FOCUS

Transformation and innovation

The big disruptors: coming soon to your tax function
SEE PAGE 12

Learn the tax ABCs of home sharing with Airbnb
SEE PAGE 28

Will “tax time” be every day?
SEE PAGE 46

The future of Tax Insights – take our reader survey
SEE PAGE 17

Beth Adair
Global Tax Director at Airbnb
“We keep moving forward, opening up new doors, and doing new things, because we’re curious. And curiosity keeps leading us down new paths.”

Walt Disney
Disrupting tax: all stakeholders have work to do

It’s been said that the pace of change has never been this quick – and will never again be this slow. Some change is only at the fringes of our imagination.

The world of tax is also changing rapidly. It has seen more transformation in the last five years than in the past 50; the next five are likely to bring even more change.

We’ve reached a critical inflection point that is pivoting tax to a very different future; navigating the shift successfully will require tax practitioners to innovate – and ultimately disrupt – ourselves. We are rapidly approaching a transformed tax world – Tax 2.0.

A tax system works best when taxpayers, tax advisors and tax administrations work together to provide balance in the tax system. All three have critical roles to play in adapting and driving innovation as we move toward a new world of tax.

From a taxpayer perspective, there will be an expectation of real-time access to information, a digitalized interface with the tax administration to understand that information and a seamless communication loop with their governments. Within companies, the tax departments must become a more strategic partner with continuous involvement with the operations to help tax planning align with the business.

Tax administrations, enabled by strong technology, should strive for simplicity and increased certainty. Administrators should focus on providing e-services that are user-friendly and designed around efficiency. Taxpayer data security and confidentiality should be paramount, with transparency well thought-out in terms of both systems design and policy. At a broader level, governments need to take care that the efficient and transparent tax systems of tomorrow do not result in double taxation. A tax system that provides clarity and consistency will be a key factor in supporting economic activity.

Tax advisors are adapting and changing as they advise clients on their journey to a rapidly changing international taxation system in order to help them derive insights from the vast array of digital data. As compliance becomes driven by real-time reporting, tax advisors will also help clients develop the process controls to ensure that data reporting delivers the correct tax treatment.

Tax 2.0 will be fundamentally anchored in the digital world. But the reality of this technological transformation is only beginning to emerge. Most tax functions are lagging, as tax is often at the bottom of the priority list for IT investment. Many companies are burdened with a range of legacy IT systems that address the financial reporting process.

Tomorrow’s tax executives will need to leverage technology to do more of the work and employ diagnostics and data analytics to facilitate timely and accurate compliance and effectively manage risk. This requires a change in the type of talent hired, so that people with technology and business operations knowledge are key members of the tax function.

With so much innovation happening and all the changes yet to come, this is a challenging and exciting time in history to be involved in tax. The goal should be for everyone in the tax environment to work together, so that we can achieve successful outcomes that work both for taxpayers as well as regulators, delivering the certainty, consistency and clarity that makes Tax 2.0 thrive.

Finally, we launched Tax Insights as a global publication in 2014 with the goal of creating a must-read tax-oriented business publication. This magazine is for you, and we greatly value your input. You can help improve it by taking our reader survey at ey.com/taxsurvey.

Jay Nibbe  
EY Global Vice Chair Tax
“Providing greater certainty in the tax environment should help foster investment in innovation.”

Grace Perez-Navarro
Deputy Director of the OECD’s Centre for Tax Policy and Administration
Tranformation and innovation

1

Digital government
Tax authorities are clearly leading the global data race. They are using technology to move beyond the e-filing of tax returns to e-audits and eventually to e-assess, where taxes are assessed based on data received (from the taxpayer or elsewhere) rather than from tax returns. This fundamental shift stands to make the process more efficient, transparent and compliant. But it could also lead to greater controversy.

2

Artificial intelligence
Computers are changing how doctors diagnose illness and people drive cars. The tax industry must also prepare to be disrupted. Soon, computers will be capable of making decisions on tax-related matters, analyzing tax codes, case law, and company guidelines and practices. Tax law – notoriously complicated – will suddenly become much more accessible for both businesses and tax authorities.

Source: CNN, Fortune

3

The digital economy
While nearly half of the world’s population has internet access, many corporations are still playing catch-up in terms of leveraging technology and participating in the digital economy. They can’t afford to get left behind; the digital economy is quickly transforming tried and true business models. Governments have learned that the rise of the digital economy has real tax consequences and are adjusting their tax laws and regimes in response.

Source: The Economist, EY, European Commission

4

Globalization
Corporations today are pushing beyond regional and national borders, entering new markets to become global players. Globalization has changed not only how businesses produce and sell products and services, but how they pay taxes as well. Governments around the world understand they, too, must adapt to this globalized world. They are doing so by strengthening cooperation with other tax authorities, and implementing the Organisation for Economic Co-Operation and Development’s base erosion and profit shifting project.

5

A new work world
Change is coming to the work world, and the tax function is no exception. Thanks to artificial intelligence, computers will take over more tasks from humans in coming years, such as in the area of tax compliance. This evolution could have a profound impact on the tasks and responsibilities of workers within the tax department. But it’s not all bad news. Technology will also bring benefits to the tax workforce, helping knowledge workers become more efficient and better connected.
“With greater transparency, you are obliged to communicate. Tax people must clarify and simplify tax impacts.”

Reijo Salo
Vice President of Corporate Tax,
Fortum Corporation
Focus

Transformation and innovation

Tax thought leadership online

Transforming to a digital tax function: evolution or revolution?
Once a blind spot, companies are now increasingly focused on transforming the tax function. Learn about the three disruptive forces that are changing the way tax operates today.

Think global, act global
As technology dismantles global barriers, explore why middle market companies need to think like a multinational from day one and what that means for their tax operations.

Raise your voice.
Tax Insights is a trusted source of finance and tax professionals around the world. We now need your help to make it even more influential, providing the latest information and views from global tax directors, advisors, academics and politicians. Share your views – visit ey.com/taxsurvey

Tax Insights’ global editorial board
EY’s Tax Insights global editorial board brings together important insights from EY’s extensive network of professionals, including Global Tax leadership, keeping you up to date on the latest tax matters and trends impacting your business.

If you’d like to get in touch with the editorial team, please contact taxinsights@ey.com.

Jay Nibbe
EY Global Vice Chair Tax

Kenji Amino
Japan Tax Leader

Kate Barton
Americas Vice Chair Tax

Jim Hunter
Asia-Pacific Tax Leader

York Zöllkaue
EMEIA Tax Leader
An innovative vision
Can a tax function also be innovative? Yes, says Airbnb, which is introducing tax initiatives aimed at increasing acceptance of its revolutionary approach to travel.

