TAXATION FOR THE FUTURE OF THE GCC

AS OIL WEALTH DECLINES, GOVERNMENTS NEED TO BROADEN THEIR REVENUE BASE
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Governments of the six Gulf Cooperation Council (GCC) states have long relied on oil to balance their budgets. But this model will have to come to an end at some point, following recent years’ price falls and the global shift towards alternative energy and electric cars. Government debt is on the rise and budget deficits remain elevated – as much as $2 trillion may be required to balance the budgets of the six GCC countries by 2030. To maintain fiscal stability and continue to fuel major national transformations, critical for economic sustainability, the countries will instead have to raise funds through taxation.

Implementing this change is a complex task, one which took decades in developed economies. In Saudi Arabia, for example, just 16 percent of government revenue is derived from taxes, with much of the rest coming from oil. In contrast, OECD countries get an average of 90 percent of their revenues from taxation. To raise greater tax revenues, GCC countries will need to set up new collection systems that gather payments from individuals and businesses throughout the economy. Moreover, governments will need to persuade – and, perhaps, coerce – people to file returns and pay the tax they owe. In countries where most people are not used to paying taxes, they will likely not welcome the additional administrative burden – let alone the resulting payments.

However, a range of new technologies make now a particularly good time to design an effective tax system. Transaction taxes, such as VAT, can be facilitated by digital invoices and automatic payment systems. This might soon be feasible via blockchain. Electronic IDs can integrate tax agency data with information handled by other branches of government, making it easier to confirm tax liabilities and enforce their payment.

Technological innovations will have to be backed up by solid legal and regulatory infrastructures. In addition, the spread of taxation will create more-demanding citizens, who will insist that the taxes they pay are used efficiently. That implies a drive for efficiency in government – as well as transparency, so that people can see for themselves that their money is being spent well. Governments should try to get taxation seen as a partnership, in which citizens and businesses understand the benefits of the public services they pay for.

Approached in the right way, new taxation systems are an opportunity for GCC countries to rejuvenate their administrative systems, holding down costs and improving interactions with the private sector. They should leapfrog more-established agencies in other parts of the world, where legacy systems are often a barrier to the adoption of new techniques. This report outlines how they can set about the task.
INTRODUCTION

The Gulf Cooperation Council (GCC) countries – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia (KSA) and the United Arab Emirates (UAE) – are at an economic crossroads.

Although their oil reserves are substantial, the value of these is declining with the global rise of alternative energy and electric vehicles. Debt-to-GDP ratios are increasing rapidly, and budget deficits remain elevated, all while governments are implementing major national transformation programs requiring large capital investments. Countries which fail to achieve rapid diversification from natural resources face at best stagnation or worse – severe economic downturn (e.g. Venezuela where GDP fell more than 10% in both 2017 and 2018).

A $2 TRILLION MOUNTAIN TO CLIMB

When oil guaranteed their prosperity, Gulf governments had no difficulty in balancing their finances (See Exhibit 1). Now, with oil prices plateauing at below break-even levels for most GCC countries, the urgency has increased noticeably, and immediate reforms are required to ensure long-term economic sustainability. To maintain fiscal stability and protect foreign currency

Exhibit 1: Government revenue composition in Saudi Arabia, UAE and selected other countries (2016)

[Graph showing revenue composition]

Note: No data available under IMF reporting for other GCC countries
Source: IMF statistics
reserves, the GCC states will need greater non-oil revenues from a wider range of sources. Depending on the scenario it is estimated that governments of the six countries could require as much as $2 trillion to balance the budget by 2030.

However, the experiences of several developed economies show that implementing revenue-generating reforms and achieving a robust fiscal balance take a decade to design, build, and gain social acceptance. They need to be introduced gradually so as not to overwhelm the private sector. To be successful they should act as enablers for the economy rather than shackles, while also efficiently redistributing wealth to different parts of society (See Exhibit 2).

So, how can GCC countries increase their non-oil revenues without destabilizing their economies?

Potential sources of non-oil revenue include an increase in the government’s asset utilization and appropriation, fees and licensing, returns on domestic and foreign investments, commercial activities partly owned by the state, and taxation. Such revenues can be used to promote sustainable economic growth policies and to develop diverse sources of stable, recurring income.

**TAX: TODAY’S IMPERATIVE**

Taxation is the tool most commonly used by governments worldwide to collect proceeds from income, revenues, and capital gains made by individuals and companies. All other sources of non-oil government revenue are minor in comparison.

In the GCC region, however, taxes are largely non-existent – and those that exist are heavily concentrated. This indicates great potential for tax-related initiatives to provide a strong platform to diversify streams of government revenue. If implemented correctly, it is estimated that GCC governments could achieve 80 percent of their targeted non-oil revenues with just four taxes.

