perception of the private sector as service providers and not partners in development and in growth. To create an enabling ecosystem for PPP, the view that the private sector are partners in the process of creating value and growth needs to be better embedded.

On the technological level, data collected by the government is often vast, unreachable and unusable. Yet, access to this data is important for transparency and accountability but more importantly, it is key to socio-economic development in the new information society. Open government data will have the largest impact on public-private partnerships in that it allows social initiatives and entrepreneurship to develop. Data is a key component driving the success of many of the emerging fourth industrial revolution technologies, and the provision of open data and development of policies that support data access is key. Data-driven and pre-emptive public policy will help direct resources where they are most critical through the use of sophisticated data analysis.

There is also a challenge with skills and job requirements changing due to the rapid pace of technological and digital advancement. Increasing digitization and technological advancement will displace and impact civil service in vertical and horizontal levels. Civil service systems are often outdated, traditionally structured and based on work models that are no longer fully applicable and responsive. These changes require well-trained and skilled civil servants armed with the latest advanced tools and updated data, working together with other stakeholders. Systems, processes, legal and policy frameworks must all be reshaped to accommodate these operational methods.

Finally, civil servants will be the key implementers of policy changes enacted to enable growth, but they may be a source of resistance. Developing existing civil service skills and attracting new talent will be key to adapting to change from the fourth industrial revolution. Government should focus their efforts on working with the private sector to enhance the areas where government lack especially, with an emphasis on promoting collaboration, information sharing and reforming human resource systems. Lastly, training and education related to public administration need to be modernized, with considerable re-training of existing civil service employees to prepare them to meet new challenges.

III - THE ROLE OF THE PRIVATE SECTOR

In responding to the changes of the fourth industrial revolution, the role of the private sector could be within an advisory capacity to the government. The best way forward would be to create a public private partnership ecosystem that incorporates large, small and medium enterprises (SME's) as they will have different strengths, challenges, and perceptions of the private sector environment. These companies will all likely operate within different legal and regulatory frameworks and so will have different policy priorities that could enrich government strategies. For example, big companies have the experience and capacity to advice on incoming changes and the policies likely required to keep up with them in order to best inform government action.

The question is how can the private sector offer a new model to the public sector for collaboration? The paradigm shifts towards creating public value comes into play here, and private sector must also create value for the public. This would require an alignment of all stakeholders to a common outcome or goal, like enhancing quality of life or increasing happiness for example. The UAE government has expressed its desire and commitment to changing its strategy in this regard, and the private sector can lead the way when it comes to making a qualitative jump forward in responding to the fourth industrial revolution in the UAE.

Private sector innovation is one vehicle for the public to engage with problem solving in the public sphere, creating a window of opportunity to engage in policy. The fourth industrial revolution has resulted in the growth of non-state actors attempting to solve social problems, including social enterprises and civil society. This will emphasize public-private partnerships and triple bottom line businesses where social and environmental goals are pursued alongside financial ones. This will include the growth of social entrepreneurship.

Disruption is part and parcel with innovation in technology and the rapid pace of the fourth industrial revolution technologies belies this belief. Participants felt it was better to “ask forgiveness” than “permission” when it comes to driving innovation forward. An overly risk-averse mentality may no longer be suited to the changing innovation and policy landscape, potentially hindering change and consequently, the benefits of the fourth industrial revolution. The disconnect between governments and the private sector on this issue can be solved by triggering governments to think, if not act, as disruptors. In this sense, government should reform to respond more easily and adapt to changes rather than establish new structures to cope.

Another approach would be to enable companies to take more risk within development, outsourcing of innovation and design thinking as a scalable risk within the private sector. A new model for public private partnerships could be in order. This model would transfer power from a centralized system to a more decentralized system of regulation that balancing the promotion of radical transparency, responsibility, and access to data and the responsibility for managing such data.

IV - CREATING ENABLING LEGISLATIVE FRAMEWORKS

To respond to the new public demands driven by the fourth industrial revolution, some legislative reform is required. Historically, laws are always lagging behind business innovation, with governments and regulators attempting to catch up. There was a belief that no government can fully understand the extent of technological capacity and the implications related. As such, the response within legal frameworks is to over-regulate. The dominant view was that the legal system should provide the context and guidance rather than strict rules of operation which will become redundant or outdated quickly and will be difficult to change. Such an approach would increase the agility of the legislative system and the government in responding to the pace of change.

The private sector can provide technology, and add to economic growth, but it also has the potential to disrupt existing operation models. Private sector leaders thought that legal frameworks are hindering innovation in some areas. This requires new legal frameworks to accommodate this change, both in relating to developing industries (like Artificial intelligence) and to reforming existing industry laws. The participants viewed that more needs to be done within the legal framework to provide a space to the private sector to innovate, whether by reforming industry laws, regulations and legal frameworks.

In an effort to provide an enabling environment for private sector innovation, a restructuring of business laws was found to be beneficial. For example, the UAE's SME Law of 2014, was the first step in this process, and included supportive provisions. This included setting public sector targets for awarding contracts to SME's. There are other laws that are concerned with the operation of SME's, such as bankruptcy laws. However, there was an agreement that legislation should encourage and enable SME to flourish. One such example, was the reduction of the legal age for start-ups to become governmental partners. The current regulations stipulate that entities should be 10 years old to bid for government contracts, which disables start-ups from working with the public sector.