The eureka effect
Technology is ushering in a golden era of innovation for tax authorities around the globe, providing them with unprecedented insight into their taxpayers.

The workplace reinvented
Get ready for the new work world where computers will share your workload and even potentially amplify your own intelligence.

Point of no return
The annual tax return may soon be a relic as tax administrations and taxpayers go digital. Every day may soon be “tax time.”

“There’s no one size fits all”
The OECD’s Grace Perez-Navarro says there are many ways that governments can spur innovation at home through tax, including R&D and education credits, as well as low tax rates.
Transformation and innovation

Not so long ago, tax departments could take the time they needed to adapt to new technologies. Major innovations in the tax realm didn’t come along very often.

I remember when the first spreadsheet computer program, VisiCalc, came on the market in the late 1970s just when computers were entering the mainstream. In 1983, Lotus 1-2-3 followed and became the cutting-edge tax technology. With the launch of Excel and tax-preparation software in the early 1990s, we marveled at the pace of technological change in the tax space. Innovation felt fast, but it was glacial compared to the pace of change today.

In the ensuing two decades, innovation has gone from slow but steady into overdrive. With the streamlined introduction of OneSource, ProSystems, Corptax, Spotfire, Tableau, SharePoint, Vertex, Blue Prism and many more, new tax software and programs are being launched on a regular and continuous basis. Tax departments no longer have the luxury of time to make decisions. They must constantly trial new technologies and innovate or find themselves behind the curve.

Whether it’s technology, business models or regulation, the tax world is transforming at an increasingly quick rate. Keeping pace with this evolution is both critical and increasingly challenging for companies today.

It helps to focus on what all these changes have in common: data. Data is power in today’s world. Those who possess the ability to gather it quickly, manipulate it and turn it into knowledge will be better placed to reap the benefits from this era of unprecedented innovation.

We are just at the beginning of the fourth industrial revolution, one in which the “speed of current breakthroughs has no historical precedent,” according to the World Economic Forum. Companies are reconsidering their business model in the hope that they can adequately prepare for what is still a very uncertain future. The only thing certain about the future is that change and digital disruption will be a big part of it – innovation will be the great divider.

The fact is that the tax industry is fair game for disruption. Technology has already shaken up and revolutionized the taxi, hotel, health care and automotive industries, to name but a few. (See our interview with Airbnb Global Tax Director Beth Adair on page 28.) Tax is no exception. Those in the tax field must now brace themselves to disrupt or be disrupted.

**Embracing digital**

Look no further than the many tax administrations that are embracing technological change today with the goal of improving data collection and ultimately boosting tax revenues. We are seeing more of the emerging markets, including Russia, Mexico and Brazil, take the lead in embracing digital to help with their tax efforts. The trend is also visible in developed markets as the UK has declared its plans to make its tax system fully digital by 2020. The outcome is that the tax function is now being disrupted by what was once thought of as an effective, but rather sleepy governmental agency.

Tax authorities have moved swiftly from paper tax returns to e-filing, and then to e-accounting, e-matching and e-auditing. Some are now at the beginning of a stage called e-assess, where traditional tax returns will be replaced by digital tax accounts. This is all possible because of real-time and large-scale data collection and analysis digital tools. Brazil reported it plans to go live later this year with its eSocial program, a module of its standardized public digital bookkeeping system (SPED), which will require companies to file electronic books with payroll information to capture data faster and to assess real-time.

Companies, which have lagged tax authorities in adopting new technologies, are now under pressure to respond sooner to tax administrators’ queries. As tax authorities migrate toward e-assess and beyond, companies could face dwindling time to challenge an assessment and find themselves left wanting.

Being technologically behind today is a major disadvantage, but it’s a situation facing many companies. This is no surprise since tax is often at the bottom of the list when it comes to IT investment within a company. Legacy IT systems are ill-equipped to deal with the changing world of tax filing. Until now, tax returns have involved the collection of data from a range of systems and the consolidation of this information into a draft, which was analyzed and questioned by the tax department and sent on to the tax authorities.

This process is quickly being replaced by automated reporting, with the tax data going straight to the tax administration. Quality checks and assurance controls on that information will need to occur a lot earlier in the process and best-in-class controversy management on the backend will be critical.

There is more innovation still to come. Digital automation advances, through robotics process automation,
will see software programs replace people in performing repetitive, form-driven tasks. Those people, in turn, will be leveraged to perform higher-level assignments. Further out, cognitive artificial intelligence will bring more change to the tax industry, putting high-level planning decisions in the hands of computers. And the new blockchain transaction system has the potential to profoundly change the tax and audit industry in coming years.

The talent pool within tax is already shifting as a result of this technological transformation. Companies and tax administrations are shifting their hiring focus from a preponderance of tax technicians to include a blend of data scientists, technologists, mathematicians and computer scientists.

**A global stage**

Of course, technology is just one of the innovative forces altering the tax industry. Globalization is another. In the space of 50 years, companies have gone from operating in local, regional or national markets to a global stage. Tax departments of international companies today are charged with the daunting task of staying abreast of changing tax laws in dozens of markets across the globe.

International companies’ increasingly global and complicated tax affairs have led to the introduction of tax transparency, substance and consistency initiatives, most notably the Organisation for Economic Co-operation and Development’s project on base erosion and profit shifting (BEPS). The 15 BEPS Actions are ushering in substantial changes that will affect all parts of an organization, from the supply chain, legal and IT to accounting and human resources, and are transforming how multinational companies interact. Further, these ongoing initiatives, mixed with the continuous technology evolution, have forced the tax discussion into the C-suite and boardroom.

A key pillar of BEPS requires that multinational companies report and retain specific financial and tax information on a country-by-country basis. While the intent of the BEPS project is to enhance greater transparency and consistency, it could also lead to a stronger focus on tax controversy to determine that the correct amount of taxes are paid to each tax jurisdiction. It’s obvious that better technology can help with the new reporting requirements and reduce the amount of time spent gathering the detailed information year over year.

So how can the tax function choose the right strategy for the future when the pace of change in terms of business models, regulation, and technology continues to accelerate? I believe the answer can be found in the right technology, processes and people.

Tax departments can no longer afford to pursue a wait-and-see strategy when it comes to adopting the latest technological advances. To do so, would have a costly and detrimental impact. Instead, the tax function must move quickly to embrace innovation in order to improve tax management, hire the right talent and build collaborative and streamlined relationships with key players within the tax ecosystem.