**Exhibit 2: Balancing act in GCC states**

<table>
<thead>
<tr>
<th>GCC STATES PRESSURES</th>
<th>COMPLEXITY OF BUILDING REVENUE SYSTEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil price decline</td>
<td>Requires a decade</td>
</tr>
<tr>
<td>Rise of alternative energy and electric vehicles</td>
<td>Needs to enable the economy</td>
</tr>
<tr>
<td>Rising government debts</td>
<td>Should efficiently redistribute wealth in the economy</td>
</tr>
<tr>
<td>Elevated budget deficits</td>
<td></td>
</tr>
<tr>
<td>Large infrastructure investment needs to fuel transformation programmes</td>
<td></td>
</tr>
</tbody>
</table>
Tax policies have evolved rapidly in GCC countries in recent years. In 2016, they agreed to implement VAT and excise taxes in unison. In 2017, Saudi Arabia, the UAE, and Bahrain implemented excise taxes on tobacco products and carbonated and energy drinks. Qatar did the same in 2019. Saudi Arabia and the UAE introduced VAT at the beginning of 2018 and Bahrain at the start of 2019, while the other GCC member states are making progress with their respective programs.

These moves have made the building of efficient and effective tax administrations a priority today in the GCC. They mean tax agencies must interact closely with a new base of taxpayers that have not previously filed taxes. In addition, government agencies in these states have always operated in silos. Their interfaces are disconnected, and their data sharing is kept to a minimum. Where citizens are new to taxation, there is also a risk of tension. These factors make tax administration burdensome and ineffective.

NEW AGENCIES, NEW OPPORTUNITIES

So, the region urgently needs new tax agencies to manage the complex interplay of taxpayers, other government agencies, and the public. (See Exhibit 3). These tax agencies should see this transformation as an opportunity to leapfrog the world’s more mature tax systems by building world-class, integrated systems without the legacy of complexities, inefficiencies, and existing technology.

To achieve this, tax agencies in GCC countries must derive lessons from the struggles of those mature tax systems. They should focus on fewer but larger taxes rather than become bogged down in the administration of small taxes and fees. And they should keep regulations simple so that compliance is economical for the taxpayer and enforcement for the tax agency.

In addition, they should adopt good, front-line practices from around the globe to

Exhibit 3: Interdependencies in tax administration

1. A DIGITIZED EXPERIENCE
   Use technology to drive closer involvement from private sector and improve ease of doing business

2. DATA-DRIVEN ADMINISTRATION
   Build an organisation for data-driven decision-making, analytics, and automation

3. CREATION OF A SEAMLESS PUBLIC SERVICE EXPERIENCE
   Revolutionize public service delivery to create seamless citizen experience and balance economic effect

4. CULTIVATING PUBLIC ACCOUNTABILITY
   Use public accountability and transparent reporting to build a voluntary compliance culture
take advantage of their unique late-mover opportunity. They should adopt a taxpayer-centric approach to reduce the effort of voluntary compliance for willing taxpayers. Their organizations should be data-driven in every aspect of their decision making and operations. They should integrate with other government agencies from day one to maximize data sharing: This will provide seamless taxpayer services and minimize the potential for fraud. And finally, they should build positive, long-lasting relationships with the public by maximizing transparency and accountability.

Saudi Arabia and the UAE have been pioneers in the GCC, building new tax operations from scratch, and Bahrain is now following suit with the recent launch of the National Bureau for Revenue. They all recognized that such greenfield administrations will enable them to surpass the operations of antiquated organizations restrained by legacy operating models. In 2018, the International Monetary Fund (IMF) praised the VAT implementations of Saudi Arabia and the UAE as “very successful”. The “introduction of VAT in the two countries really shows the way forward for the other GCC member states”, it said.  

 Significant work remains but they have taken the right first steps and can set an example to other GCC countries, providing insights into future trends and challenges in tax administration.

Tax agencies in GCC countries will need to do more than adapt their current practices. They should learn from the world’s latest initiatives in tax administration and address the challenges currently being faced by more-established operations. Taking global best practices into account we have compiled recommendations for actions related to the four main stakeholders in taxation:

1. **Taxpayers: A digitized experience**

Tax agencies are exploring new, disruptive technologies to integrate taxpayer transactions and tax reporting. These can take the form of electronic exchange of standardized tax data and automated cash registering, or more advanced solutions such as digitized taxpayer platforms and systems based on blockchain technology. GCC tax administrations should be early adopters of these cutting-edge technologies, by simplifying and standardizing the technical interfaces connecting taxpayers and the agency. These measures will lead to smooth operations and cement constructive, long-term partnerships with the private sector.

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1. Tim Callen, IMF mission chief to Saudi Arabia. Quote in “After five years, VAT rate may need to rise, IMF official says” (February 4th, 2018), The National
2. **Tax Agencies: Data-driven administration**

Using combinations of tax data and third-party data, tax agencies are developing advanced analytical models to shine a light on the shadow economy. They will become more able to detect identity theft, identify colluding parties in fraud, and maximize value extracted from every taxpayer touchpoint. New tax agencies can circumvent legacy operating models and use their fresh start to build a centralized operating model based on data-driven decision making.

3. **Government Entities: Creation of a seamless public service experience**

Improvements can be made in user experience, compliance, and administration by creating a unified public sector beyond the tax agency. Because it operates in silos, public administration has often earned a reputation for being inefficient, counter-intuitive and generally frustrating. The challenge is to provide taxpayers with an efficient, integrated journey so that taxes do not become an additional administrative burden on their business, and thus negatively impact the ease of doing business of that country. Tax agencies can take the lead across the public sector through digitization and advanced uses of data.