Finally, the adoption of open data models are leading to some natural tensions between maintaining security and managing risks. Data laws and respect for privacy and security are at the heart of the fourth industrial revolution but there needs to be balance between this and the access required to drive innovation and analytics. This poses a serious challenge when it comes to open data laws and transparency in this area would be a serious challenge on all fronts. Particularly since the management of these vast amounts of sensitive data will be the responsibility of extra-governmental entities within the private sector, which brings up a host of security issues to the forefront. This increases with growing partnerships with large multinational corporations that connect access to data networks, and the increasing difficulties of regulating data across geographic boundaries. The benefits, rules and ethics of data sharing should be developed holistically and in close coordination with the private sector and entities working in this area. This will generate a win-win situation for public and private sectors, as well as ensure the generation of public value, leading to better collaborative models between the two sectors around data.

Council Responses

The Council concluded with participant highlighting the most important responses around the topic of PPPs in the fourth industrial revolution, from the perspective of their entity. In summary these were:

- The government should leverage public and private partnerships by including the various stakeholders at the inception of such policies and strategies. Attempts on the governments behalf to “reinvent the wheel” were found to be ineffective and inefficient when solutions have been made available from the private sector.
- In trying to further solutions the government should play a regulatory role that protects assets and rights, while enabling private sector innovation rather than hindering it. This would support the current strategic vision, and increase supportive policies developed in collaboration with stakeholders.
- Governments will have to adapt their approaches to service delivery, playing the role of solution enabler for innovators and technologically-adept citizens to allow for crowdsourcing and outsourcing of problem solving.
- More needs to be done to increase communication between the public and private sector.
- To create an enabling ecosystem for public and private partnerships, the view that the private sector are partners in the process of creating value and growth needs to be better embedded.
- Legal frameworks will need to be continuously reformed to accommodate the change of the fourth industrial revolution, both in relating to developing industries (like Artificial Intelligence) and to reforming existing industry laws.
- The government must also address policy related to the need to retrain and reskill workers in preparation for the fourth industrial revolution.

Policy Recommendations

Technological advancements associated with the “Fourth Industrial Revolution” are changing models of public private partnerships. However, these emerging transformations are also creating new sets of challenges and dilemmas for policymakers and business leaders alike within the UAE context. The challenges and responses highlighted by the council participants should trigger policy debates are around the following areas:

1. Developing a National UAE PPP Strategy, aligned with Government Strategies Related to 4th Industrial Revolution

The UAE has announced several government strategies within the context of the 4th Industrial Revolution. These include a UAE “Artificial Intelligence Strategy”, a “4th Industrial Revolution Protocol”, smart cities and smart government plans, among others. Within this context, Public Private Partnerships are rapidly growing in scale, scope and impact in the UAE. However, these partnerships are not necessarily embedded within a unified national strategy, but rather are designed and implemented in isolation within each sector or each geographic locality. This lack of holistic approach to PPPs usually lead to misallocation of resources and misalignment of priorities on the national level. For these partnerships to better contribute to the government’s future vision and lead to long-term sustainable development in the era of the 4th Industrial Revolution, a nation-wide PPP strategy is required at the national level. Such national strategy can essentially become a developmental roadmap for the government towards expanding PPP contribution to the country’s vision, while setting priorities and aligning with long-term national plans. A national PPP strategy can effectively serve as a classification framework for policymakers to enable assessment of priority areas where PPPs can contribute best to developmental agendas, drive innovation and enhance the quality of government.

2. Establishing a PPP Centers of Excellence, with Strategic Focus on 4th Industrial Revolution Changes

The expanding number of PPPs in the UAE, coupled with increasing complexity, is triggering multifaceted impact on the country’s government, economy and society.

In developmental areas associated with new technologies, such as smart cities, mobility, artificial intelligence, public engagement, among others, the ecosystem of PPPs is creating numerous best practices as well as multifaceted challenges and pitfalls. There is a severe lack of data, information and knowledge around PPPs in the country, coupled with scattered expertise across local and federal government institutions, as well as private sector entities. Establishing a knowledge center that enables data gathering, documentation of best practices and experiences, analysis of challenges as well as coordination of expertise across the 4IR sectors would ensure the sustainable development of PPPs in related areas the UAE. It will also serve as a foundational knowledge creation platform for future policy formulation, providing evidence, documented use cases and analysis of different sectors in society, affected by PPPs, in addition to providing templates and tools that can contribute to creating efficiencies in the PPP ecosystem.

3. Ensuring Transparency in the 4IR Ecosystem

At a global level, public-private partnerships have, in some cases, led to inefficient, unethical, and even unlawful behaviours. Some of these behaviours have had negative effects including disadvantaging small businesses, creating unfair competition, allowing for biases in service delivery and policy implementation towards segments in society, as well as leading in some cases to corruption. Such negative implications of PPPs are usually coupled with information asymmetry and lack of transparency, which is usually the most important enabler of unlawful activities and misguided behaviours associated with PPPs. This is especially true in the domains related to advanced technologies. The previous recommendations, namely creating a PPP knowledge center around 4IR, and creating a national level legal framework and law for PPPs; should contribute to ensuring better transparency around PPPs operations in the UAE. Additionally, other actions by the government can influence better transparency in the PPP ecosystem and avoid the negative activities and practices, usually associated with PPPs. These include for example, linking PPP operations with Open Government Data frameworks, data laws, as well as tax reporting systems, developing auditing, evaluation and reporting systems related to how PPPs are awarded and other information related to PPP projects.

Collectively, the previous recommendations aim to contribute to the informational, organizational and regulatory reform and sustainability of PPP projects in the UAE in the era of the 4th industrial revolution.

Participants

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Related Publications

- **“Digital Transformations and Societal Trends in the Age of the 4th Industrial Revolution”**,
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