We understand this holds true for our organization as well. We have created global digital and innovation leaders across all service lines and last year, we announced the appointment of a top Silicon Valley executive, Jeff Wong, as EY Global Chief Innovation Officer. EY teams are examining innovation opportunities both within our company, as well as consulting with our external clients on their digital strategy. We are considering new approaches to the market, new services, and new ways of working together. We are deliberately disrupting ourselves to become better, faster and smarter.

In terms of opportunity, I believe there are many doors still to be opened. The innovation journey is one that all the players in the tax ecosystem will need to embark on and continue to enhance. The beautiful thing about technology is that it doesn’t sit still – constant change is part of technology’s DNA. Global companies possess the capital, knowledge and connections to navigate this era of unprecedented innovation. But they will have to move decisively and work harder than ever before to determine the best way forward. ■
Tax’s big disruptors

Disruptive innovation commands the center of attention today, creating new markets and changing the way businesses and governments work. Tax departments now face the challenge of navigating this path of disruption.

By Karen Lynch

Disruptive innovation is cutting a wide swath across industries and around the world. Its impact is felt again and again: as a ride sharing service completes its two-billionth trip; as tax officials start targeting their audits via social media; as a venture capital firm gives artificial intelligence (AI) a seat on its board of directors.

Innovative disruption is creating entirely new markets and fundamentally changing the way the world works. For a decade, the rallying cry of the global digital economy has been to disrupt or be disrupted. Within another decade, no industry may look the same.

It’s no wonder that tax departments find themselves in the path of disruption as well. The three biggest disruptors they face are “speed to global market,” “digital authority” and “smart tax.” Tax teams must keep up with their own organization’s rapidly digitizing, globalizing business lines and operations. At the same time, they face myriad governments digitalizing their tax administrations and updating tax policy for a virtualizing,
Transformation and innovation

Implications for indirect taxation. For example, when it comes to value-added taxes/goods and services taxes (VAT/GST), the supply chain is becoming longer, more complex and subject to ever-changing rates across multiple borders.

Income tax questions also arise, such as this common riddle: where is taxable value being created during a conference call among various offshore software development centers, the marketing department in the target market and a C-level decision-maker on another continent?

With the prospect of even more disruptive technologies and digital business models on the horizon, there’s a lot at stake. Tax departments must control the tax spend; avoid litigation, penalties and interest; prevent the need for restatements on financial reports; and protect their organization’s reputation as a good corporate citizen. Beyond avoiding pain, there is the mandate to find value including cost advantage, tax incentives and foreign tax credits.

Missing from the picture

In leading businesses today, employees can turn on their laptop, open up a dashboard and view in real-time or near real-time what has been happening in the global supply chain. CFOs are spearheading finance transformations in their organizations, often consolidating decentralized functions into regional centers of excellence and shared services. Enterprise resource planning (ERP) systems are capturing a wealth of transactional data from operational units and business lines – the source data so valuable to record, analyze and report tax.

What is wrong with these scenarios is that too often the tax team is not in them. It is still a silo or two away from this near-to-real-time data. For example, only about half of the organizations undergoing finance transformations have been including tax in the scope of that process, according to EY analysis. Collecting internal data and mapping it to government tax data and third-party sources remains a manual exercise in most tax departments.

In turn, innovation challenges corporate tax departments to keep up with borderless, cloud-based transactions and their indirect taxation, or with globally commercialized intellectual property (IP) and its implications for indirect taxation. For example, when it comes to value-added taxes/goods and services taxes (VAT/GST), the supply chain is becoming longer, more complex and subject to ever-changing rates across multiple borders.

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New tax riddles

Innovation, the digitalization of business models and hypercompetitive global markets are propelling business forward at unprecedented speed. A good idea, digitalized, can be globalized seemingly overnight, spread via network effects and enhanced with unending improvements.

San Francisco-based Airbnb went from start-up eight years ago to today serving over 100 million guests in 192 countries, while also helping to define a new sharing economy business model that is being replicated across industries worldwide. And Airbnb continues to innovate and expand from room sharing for the average traveler to providing business accommodations, travel advice, and various booking and business management tools for Airbnb hosts. (See interview, page 28.)

Sharing economy businesses, FinTech start-ups such as online lenders and autotech innovators with driverless cars are among the disruptors that are not only moving fast and wide, but upending old ways of doing things through the use of digital technology. To compete, established businesses are compelled to innovate – and fast – to the point where continuous innovation has become a stated priority in many a corporate strategy.

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What is wrong with these scenarios is that too often the tax team is not in them. It is still a silo or two away from this near-to-real-time data. For example, only about half of the organizations undergoing finance transformations have been including tax in the scope of that process, according to EY analysis. Collecting internal data and mapping it to government tax data and third-party sources remains a manual exercise in most tax departments.

“Currently, tax executives spend a large part of their time just gathering data,” says Richard Suhr, Global Digital Leader of EY Advisory Services in Wellington, New Zealand. “In future, if they can obtain tax-ready information, they will be able >
Transformation and innovation to devote the bulk of their time to strategic tax analysis.”

Arguably, tax analysis now needs to be more strategic than ever. Given typical corporate margin pressures today, the bar is being lowered on the potential return on investment needed to justify changing a tax position or adjusting tax strategy.

And even as their own businesses globalize at top speed, tax departments must repeatedly pivot to evolving rules in the wake of the base erosion and profit shifting (BEPS) project by the Organisation for Economic Co-operation and Development (OECD).

Well into 2016, authorities have been dealing with unfinished work on the BEPS project’s multilateral tax rewrite, published in October 2015. Meanwhile, governments around the world have been implementing their own, at times inconsistent national interpretations of the guidelines into domestic tax law. In tandem, tax administrations are not only digitalizing their operations but also setting up information exchanges with their peers in other countries to keep up with digitalizing businesses.

As rules change, for example, the location of a networked server can suddenly raise the risk of a taxable permanent establishment in a new jurisdiction. Shifting VAT/GST rules and rates in one jurisdiction after the next can throw off pricing strategies, undercut profit assumptions and mangle complex global supply chain calculations.

For Airbnb, creating a new way of transacting business has led to entirely new tax strategies.

“We needed to think about how we should engage and help our hosts with taxes,” says Airbnb Global Tax Director Beth Adair. On its transaction platform, for example, Airbnb has now begun collecting and remitting tourist taxes, also known as hotel or occupancy taxes, for people hosting guests in their homes in 200 jurisdictions (and counting). As Adair points out, “It’s unusual for corporations to voluntarily wade in and handle other people’s tax responsibilities.”

In the driver’s seat
Global digital economy dynamics have presented the world’s tax authorities with an essential challenge: How to levy taxes, collect them and preserve their national treasuries in this new business environment? Setting digital economy tax policy, expanding tax transparency and modernizing tax administration have become the preoccupations of governments worldwide. Policy issues may have dominated the headlines over the past five years, as the BEPS project tackled perceptions of cross-border tax avoidance and promoted greater transparency about exactly who is paying how much tax and where. In the background, however, tax authorities have been digitalizing their information technology (IT) systems in ways that could revolutionize taxation. (See page 32.)