4. **The Public: Cultivating public accountability**

Public trust and buy-in are essential for effective tax administration, especially in new tax environments. GCC agencies should use the momentum of fiscal reform to promote public accountability, which generates public trust and credibility of the system. This should be balanced with protecting information that could enable non-compliant entities to defraud the system.
1. A DIGITIZED EXPERIENCE

The tax reporting process is usually disconnected from the activities on which levies are imposed, increasing both taxpayers’ administrative burden and compliance risks. The problem arises because of the countless ways in which transactions are documented, reported and transmitted to the tax agency. Each decision made by the taxpayer adds a burden for those willing to be compliant and creates evasion opportunities for those who are not.

RECLAIMING 80% OF THE TAX GAP

At each step of the taxpayer journey there are varying levels of compliance and tax leakage. In particular, improper taxpayer reporting constitutes a major part of the tax gap, the difference between the total amount of tax owed to government and the amount they actually receive (See Exhibit 4).

For example, in the UK incorrect reporting accounts for around 80 percent of the overall tax gap. To address this challenge, leading tax agencies in Europe, the Americas, and elsewhere are using disruptive technologies to enhance integration and data collection.

These allow tax agencies to improve their matching of declarations to liabilities, which in turn enhances overall compliance levels. Systematic data collection also offers critical benefits, such as a reduction in compliance cost for the taxpayer, a decrease in evasion risk, and the identification of...
hidden taxpayers. The data can also provide details on taxpayers’ financial positions, which can inform collection strategies – such as the choice between installment arrangements, settlement, and desk or field collections. Detailed data points and risk analytics enable tax agencies to make better-informed decisions: They can whitelist or blacklist certain taxpayers, for example, or optimize the audit rate for taxpayer declarations. Data and analytics can also help to choose the right action for potentially non-compliant taxpayers and to streamline reviews of taxpayer liabilities, such as audits and inspections.

Some jurisdictions have begun experimenting with initiatives to directly take advantage of these opportunities. Three examples are particularly relevant for GCC tax agencies beginning to develop their taxation systems. New, standardized **data formats** streamline the exchange of reliable, transaction-level data through a system integrated by **data-source enablers**. Cutting-edge, secure, and decentralized technologies like **blockchain** are building blocks for these systems’ infrastructure. These initiatives are at the center of efforts to reclaim the 80 percent of the tax gap that the agency has the best chance of bringing under its control.

1.1 THE NEW LANGUAGE OF TAX DATA

To collect data in a standardized and streamlined manner, established tax agencies have developed data formatting schemes and digital enablers that facilitate integration with the private sector. The use of standardized data formats allows the collection of uniform data points from a wide range of different taxpayers. It can also ease taxpayers’ burden of filing and compliance by enabling the pre-population of fields in tax return filing forms. Uniform formats and collection of data also make it easier for tax agencies to match, corollate, and analyze data points that generate insights into taxpayers and their compliance habits.

A **data format** is a standard, such as SAF-T or XBRL, for the electronic exchange of reliable tax data from organizations to national tax agencies. SAF-T, which is used by Portugal, Spain, and Poland, enables those tax agencies to gather highly valuable transaction-level data. The XBRL standard, used in the Netherlands, Australia, and the United Kingdom, permits the gathering of aggregated accounting data. Other tax agencies – notably the United States, France, Brazil, and Mexico – have adopted non-standard data formats, which are relatively easy to tailor to local needs (See Exhibit 5).
### Exhibit 5: The new language of tax – data formats

<table>
<thead>
<tr>
<th>KEY CONSIDERATIONS</th>
<th>SAF-T</th>
<th>XBRL</th>
<th>BESPOKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAXPAYERS</td>
<td>Easy to implement</td>
<td>Compatible with IFRS, GAAP Global use experience</td>
<td>No prior experience for TPs Flexibility for low complexity for TPs</td>
</tr>
<tr>
<td>Vendors maturity</td>
<td>Several vendors available</td>
<td></td>
<td>Depends on alignment to standards</td>
</tr>
<tr>
<td>Data covered</td>
<td>Transaction-level data Data certification Flexibility to add other fields</td>
<td>Aggregated accounting data Transaction-level data as enhancement</td>
<td>Transaction-level data Data certification Flexibility to add other fields</td>
</tr>
<tr>
<td>Efforts required to define format</td>
<td>Only minor customizations</td>
<td></td>
<td>TA to define Leverages relevant formats</td>
</tr>
<tr>
<td>Relevance to tax agencies</td>
<td>Adaptable to TA² needs</td>
<td></td>
<td>Specifically built for TA</td>
</tr>
<tr>
<td>Ease of data capture/analysis</td>
<td>Optimized for TA analysis Platforms/software available</td>
<td></td>
<td>Depends on alignment to standards</td>
</tr>
<tr>
<td>3RD PARTIES</td>
<td>Potential for local data exchange</td>
<td>Hard to standardize</td>
<td>Easy exchange</td>
</tr>
<tr>
<td>Potential for int’l data exchange</td>
<td>Standardized Low (but growing) adoption</td>
<td></td>
<td>Not-standardized</td>
</tr>
</tbody>
</table>