Those administrations on the vanguard, such as Brazil, Mexico and Russia, are said to be well ahead of even some of the biggest global businesses in digitalizing their operations. Almost every government in the world has achieved at least some level of digitalization, albeit to varying degrees and across different types of taxes and taxpayers. Indirect taxes such as VAT and customs duties have been first in line, with direct income taxes falling subject to similar treatment over time.

“Advanced governments are beginning to look at your data in a way that I’d say 99% of corporations do not,” says
Carolyn Bailey, EY Americas Digital Government Tax Transformation Leader in Houston. “If tax departments wait to catch up, it’s going to be really hard, and the tax authorities are going to be in the driver’s seat.” The upshot may come as a surprise. “Sometimes, governments may know more about you than you know about yourself,” says Michael Heldebrand, EY West Region Leader Global Trade in San Jose.

The upside for governments could be increased tax collections. Russia’s Federal Tax Service has reported that its tax digitalization efforts led to a 12.2% increase in VAT collection in 2015.

With these kinds of results, and with tax administrations across the world sharing leading practice and capacity building in addition to tax information, the momentum behind digital taxation is growing.

However, many tax authorities face steep challenges. “Such transformations are highly complex and come with massive challenges, requiring the intersection of multiple, multijurisdiction datasets,” says EY’s Suhr. “Dealing with these issues takes capabilities, skills and experience that many government administrations don’t have.”

In more established tax administrations, such as the United States, complex legacy systems, multiple jurisdictions and entrenched bureaucratic processes have also proved a hindrance.

The road ahead will not be smooth for the business world, either. Corporate tax departments are beginning to realize the multiplicity of data formats being required by different jurisdictions, the shortening time windows for digital defense of their tax positions and the need to make sure that data is tested at the source for quality, because transactional information is going straight out the door to tax administrations. Approaching these challenges one country at a time is becoming unsustainable; regional and global strategies are required. And adjusting for tax considerations after the fact can be far more expensive than getting it right the first time.

In the long run, however, the intent of digital taxation is to make tax compliance less burdensome and more collaborative, according to documents from a recent meeting of the OECD’s Forum on Tax Administration (FTA), which also emphasized consideration to issues of privacy and security where data is shared across borders.

### Five levels of digital taxation

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>01 E-FILE</td>
<td>Traditional tax returns and forms must be digitally filed, within a well-established yearly or quarterly time frame.</td>
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<tr>
<td>02 E-ACCOUNTING</td>
<td>Companies required to digitally submit source data to support filings with a defined timeframe.</td>
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<tr>
<td>03 E-MATCH</td>
<td>Governments build in analytic capabilities, matching data across tax types, and potentially across taxpayers and jurisdictions in real-time.</td>
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<tr>
<td>04 E-AUDIT</td>
<td>Governments analyze and cross-check filings in real-time and companies have limited time to respond.</td>
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<tr>
<td>05 E-ASSESS</td>
<td>Tax administrations plug directly into corporate systems, analyzing the data, determining the tax rate and then taking the money out of corporate bank accounts — pending any response to the contrary.</td>
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The disruptor: digital governments
The future of smart
The third disruptor to the tax department is framed by one of EY’s identified megatrends for 2016, “the future of smart.” As defined by EY, “smart takes a transaction, ensures it is connected, analyzes its data and makes it more autonomous and effective.”

It is changing the way both business and taxation are conducted. The sea change for taxation is that smart tax is real-time and even forward-looking – where tax has traditionally been historical.

Multiple smart technologies are colliding and hitting their critical inflection point at the same time. Business process robotics will help automate data collection. The Internet of Things will minimize web search, weather forecasting and voice recognition applications, will enable data mining and deep learning. Blockchain technology, most simply described as a secure, distributed ledger software, is not only poised to break into the world of taxation but is also tipped to merge its transactional capabilities with AI’s cognitive capabilities for autonomous transactions that can self-initiate, self-manage and self-retire.

Big data analytics, AI’s forerunner, is already enabling better decision-making through data storage, aggregation, cleansing, integration, consolidation and analysis – including predictive analytics.

Some tax authorities are taking advantage of recent rapid advances in data analytics and machine-learning technologies to develop risk profiles, analyze trends, flag potential audit issues and identify higher-risk cases for deeper investigation. For example, administrations in Ireland, Malaysia, the Netherlands, New Zealand and Singapore are even carrying out social network analysis, assembling connected individuals into easily visualized networks and scoring them for risk.

According to the OECD’s FTA, administrations’ digital techniques are evolving. High-level supervised models are giving way to more granular models and unsupervised machine-learning techniques that learn from historical data to identify patterns. Tax administrations are also integrating predictive methods, to anticipate such problems as inaccurate tax returns or late payments, as well as prescriptive methods, to influence taxpayer behavior.

“Don’t think that this isn’t going to disrupt your business,” says David Jensen, EY Disruptive Innovation Leader in Los Angeles. “You need to be engaged now.”

In a best-case scenario, tax administrations’ development of a more analytical approach could mean that audits are fewer and better targeted, reducing compliance burdens on businesses. A more nuanced view is suggested by Christoph Huber, Head of Group Tax at OC Oerlikon Management AG, a Swiss industrial group that operates in 37 countries around the world. “On the one hand, tax authorities could get more efficient and ask the right questions,” Huber says. Among the efficiencies he would welcome: fewer audits on years-old filings, which the passage of time can make so burdensome that tax adjustments are sometimes simply accepted. “On the other hand,” he adds, “the authorities could just ask more questions, because it takes them less time to identify potential issues – many of which turn out to be non-issues.”

Watson on the case
IBM’s Watson, a cognitive business platform, may be best known for beating human contestants on the “Jeopardy!” television game show in 2011. But Kanthi Srikanta, Vice President Tax Operations for IBM in Armonk, New York, prizes its potential for minimizing tax risk.

“This is all still a few years off,” Srikanta told EY for an upcoming edition of Digital tax developments review. “But if, for instance, we have the right amount of tax information fed into Watson to profile different countries, Watson would be very good at identifying our top-risk countries and where we should pay close attention in terms of our existing tax structure.”

In the future, traditional accounting, finance and tax functions will be revolutionized by robotic process automation and new systems that offer real-time collaborations, scenario planning, cost modeling and risk simulation tools. Repetitive, high-volume tasks will be performed by a virtual workforce of software robots that can work faster, more inexpensively and more accurately than a human being. AI will be loaded with such information as tax code, case law and administrative guidelines, and AI will make certain decisions on this basis.