1. XBRL was adopted by the UK in 2011; since then it has changed its reporting requirements to have a broader view of businesses as part of its “Making Tax Digital” strategy;
2. TA: tax agency;
Source: Tax agency websites, OECD, expert interviews

<table>
<thead>
<tr>
<th>Low degree of challenge</th>
<th>Medium degree of challenge</th>
<th>High degree of challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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1.2 INTEGRATED DATA ECOSYSTEM

Some tax agencies also employ data source enablers for the secure transmission of data from taxpayers. These systems facilitate integration between the tax agency and the private sector, enabling seamless sharing of data between them. Data source enablers may include electronic cash registers, electronic invoices, and digital invoice customs exchange.

Electronic cash registers (ECRs) store customer transactions automatically, ensuring they are accurate and can be processed and transmitted quickly.

In Austria, Mexico, and Brazil, standardized electronic invoices have incentivized businesses to digitize their operations, facilitating their interaction with tax agencies and making their business activities more transparent. As a result, compliance has increased significantly, and fraud declined.

A digital invoice customs exchange (DICE) can track cross-border transactions – identifying and solving missing trader fraud, for example – and reduce international tax evasion.

A technology-intensive tax compliance system, DICE utilizes invoice encryption to safeguard data exchanged between sellers and buyers for both domestic and import-export transactions. It simultaneously passes the transaction details to the agencies concerned (See Exhibit 6).

AUSTRIA is at the forefront of this trend. From 2016 it has required businesses with an annual turnover of more than €15,000 to use ECRs or other electronic recording systems for their transactions.

Since April 2017, all receipts must be signed using a secure signature creation device implemented through the ECR.
Exhibit 6: Integration across borders to stamp out fraud

**DIGITAL INVOICE CUSTOMS EXCHANGE (DICE)**

1. Seller generates/digitally signs invoice e-transmitted to the origin tax agency
2. Tax agency authorizes/signs the invoice electronically if correct
3. Seller submits the invoice with access key
4. Buyer checks the data, digitally signs and sends to destination tax agency
5. Destination tax agency checks and creates a second access key
6. Seller submits the invoice with access key

**MEXICO**

In 2005, the Mexican tax agency introduced standardized electronic invoices to improve control and verification, a move that brought around 4.2 million micro businesses into the formal economy.

**BRAZIL** mandated e-invoicing between suppliers and buyers, increasing the number of audits, their assessed value, and the total tax collected.
1.3 BLOCKCHAIN-BASED INFRASTRUCTURE

New decentralized technologies, such as blockchain, promise to simplify the mechanics of data-source enablers and revolutionize tax automation in the long term. While blockchain technology is still in its infancy, it represents an opportunity for tax agencies to make significant enhancements (See Exhibit 7).

Tax agencies around the world are closely examining the potential of blockchain technology to increase the security and efficiency of tax administration. Some have already taken steps to integrate it into their daily operations.

Blockchain also offers an opportunity for significant efficiency gains when accounting for and paying VAT. Smart contracts embedded in blockchain ledgers can automatically calculate the VAT due after each transaction, and then trigger direct payments to the tax agency and the seller’s bank account.

Another potential use is to create a blockchain-based public register of tax identification numbers, enabling instant, decentralized verification of registration data. In the goods supply chain, blockchain can create an ownership history of goods in a dedicated ledger, providing a clear history of transactions. This could facilitate the tracing of goods for the purposes of transaction validation and audits.

Exhibit 7: Benefits of blockchain for tax administration

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraud reduction</td>
<td>Information constantly updates, is easy to access and share</td>
</tr>
<tr>
<td>Real-time data</td>
<td>Transactions are easy to trace and reported in detail</td>
</tr>
<tr>
<td>Efficiency</td>
<td>System access is restricted, and ledgers are effectively impossible to modify</td>
</tr>
<tr>
<td>Data security</td>
<td>Elimination of middlemen reduces admin burden/cost of tax collection</td>
</tr>
<tr>
<td>Compliance improvement</td>
<td>All agencies have access to the same datasets</td>
</tr>
<tr>
<td>Non-compliance resulting in</td>
<td>Non-compliance resulting in exclusion from blockchain across govt agencies</td>
</tr>
</tbody>
</table>
1.4 FIRST STEPS

Tax agencies in the GCC should start the journey towards closer cooperation with the private sector as soon as possible, as it requires extensive design, planning, and implementation. These agencies are uniquely positioned to drive integration with the private sector, as they can make a fresh start before taxpayers start to use less sophisticated systems. They should define data formats and data source enablers to replace any existing systems, so that taxpayers can work seamlessly with the agency. In addition, tax agencies can facilitate implementation by involving a wide range of entities: For example, they can provide certification and incentives for IT vendors and legal and accounting firms to operate new standards and procedures.