“Tax professionals will be redeployed to higher-value activities that require subjective judgment and strategic decisions,” says EY’s Suhr. They will be supported by real-time data aggregation, data visualization and predictive forecasting – allowing people to focus on unlocking value within accounting, finance and tax, rather than being burdened by their compliance or reporting function.

Clearly, the tax world is going through a daunting transition. But EY’s Flynn summarizes the situation simply: “Technology is enabling tax authorities to become more efficient and robust at assessing and collecting tax, and technology can also help companies get ready for that.”

Key action points
- Tax departments should be in a position to know of any significant business change and its tax implications.
- Confirm that the department is involved early and integrated deeply in corporate finance transformation initiatives.
- Map the global footprint of tax administration digitalization wherever you do business.
- Move from single-country compliance fixes to regional and global strategies.
- Be prepared with a digital audit defense strategy.
- Inject digital capabilities and expertise into the tax department.
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Transformation and innovation

The fast-arriving future of the tax function is one of massive digitalization, expanded collaboration and extensive transparency.

A column of water lifts and spins into novel shapes. Transparency initiatives and technology are having a similar impact on the tax environment, forging new approaches to collecting and filing taxes. Speed is of the essence.

A change of plan

By Bill Millar

The fast-arriving future of the tax function is one of massive digitalization, expanded collaboration and extensive transparency.
In the view of Reijo Salo, Vice President Corporate Tax at Helsinki-based Fortum Corporation, transparency will be the element of transformation that stands out most strikingly for the 21st-century tax department. Already today and even more so going forward, businesses will be required to greatly increase disclosure, he believes.

Sensing the growing importance of this trend, the Finnish utility began publishing an annual tax footprint report in 2012. The document simplifies but at the same time thoroughly discusses the group’s tax policies, practices and payments. It breaks down the various forms of taxes paid by Fortum, including taxation on profits, taxes on real estate, insurance premiums, import duties, waste disposal and the use of natural resources.

The report tends to be a tremendous eye opener for many who see it, according to Salo. “Many express surprise at just how many ways we are taxed and the total amount of tax we pay,” Salo says.

Across the world, tax departments are trying to prepare for the fast-arriving future. They are adapting to transparency demands, investing in technology and attempting to collaborate and communicate more effectively with other parts of the company, such as corporate communications and public affairs.

**Accelerating taxation cycles**

Technology is driving this change, says Patrick Trapp, EY EMEIA Tax Performance Advisory Leader. “The common thread to everything is digitalization,” says Trapp. “This decade will see a wide range of changes to the tax department, but wherever one looks, technology is nearly always a key driver.”

As business becomes evermore digital and as tax data flows more readily, the pace of taxation cycles is already accelerating. Consider VAT collections. In the past, most businesses could settle their accounts with local authorities quarterly or in some cases monthly – there was time to assess. But today, many host tax authorities are using technology to embed themselves within core transaction processes.

“Governments increasingly already know what is being sold to whom and when,” says Trapp, “so they’re already in collection mode, often before businesses themselves are fully aware of the tax liability.”

Tax authorities in many jurisdictions are in fact way ahead of companies in terms of digitalization, says Chicago-based Gary Paice, EY Tax Performance Advisory, Global and Americas Leader. And while authorities from most major economies are well along in their development paths, it is often developing countries such as China or Mexico that are implementing the most sophisticated transaction and taxation tracking systems. One reason is that these latter nations have less legacy tax collection architecture and can therefore leapfrog technologies, says Paice. But another is the simple desire to increase compliance and collections.

Going forward, matters will continue to accelerate thanks to technology. All manner of taxpayer engagement with host nations will become increasingly digital, according to Trapp. More countries will expand their use of data gathering and analysis to build cases for higher revenues.

In terms of compliance, data matching will become widespread. Tax audits themselves will become decidedly electronic, with many jurisdictions requesting and eventually gaining real-time direct access to corporate enterprise resource planning (ERP) systems.>
In addition, tax departments themselves will harness technology, shifting from reliance on spreadsheet data focusing on a single country or region to more of a “big data” orientation featuring advanced analytics. "They will use technology to improve performance and to better optimize tax across the whole of the enterprise," Trapp says. Technology and tax “will be intertwined, and most of the work taking place relating to planning, reporting, compliance or audit of a tax nature will be automated, going forward at a lightning pace.”

Closer cooperation
As businesses have less time to respond to tax authorities, they will need to embed more closely with operations worldwide in order to build a more up-to-the-minute picture of the company’s global tax position.

Paice believes this is an absolutely vital development. Since business doesn’t always go as planned, this often means huge, unexpected swings in the tax picture. The business plan may have assumed production would take place in “Country A,” but due to a dock strike or natural disaster, an entire quarter’s costs were shifted to “Country B.” In such cases, the tax liability can shift dramatically.

“Companies need to be in a position to adjust spending, sourcing and other components of the business throughout the year, rather than at the last minute," Paice says. “Tax planning and management, in effect, becomes continuous.”

Globalization is also forcing the tax function to shift to a broader and more collaborative posture within the group overall. In the past, companies tended to feature significant tax resources on-site in nearly every country of operation. But as local tax models and practices have become more automated and standardized, and as more global businesses move support functions into a shared services model, so too goes the tax department.

So whether the issue is VAT collection, transfer pricing, controversy or planning, “companies are becoming significantly more centralized and globally focused,” Trapp says. Add digitalization of local processes and the workload begins to shift from country-focused to where most of the work takes place in a global function, he explains.

Companies will also have to develop a number of globally focused positions within tax, according to Trapp. For example, a global head of transfer pricing, another for controversy and another for VAT collection.

“It’s a future of technology, standardization and a shift from a local to a functional view,” Trapp says. As it centralizes, the tax function will need to forge closer ties to groups such as corporate communications and public affairs as businesses seek to be proactive about their tax-related messaging and their relationship with tax authorities.

“No matter how hard companies work to comply with ever-expanding global tax law, the incidence of double taxation, cross-border controversies and lawsuits can be expected to significantly increase.”

James Boothroyd, Head of Tax Risk and Indirect Tax, Petrofac
Transformation and innovation

Transparency push
Technology is also accelerating data sharing and analysis, leading to greater transparency. For decades, senior executives were reluctant to publicly discuss a company’s tax position. Initiatives like the Organisation for Economic Co-operation and Development’s base erosion and profit shifting (BEPS) project may make more information accessible to tax authorities, as well as politicians and activists who could build cases that companies should be paying more taxes, according to Paice.

“The practice has tended to be to share nothing beyond what is required by statute and to speak of tax if and only if there was no other choice, and then, only in defense of the company’s reputation and cash flow,” Paice says. “In the future, companies will share more information proactively as a means of educating the public as to the full extent of taxes paid and to get in front of any potential controversy.”

A company often hears the same questions over and over again, such as queries regarding variances in the taxes being paid, according to Fortum’s Salo. But amid so many complexities, short, simple answers to inquisitive groups usually lead to still more questions.

For these and related reasons, Fortum decided it needed to become more proactive and transparent in explaining its tax payments and practices. Along with publishing the company’s total tax revenue and a breakdown by tax, the company’s tax footprint also presents an overview of the inner workings of the group’s tax department.

The report highlights, for example, the ways it helps to achieve tax compliance while at the same time aiding business units in planning their operations more effectively.

“By being open, we are informing people about just how much we are contributing to the communities we serve,” Salo says. “It improves relationships and understanding.”

Greater controversy
Greater transparency could also pave the way for more tax controversy in the future. James Boothroyd, Head of Tax Risk and Indirect Tax for global oilfield services provider Petrofac, believes there will be an increase in disputes going forward as the BEPS project is implemented around the world as well as more tax jurisdictions mining source data in search of additional tax revenues. Meanwhile, tax authorities are expected to seek every opportunity to raise new taxes on businesses, particularly in conjunction with attempts to maintain low headlines rates, which give the impression of a competitive tax regime.

“No matter how hard companies work to comply with ever-expanding global tax law, the incidence of double taxation, cross-border controversies and lawsuits can be expected to significantly increase,” Boothroyd says. “Tax departments will need to work more closely with their business units to proactively identify risks, find pragmatic solutions and defend against controversy.”

Overall, tax departments will need to retool and refocus. Automation is expected to lessen the manual, spreadsheet-laden tasks of tax management, says Boothroyd. However, at the same time, more personnel will be needed in areas such as building strong documentation to support transfer pricing policies, monitoring global tax positions and reviewing law changes, particularly in the short-medium term. A more globally minded posture means that top tax executives will need greater visibility and to understand international tax issues more broadly to manage their exposures across the entire enterprise.

In the end, the tax departments of the past and future share the same core responsibilities of efficiency and compliance. Beyond that, their shift from reserved, distributed and labor-intensive to transparent, centralized and digitalized will be dramatic. Many are making great strides, says Paice.

“Companies need to take a step back, consider the whole of the changes taking place and then build a road map from where they are now to where they need to be,” Paice says. “The future of tax is arriving sooner than most people realize.”
Innovation

process
- Intuition
- Socialization
- Ideation
- Development
- Exploitation

Areas of innovation
- Products and services
- Processes
- Business model

Innovation enablers
- People and skills
- Technology
- Infrastructure
- Organization and governance
- Risk management
- Measurement and KPIs
- Funding

Sources: EY

External collaboration
- Customers
- Investors
- Suppliers
- Governments
- Financial services
- Competitors
- Academics
- Other companies

Innovation today

Credit: PM Images/ Getty Images
Innovation has moved high up on the agenda of CEOs, CFOs and tax directors today as they seek to future-proof their company in an age of constant change.

By Gerri Chanel

Global megatrends are reshaping the business world faster than almost anyone thought possible. Today’s speed of change and the scale of disruption from data, digital technologies, globalization and other forces requires companies to innovate to an unprecedented extent if they are to survive and thrive. Consider this: just 12% of the companies on 1955’s Fortune 500 list made the 2015 list, according to the American Enterprise Institute.

Innovation is now replacing cost savings as a priority for many businesses. At the same time, the technology that fuels innovation is skyrocketing in power while the cost keeps falling. Companies are not alone in seeking to capture innovation: governments are also rapidly embracing digitalization, making reporting demands on taxpayers that are unprecedented in detail and timing as is the extent of analysis on the data gathered.

All these forces have raised innovation high on the agenda of CEOs and CFOs of forward-thinking companies and, in turn, the agenda of tax leaders.

“‘Innovation at heart’ and R&D is back on the agenda of CEO, we’ve gone back to our roots of ‘innovation at heart’ and R&D is back on the front-page; it’s up both in absolute numbers and as a percentage of revenue. It’s clear that the big-data explosion has only just begun and HPE is now well positioned to leverage its development.”

Risks and rewards
For Intel, the world’s largest semiconductor company, innovation is clearly at the top of the agenda. “Innovation is our livelihood, so we cannot stand still,” says Ronald Dickel, Intel’s Vice President Global Tax. The company spent more than US$12 billion in 2015, a staggering amount that represents 24% of the year’s sales, a higher percentage of revenue than any other large semiconductor company and, according to Bloomberg, the third largest R&D total of any company on the planet.

“We’re engaging in totally new businesses, moving into the new wave of technology,” says Dickel. The company, for example, is developing a major line of business based on the Internet of Things (IoT) as billions of devices will be connected in the future, according to Dickel. The company is also investing in artificial intelligence technologies amid the growth in machine learning.

Such large investments in innovation, however, also represent large risks. However, Wong says that to be ready for the unknown, companies need to be able to regularly make decisions, knowing that they’re on the right pathway, but not knowing the outcome before they start.

“Fundamentally, companies know they’re on the right path when they fall back in love with addressing the challenge itself, not the particular solution they have for addressing it,” Wong says.

This is a different strategy than in the past when large, successful companies had the influence and luxury of time to wait and see how an impact to their business or their business model might evolve over >
Transformation and innovation

In order to develop new innovations, companies are also partnering more frequently with other organizations, including entrepreneurs, academics and even competitors. HPE, for example, announced an alliance with Intel to deliver IoT solutions. The two companies will also establish three global IoT solutions labs to help customers accelerate their deployment of IoT applications. Their alliance shows that harnessing innovation need not only happen within, as was typically the case in the past.

**Tax be nimble**

Innovation shouldn’t stop at the door of tax. Indeed, multiple currents of innovation ripple through leading tax functions. With today’s fast moving pace of change and need for rapid decisions, even this traditional role requires a higher level of agility. In order for tax leaders to have an effective place at the table during decision-making such as site selections and to effectively plan for and identify all available innovation-related tax incentives, it is more critical than ever to be able to “talk business, not just technical tax” and to be closely connected to the business and know where it is going, according to Dickel and van der Goorbergh.

“The tax function has a role in supporting not just the company’s innovation initiatives but all the changes around the digital agenda and what it means for everything from products to manufacturing processes,” says Jon Dobell, EY Asia-Pacific Leader for both Global Compliance & Reporting and Tax Innovation.