CHINA

In 2017, China announced its intention to use blockchain technology for social taxation and electronic invoices. The City of Shenzhen has partnered with Tencent to develop an “intelligent tax” innovation lab with the primary goal of limiting tax fraud. The lab’s focus is on identifying fraudulent official invoices that employees use to claim expenses for items they have not paid for.
2. DATA-DRIVEN ADMINISTRATION

Big data and advanced analytics can help tax administrations make decisions that improve operational performance and compliance outcomes and reduce the taxpayer burden. A recent review of a tax agency’s operations identified that enhancing its analytics capabilities would provide five to 15 percent uplift in tax revenue due to enhanced compliance while decreasing the cost of compliance by 30 to 50 percent and decreasing the processing time for refunds by 15-30 weeks.

In a 2016 survey of 16 leading tax agencies, all claimed to use advanced analytics to improve tax administration, with the most common use being audit case selection (See Exhibit 8).

Exhibit 8: Applications of advanced analytics by leading international tax agencies (OECD, 2016)
2.1 ANALYTICS FOR DECISIONS

Iterative analytics processes help identify which entities require action and what kind. The use cases are evolving rapidly. Tax agencies use multiple supervised learning techniques with defined target variables, such as audit strike rate. The techniques range from simple, generalized linear models to more advanced techniques such as random forests and boosted trees. The more-pioneering agencies are starting to explore artificial-intelligence applications through neural networks to define the characteristics that best point to a potentially non-compliant entity. Such models differ by purpose – for example, a model predicting likely cash underreporting cannot be used to identify hidden taxpayers – and each addresses a specific compliance issue. As a result, tax agencies can calculate the levels of compliance revenue they can expect to extract from each taxpayer or tax return. They can then prioritize cases for action and assign the most-expensive actions, such as field audit, to cases with the highest revenue potential (See Exhibit 9).

Exhibit 9: An illustration of decision making through analytics

<table>
<thead>
<tr>
<th>ALGORITHMS</th>
<th>TYPES OF TAXPAYER COMPLIANCE ISSUES FOR WHICH DIFFERENT ALGORITHMS ARE USED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hidden taxpayers</td>
</tr>
<tr>
<td>Naive Bayes</td>
<td>✔</td>
</tr>
<tr>
<td>Generalized Linear Models</td>
<td>✔</td>
</tr>
<tr>
<td>Regularized linear models (Ridge, LASSO, Elastic net)</td>
<td>✔</td>
</tr>
<tr>
<td>Multivariate adaptive regression splines (MARS)</td>
<td>✔</td>
</tr>
<tr>
<td>Support Vector Machines</td>
<td>✔</td>
</tr>
<tr>
<td>Bagged Trees</td>
<td>✔</td>
</tr>
<tr>
<td>Random Forest</td>
<td>✔</td>
</tr>
<tr>
<td>Gradient-Boosted Trees</td>
<td>✔</td>
</tr>
<tr>
<td>Neural Networks</td>
<td>✔</td>
</tr>
<tr>
<td>Generalized Additive Models (GAM)</td>
<td>✔</td>
</tr>
<tr>
<td>Graphical Models</td>
<td>✔</td>
</tr>
<tr>
<td>Bayesian Models</td>
<td>✔</td>
</tr>
<tr>
<td>Ensemble methods</td>
<td>✔</td>
</tr>
<tr>
<td>Network analysis</td>
<td>✔</td>
</tr>
</tbody>
</table>

✔ Algorithm is commonly used for this type of compliance issue
UNITED STATES

The US Inland Revenue Service (IRS) uses a computer-based model, the Discriminant Inventory Function (DIF) system, which calculates scores for some individual and corporate tax returns. High DIF scores of processed returns are related to high potential that an examination of the filed return would result in a re-assessment or change in the overall tax liability of the return.

CANADA

The use of late-filing predictive models has yielded more than $100 million in revenues.
2.2 TAILORED TREATMENTS

Tax agencies are investing heavily to develop a deeper and more granular understanding of taxpayers. As a first step, they do this using standardized industry classifications to build taxpayer segments. These help the agency visualize tax revenues for different economic sectors, building an ever-deeper understanding of taxpayers. For example, fluctuations in filing figures can be predicted from seasonal trends or varying levels of import activity shown by customs data. Higher refunds can be anticipated if there has been frontloading in previous filing cycles. As a next step, more-advanced segmentation approaches, such as K-means and spectral clustering, use behavior data to assign taxpayers to clusters for better allocation of actions.

Prescriptive analytics helps scrutinize taxpayer compliance behavior and determine the most cost-effective actions – such as a text message, phone call, or audit – to sustainably influence their behavior. An algorithm segments taxpayers into buckets, enabling a focused approach that dramatically increases the effectiveness of actions. Two common applications, segmentation and social network analysis, are shown in Exhibit 10.

2.3 AUTOMATION

Factors beyond technology, too, are essential to make automation a success. One is a level of maturity in the regulatory environment, including the implementation of laws and regulations related to data security and privacy, open data and sharing, e-invoicing, contracts, etc. Another is the willingness and ability of organizations to change their processes and improve their technology. The tax agency has adopted even more creative ways to enhance taxpayer services, including the text mining of inbound inquiries. It also uses social network analysis, which scrapes sources such as social media and phone number activity to identify organized fraud and reveal interconnected actors in cases where assessments of just an individual would fail. This has led to the identification of colluding parties in missing-trader and carousel VAT fraud.
and paperless operations. In addition, taxpayers must be at a minimum level of maturity to comply with automated systems and procedures without these affecting their time-to-cost ratio for tax filing and compliance. Finally, different stakeholders must be aligned in the overall tax system, including system vendors and advisors on legal matters and implementation (See Exhibit 11).