The role of tax leaders in supporting these innovations, Dobell says, “begins with being relevant to the organization and up to speed with the major trends influencing their sector and their business, then bringing the overlay of tax-technical competency and knowledge globally to look at how the organization gets the best

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Sources:
- NACHA The Electronic Payments Association
- EY Blockchain reaction: Tech companies plan for critical mass
- “Banks seek the key to blockchain,” Financial Times
- “This is your company on Blockchain,” Bloomberg
- Microsoft Azure

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**A transaction trailblazer**

**Transactions today** (Fast, but opaque)

1. Company A wants to send money to company B.
2. Company A logs in to their online banking account and sends instructions to send money to company B’s account.
3. Bank A sends a bundle of transactions electronically to the clearing house every day. They are then sorted out and the payment is made available to bank B.
4. Bank B credits the payment to the account of company B.
5. Company B receives the money.

**Centralized process**

**Transactions tomorrow: blockchain** (More transparent, but potentially slower)

1. Company A wants to send money to company B.
2. Company A initiates an online payment to company B via a digital transaction ledger, represented by blocks, that contains every transaction made by the participants.
3. The block is encrypted via a cryptographic hash function and is broadcast to the transaction’s participants.
4. The majority of participants must approve the transaction before it proceeds.
5. The block is then added to the online ledger and the payment made to company B.
6. Company B receives the money.

**Decentralized process**
return on the innovation and investment activities it undertakes.”

Innovation in the tax function is also being driven by tax authorities’ rapid adoption of technology as they increasingly require taxpayers to report large amounts of digital data and then use it to respond more quickly and in more targeted ways to perceived compliance risks. Their move to digital is also facilitating information sharing and cross-referencing among agencies and with other governments.

“One of the big changes we’re seeing is tax authorities moving away from the traditional month-end reporting, towards real-time or near real-time reporting of data electronically. This has further evolved to some tax authorities requiring transaction line data provided through interfaces with a company’s ERP system,” says Steve Patton, Senior Manager US VAT practice at EY, based in New York. “Tax authorities can then apply data analytics to develop sophisticated risk profiles, flag potential audit issues and identify higher-risk cases for deeper investigation. “A company will not have the ability to modify the figures before submitting a return and need to rely more on the raw data. Nor will they definitely know when an audit is actually happening,” Patton says.

Soon, tax functions will need to scrutinize their data and processes as much as they do now with their returns. “Tax authorities are going to use data analytics to risk profile everyone, so companies have to slice and dice the data themselves so that they understand the messages it sends about how the business operates and where profits are derived and why,” Intel’s Dickel says, noting new transparency requirements recommended by the Organisation for Economic Co-operation and Development will soon make that data more readily available. “This ability is already becoming important as country-by-country reporting rolls out.”

Historically, accounting data has been the starting point for tax reporting, with the tax department making modifications to get to the appropriate tax treatment, says EY’s Dobell. “That luxury will not exist in the future,” Dobell says. “The single biggest change that real-time monitoring will drive for tax organizations is the need to understand what data is recorded at the source through the organization’s accounting processes and activities and the tax impact of that data, and the ability to intervene if necessary.”

**Forward mindset**

Leading tax organizations have an innovation mindset and are forward thinking in terms of how they look and operate, according to Dobell. “You see them using analytics to look for patterns and correlation in information they haven’t been able to look at before, right through to innovation around the way the tax teams and the talent side of things work together,” Dobell says. “They also have leaders that empower their teams to think more broadly and encourage and incentivize them to bring ideas to the table. “These tax organizations also drive innovation in the larger business and how they think about their information and manage it in the tax life cycle,” he adds. “The tax function thinks differently and reimagines processes, asking: Can this be done differently? What more can we be doing? What are the gaps in skill sets that will be needed to do things differently?”

“A tax culture that supports innovation, including a mentality of try-fail-refine, is essential,” Dobell says. For example, a company could use robotic process automation to automate a part of a specific tax process. Even if this approach fails, learning still takes place and the tax department can move forward and improve. “It’s very easy to get stuck in delivering the day to day, especially when under resource pressure,” Dobell says. But it’s important to allocate time and resources to get on top of global trends in the data and technology revolution and other disruptions and develop a mindset that considers how these things could be incorporated.”

For the tax function to successfully innovate, the CFO and CEO also need to play a part, providing encouragement and resources that reflect an awareness that, since tax is one of the largest expenses for organizations, innovation could have a material impact. With the cost of innovation falling dramatically, it is far more cost-effective today to implement sophisticated tax analytic tools or change the way data is reported or accessed. “Innovative tools have allowed me to do significantly more work with the same number of people, while also giving me more control and a better understanding of our risks,” says HPE’s van der Goorbergh.

Glimpses of tomorrow’s tax ecosystem are already visible today as tax authorities and company tax functions adopt digital platforms and analytics. There will be further intense development in the area of tax in coming years as big data, robotic processes and artificial intelligence play increasingly major roles. Yet the future remains unknowable in significant ways.

The foundation of yesterday’s tax function was technical expertise. Today, sophisticated technology skills and the ability to connect with the business are also essential. To remain effective tomorrow, tax organizations need yet another strength: an agile mindset that can imagine the possible for an uncertain future. ■

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**Key action points**

- Understand the technology available to harness big data, apply analytics and obtain visibility over tax-sensitized data for rapid, effective decision-making and risk management.
- Develop the IT strengths within the tax function that will be needed to leverage future technology trends and applications.
- Understand the nature of the analytics that tax authorities are developing and, working with finance, IT and other parts of the business, develop processes that will meet complex real-time reporting requirements while providing the ability to proactively assess the data.
- Create strong lines of communication with business partners in the company.
- Develop a strong culture of innovation within the tax function.
- Obtain CEO/CFO support for necessary investments in tax technology.
The digital dilemma

By Ross Tieman

The rise of the digital economy poses a quandary for governments. Policymakers need big, stable revenues in order to deliver effective administration and high-quality public services. The digital economy, however, has upended traditional business models and multiplied opportunities for companies to reduce their tax bills.

The impact is potentially enormous. Raul Katz, Director of Business Strategy Research at the Columbia Institute for Tele-Information and President of Telecom Advisory Services, estimates that up to 12% of all retail trade already occurs online. The digital economy is transforming traditional business models and multiplied new types of assets, new delivery mechanisms and new business models. In the digital economy those questions are hard to answer — for both companies and tax authorities.

“In many cases you have a square peg in a round hole of taxation,” Katz says. But if they make it more difficult or costly to acquire digital technologies, “it reduces the impact that digitalization can have on economic growth.”

New territory
The online economy raises new kinds of taxation issues. Historically, taxation systems were typically designed to tax sales of goods or services at the point of sale, and corporate and personal income in the location where it is earned.