Exhibit 10: Examples of analytical methods to detect fraud

SEGMENTATION...

...puts taxpayers into statistically defined peer groups based on characteristics

- Location
- Industry
- Size

Outliers from each peer group are selected for Audit based on tax return ratios

- Ratio of expenses to revenues

SOCIAL NETWORK ANALYSIS...

...identifies interconnected factors to detect risk where individual-level assessments would fail

- Social media connection
- Shared phone number
- High individual risk
- Low individual risk
- High network risk

Exhibit 11: The enabling pillars of automation

- Supportive Law and implementing regulations
  - Clear legal guidance on application

- High level of maturity across taxpayer base
  - TPs must be able to comply without degrading ease of doing business (time/cost to file and comply)

- Taxpayer technology
  - Tax agency’s tax administration platform (architecture, analytics, security, etc.)

- Alignment among government stakeholders
  - Audit and accounting firms
  - System vendors
  - Legal and implementation advisors

- Taxpayer maturity

- Government and tax ecosystem
Despite the trend towards machine learning and automated operations, some agencies’ outdated models make it difficult for data-driven decision making to permeate the organization. Most tax agencies began with decentralized models where decisions such as case selection are made by frontline actors such as auditors. Transitioning to a centralized governance model causes tension due to the need to change processes and embed feedback loops in operational units. Moreover, the senior executive sponsorship and political capital needed to drive such transformations are not always available. Finally, decades-old IT systems and incremental infrastructure upgrades present significant switching costs, impeding organizations from adopting more-flexible solutions.

2.4 FIRST STEPS

Lessons from established tax agencies highlight that decisions today can affect operations for decades. For instance, nearly all surveyed agencies call embedding analytics into everyday operations a “significant challenge,” often due to “changes in longstanding work practices.” They also face significant IT and data management issues over the types of data to collect. However, GCC tax agencies can circumvent these problems if they take advantage of the greenfield environment they are working in.

First, senior executives in new organizations should enforce governance models conducive to data-driven decision making in all operations. From the outset, critical operational decisions should be based on analysis from a centralized analytics and intelligence unit rather than made on the front line.

Analytics initiatives must then be aligned to strategic priorities and compliance risks in specific markets. Once these priorities have been established, the analytics teams can focus on models that have been proved to highlight relevant risks. These can look at undisclosed cash sales, underreporting of point-of-sale transactions, and the incorrect categorization of goods and services. Integrating analytical risk identification into operational procedures increases the effectiveness of the models and feedback loops.

Once these risk models have been built, the cross-functional teams must enhance them through rigorous, iterative, test-and-learn cycles that can each last anywhere between three and 12 months, with the whole learning process continuing for up to 10 years. Random control groups should be used to test the efficacy of existing models and prevent model bias. In addition, data feedback tools for specific models must be embedded in operational processes, such as audit and collections, and continuously refined based on feedback from users and cases selected by the models.

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Automating tax functions is a long-term project that requires several years of phased implementation. Successful execution will depend on the broader pillars defining the country’s legal and commercial systems, including the legal and regulatory environment, the use of technology in government and the private sector, taxpayer maturity, and the overall system of government and tax. So, tax agencies will need to work closely with other governmental entities, including legislative agencies, as well as with the taxpayers themselves.

To adopt an automated, analytics-driven approach, GCC tax agencies must first define their target operating model across several dimensions, including applicability, purpose, data, and technical infrastructure. Exhibit 12 illustrates a sample framework.

### Exhibit 12: Solution to developing your advanced analytics capabilities

<table>
<thead>
<tr>
<th>Segmentation criteria</th>
<th>Revenues</th>
<th>Independently audited</th>
<th>Industries</th>
<th>Compliance history</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted segment</td>
<td>Top percentage</td>
<td>specific segments</td>
<td>All TPs</td>
<td></td>
</tr>
<tr>
<td>Required/Optional</td>
<td>Mandatory</td>
<td>Optional</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tax types</th>
<th>VAT</th>
<th>Income tax</th>
<th>Excise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacted processes</td>
<td>Filing</td>
<td>Audit</td>
<td>Appeals</td>
</tr>
<tr>
<td>Process automation</td>
<td>Filing liability assessment</td>
<td>Audit flagging of cases</td>
<td>Audit review</td>
</tr>
<tr>
<td>Required data</td>
<td>Summary of liability</td>
<td>Sales &amp; Purchases</td>
<td>Financial ledger</td>
</tr>
<tr>
<td>Data format</td>
<td>SAF-T</td>
<td>XBRL</td>
<td>Bespoke solution</td>
</tr>
<tr>
<td>Technical infrastructure</td>
<td>Push</td>
<td>Pull</td>
<td></td>
</tr>
<tr>
<td>Transfer method</td>
<td>Online portal</td>
<td>FTP</td>
<td>Webservice</td>
</tr>
<tr>
<td>Transfer frequency</td>
<td>Annually</td>
<td>Monthly</td>
<td>On request</td>
</tr>
</tbody>
</table>
3. CREATION OF A SEAMLESS PUBLIC SERVICE EXPERIENCE

Historically, governmental institutions, and in particular tax agencies, have operated in silos with disconnected interfaces and minimal data sharing. This has earned them a reputation for being inefficient and generally frustrating. However, new integration technologies and data-sharing practices, along with rising expectations from the public, are pushing these institutions towards a greater degree of collaboration and integration.

3.1 INTEGRATED SERVICES

Public sector institutions have recently started to investigate the possibility of sharing intelligence and integrating their enforcement measures and user interfaces. They are beginning to reduce red tape and enhance public reporting, making them more efficient and cost-effective. Taxpayers benefit from better public services and an improved, integrated overall citizen experience: They find it easier to conduct business, file their tax returns, and interact with public institutions (See Exhibit 13).

Tax agencies, too, are significant beneficiaries of this transition. For example, third-party data matching can help identify and prevent tax evasion. To detect underreporting in the US, merchant acquirers such as American Express are legally required to share payment card transaction data with the IRS. When the data cannot be matched to a business, sales payments are withheld and then remitted to the IRS until the business updates its records.

<table>
<thead>
<tr>
<th>Exhibit 13: All better together</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BENEFITS FOR GOVERNMENT</strong></td>
</tr>
<tr>
<td>Effcient administration</td>
</tr>
<tr>
<td>• Simplified and comprehensive audit process</td>
</tr>
<tr>
<td>• Fewer errors from data duplication</td>
</tr>
<tr>
<td>• Greater availability and quality of data</td>
</tr>
<tr>
<td>• Better informed decision-making</td>
</tr>
<tr>
<td>• Enhanced institutional coordination</td>
</tr>
<tr>
<td>• Reduced bribery and corruption</td>
</tr>
<tr>
<td>Financial savings</td>
</tr>
<tr>
<td>• Cost efficient use of staff</td>
</tr>
<tr>
<td>• Elimination of duplicate IT development costs and maintenance</td>
</tr>
<tr>
<td>• Greater identification of tax fraud and evasion</td>
</tr>
<tr>
<td><strong>BENEFITS FOR CITIZENS</strong></td>
</tr>
<tr>
<td>Enhanced service delivery</td>
</tr>
<tr>
<td>• Broader portfolio of services from ability to create cross-governmental services</td>
</tr>
<tr>
<td>• Faster rollout times in deploying govt services</td>
</tr>
<tr>
<td>• One-stop-shop for citizens</td>
</tr>
<tr>
<td>• Overall process monitoring opportunities</td>
</tr>
<tr>
<td>• Improved taxpayer journey through digital, integrated touchpoints and services</td>
</tr>
<tr>
<td>Improved citizen experience</td>
</tr>
<tr>
<td>• Single point of access to government services</td>
</tr>
<tr>
<td>• Fewer requirements for direct govt interaction</td>
</tr>
<tr>
<td>• Ability to develop more targeted policies</td>
</tr>
<tr>
<td>• Improved ease of doing business</td>
</tr>
</tbody>
</table>


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3.2 E-ID

Many tax agencies already use other government services to enforce compliance, like suspending the licenses of taxpayers that are not up to date with their filing or payment obligations. However, many countries, including Japan, the Republic of Korea, and the UK, are enhancing broader public services through e-government or e-ID systems. An e-ID links uniquely to each taxpayer and enables unified online public services, such as registration and licensing, labor contracts, social contributions, and taxes. As a result, frontline services and back-office operations are integrated, and all government services can be seamlessly linked. As well as helping to enforce tax compliance through the potential suspension of services, e-ID can also provide a consolidated view of taxpayer liabilities (See Exhibit 14).

Today’s tax agencies face several hurdles. For data integration to be carried out without abuse, existing laws and regulations need amendment and revision to clearly define a framework that safeguards privacy, confidentiality, and security. Then, substantial time and effort may be required to properly integrate disconnected and misaligned information systems. These efforts require significant commitment and political capital at the highest levels of government.

Exhibit 14: E-ID for tax compliance
However, these are often unavailable, as individual agencies will push for one-off solutions when they are the beneficiary but will be slow to invest in broader systems to help other public institutions digitize their services. Overcoming these challenges will lead to tremendous benefits across government – and tax agencies are best positioned to take on the lead role.

3.3 FIRST STEPS

Fortunately, GCC tax agencies can use the momentum of fiscal reform to remove many of these barriers. By doing so, they will contribute to a feedback loop that minimizes evasion, reduces enforcement costs, and improves intelligence throughout the public sector. Exhibit 15 shows some of the possible benefits.

Exhibit 15: Opportunities from a unified public sector offering

- **Cross-sharing of data improves fraud detection for all agencies**
  The integration of customs imports data and tax filing records, for instance, can provide a direct match against input credits for the largest VAT creditors. The tax agency can also use its data to aid other agencies: Some use income and VAT-return data for anti-money laundering detection; others use disclosed margin data to identify importers that may be under-valuing goods at customs.

- **Intelligence from a tax agency provides a unique, valuable macroeconomic dataset**
  Tax agencies often gather the government’s most granular and timely macroeconomic health data. That puts them in a unique position to generate macroeconomic reports and indicators that benefit other agencies in economic planning.

- **Inspections in one area can improve detection in others**
  Fraud or tax evasion in one area of government may indicate that it is also happening elsewhere. So, it can be flagged to trigger inspections and even the suspension of services in another area.

- **Tax administration can be a stepping stone to comprehensive e-government**
  New tax administrations can lead on improving user experience of the public sector. The tax agency can serve as a proof-of-concept for wider e-government that expands into other agencies. Notably, it must digitize taxpayer touchpoints as a starting point towards a comprehensive e-government operation, while also reducing the agency’s operating costs and enhancing the possibilities to use analytics.
4. CULTIVATING PUBLIC ACCOUNTABILITY

4.1 SET A STANDARD OF GLASSLIKE TRANSPARENCY

People around the globe are increasingly demanding transparency in governmental affairs. This applies particularly to the administration of government revenues – where people ask, “Am I the only one paying?” – and expenditure decisions, where people want to know, “How is the money being used?” The tax agency has a mandate to address the first of these questions, and there is an acute need for it to do this in GCC countries where many taxes are being levied and administered for the first time. If a new tax agency succeeds in communicating properly on this point, it can set an example to other agencies of the value of transparency.

High rates of filing and payment compliance can, if publicized strategically, generate still further improvements, as they create social norms.

Transparency is a balancing act. Too little provokes resistance to public reforms and reduces voluntary compliance. Too much helps businesses evade taxes. There is no universal solution, as the right approach is a function of local customs and expectations of the relationship between individuals and their government. It is, however, essential to find the right balance to maximize voluntary compliance through the creation of social norms and the perception of fairness.

UNITED KINGDOM

HMRC releases an annual tax gap report that shows where compliance rates are high and where there are significant leakages – such as in areas where organized crime is active.
4.2 FIRST STEPS

Tax agencies in GCC countries can increase voluntary compliance by emphasizing the moral imperative to comply and that non-compliance is the exception as opposed to the rule. They can follow more-developed jurisdictions in implementing media campaigns. These could highlight the benefits of compliance for broader transformation projects and a decreased dependence on oil. One example is Saudi Arabia’s Vision 2030.

Some tax agencies provide a managed level of transparency over how cases are selected for audit to nudge taxpayers towards greater compliance and to minimize surprises. Others have incorporated risk-of-audit indicators in accounting software to discourage underreporting as far upstream as possible. Such transparency should be balanced against the risk of revealing too much of the tax agency’s internal operations, rules, and procedures. Tax agencies should not reveal critical information to outsiders who might take advantage of it to compromise the system’s integrity.

AUSTRALIA

The Australian Tax Office (ATO) publishes small business benchmarks, such as industry-level margin ranges, to help businesses understand their performance and forewarn outliers of the risk of audit.

CHILE

The internal revenue service (SII) interviewed taxpayers over how they felt about field audits. The interviews highlighted significant taxpayer pain points, such as confusion over their rights, and significant investments of time that were subsequently redressed.
CONCLUSION: A BLANK SHEET OF PAPER

Structural changes to fiscal policy are an opportunity for GCC countries to turn taxation into a sustainable, reliable source of revenue that is independent of oil. To do this, they will need to develop either new tax agencies or wide-ranging new capabilities at their existing ones. While they can learn from tax agencies in other parts of the world, they also have an opportunity to leapfrog them, as established agencies face significant inertia in adapting to new trends in tax administration. Ministries of finance can also use new taxes to transform public administration more widely, improving its interactions with the private sector, holding down administrative costs, boosting trust, and nurturing relationships with the public.

Though GCC countries have an opportunity to build exemplary tax agencies, designing these to be efficient and effective will be a long process. Tax agencies should start by immediately using data formats and enablers to integrate their operations with the private sector, so that they can gather transaction data. They should explore the use of blockchain technology, leapfrogging traditional IT systems, to reduce both evasion and the administrative burden on taxpayers. Blockchain-based smart contracts will enable automated tax payment; tax identification numbers will be registered on public ledgers; and blockchain will record the transfer of goods.

Tax agencies should adopt a management philosophy that enables agile, data-driven innovation and uses advanced analytics for risk assessment and decision making. They should also promote intelligence sharing, the integration of experiences, and compliance enforcement between government agencies to improve end-to-end public administration. It is imperative that the tax agency play a pivotal role in government public relations by fostering public acceptance through transparent communications and accountability.

Transitioning from the current situation to this target state is not an easy task. It requires commitment and dedication from several stakeholders, the participation and involvement of the private sector, digitizing the taxpayer interface, and working closely with public-sector institutions and communities. A bad choice made in even the simplest design decision could take a tax agency down the wrong path, with the potential to set it back for decades. That would squander a once-in-a-generation opportunity to transform public administration in the GCC.

The time for action is now.
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