Most taxation was typically framed by the answers to three questions, according to Jeff Saviano, Americas Tax Innovation Leader: What are you taxing, where is it and what’s its value? But digital businesses have created new types of assets, new delivery mechanisms and new business models. In the digital economy those questions are hard to answer — for both companies and tax authorities.

“In many cases you have a square peg of innovation in a round hole of taxation,” Saviano says. A Brazilian consumer, for example, can place an online order for low-value goods to be shipped from elsewhere in the world. Such global, online transactions raise many questions: Is the appropriate level of value-added tax (VAT) being charged and collected by the foreign online retailer or is no VAT being paid? How can domestic tax authorities keep track of the VAT that is due? Does the foreign online retailer pay income or other taxes in Brazil even though it may not have a physical presence in the country? The digital tax gap is hurting competitors with traditional business and taxation models. Bricks and mortar retailers, for example, complain that online rivals have an unfair advantage as they can “jurisdiction shop” for the lowest tax rates and sidestep in-country property and other taxes.

The number of independent bookshops on the main streets of UK towns, for example, has declined to 907 from 1,894 in 1995, hurt by online retailers as well as big chains, according to a manifesto released this year by the Booksellers Association in the UK. The association argues that tax on business properties is no longer appropriate for small bookshops.

Sales of music and films on physical formats have slumped in the face of digital competition. In 2015, global sales of digital music leapedfrogged physical formats for the first time, accounting for 45% of music revenue worldwide, according to the IFPI recording industry organization.

Changing nature
The sharing economy is also adding vast numbers of new transactions without a clear taxation model. Historically, many city authorities have taxed hotel users. Now some, such as Paris, are trying to tax those who rent their spare rooms to short-stay visitors. Identifying liabilities and collecting taxes is proving difficult.

Traditional definitions of employee status – which shape liabilities for income tax]
tax and social contributions – are being challenged by the “gig” economy, in which internet platforms are used to connect freelance workers with providers of services. In some places, taxable status has become a courtroom issue.

The issues touch companies and tax authorities at many levels. A typical US company pays myriad taxes to many different jurisdictions. A nationwide retailer, for example, would pay federal and state corporate taxes, sales taxes at the state level, and property taxes to municipalities. It might have liabilities in tens of thousands of jurisdictions.

“We are going through a sea change in how national governments are taxing corporations, and the level of transparency that governments – and the citizens they protect – are demanding,” says Saviano.

The digital revolution and the ensuing tax system overhaul will affect all aspects of the corporate tax life cycle. “It’s changing the very nature of how companies manage the overall tax burden and tax compliance in particular,” as well as how they handle and resolve disputes with tax authorities over liabilities, Saviano says.

**The digital future**
The G-20 called upon the Paris-based Organisation for Economic Co-operation and Development (OECD) in 2012 to study reforms to the global taxation system to address base erosion and profit shifting (BEPS).

The OECD’s BEPS report in October 2015 formally suggested governments take critical actions with regards to taxation and the digital economy. “The spread of the digital economy poses challenges for international taxation,” the OECD wrote in its report on Action 1, which addresses the tax challenges posed by the digital economy. There are fundamental questions “as to how enterprises in the digital economy add value and make their profits, and how the digital economy relates to the concepts of source and residence or the characterization of income for tax purposes.” The OECD recognizes that policy responses must be all-embracing, as the “the digital economy is increasingly becoming the economy itself.”

In its report, the OECD recommends different options for tackling taxation issues in the digital economy, including some that are addressed in other BEPS actions: changing the controlled foreign company (CFC) rules, updating transfer pricing guidelines, adopting a stricter definition of what constitutes a permanent establishment (a taxable presence) and addressing indirect taxes for certain digital transactions.

**Key action points**
- Organizations should review whether their foreign activities will constitute a PE under new BEPS rules.
- International companies should align overseas operations to revised definitions of what constitutes a CFC.
- Organizations trading online across different tax jurisdictions should review how new tax rules are likely to impact their business model, and make any necessary adjustments.
- Companies should start rationalizing their enterprise data dictionary across human resources, finance, procurement and taxation to obtain the information needed to accurately assess tax obligations.

**Disorganized data**
Since every transaction in the digital economy is recorded by computers, tracking liabilities should be easy. Nothing could be further from the truth. New York-based Ryan Tweedie, EY Americas Systems Leader, People Advisory Services, says the quality of much corporate data declined four to five years ago when companies turned their software systems into easy-to-operate applications that mimic consumer platforms.

Because the software became easy to use, employees began enthusiastically entering a mass of “unrationalized” data. Now human resources and finance directors are discovering the database and its architecture are not up to the challenge of organizing the data.

Companies face a massive and urgent challenge: “We have to rationalize the overall enterprise data dictionary across all kinds of human resources, finance, procurement, tax and audit systems,” says Tweedie. Only then will companies be able to build reliable rules, workflow and parameters that enable them to correctly assess and settle their liabilities.

Artificial intelligence – computer systems that learn from experience – could potentially be used to tackle the tax issues generated by the digital economy and the overhaul of tax systems that is emerging in response to it. EY’s Saviano is optimistic on this score. More and more clever start-ups are inventing digital tools designed to help countries and companies overcome the increasing complexity of tax compliance issues, he says.

Whether you are a tax administrator or a taxpayer, these new tools will allow people to access historical information in new ways and to solve tax problems by accessing a tremendous database of knowledge that no human could ever possess,” says Saviano.
An innovative vision

Airbnb has transformed the travel industry in just a few years. Its unique platform makes it easy for individuals to rent their property to travelers around the world. *Tax Insights* speaks to Beth Adair, Global Tax Director at Airbnb, about new tax initiatives aimed at increasing acceptance of the company’s new business model.

Interview by Fergal Byrne

**Tax Insights:** What role does innovation play at Airbnb?

**Beth Adair:** Innovation is very important to Airbnb. For a start, our basic business model is incredibly innovative. Home sharing has been around for many decades, but we are doing it in an innovative, internet-enabled way. We also have an innovative vision: we’re not just looking to help people to find places to stay; we want them to feel like locals wherever they travel. We want to take down barriers between peoples and cultures and bring the world together. So innovation is important to us at the most strategic level and also in the way that we execute everything.

We decided that helping our hosts was the right thing to do. The biggest reason is we felt this was another way we could support our hosts, and we were in a unique position to provide this support.

**So how do you help your hosts when it comes to income taxes?**

With respect to income taxes, we decided we wanted to play more of a supporting role. We try to educate our hosts about their obligations. We provide reminder e-mails around tax time and give them summarized information about all their activity on the platform. In some countries like the United States, we have a business partnership with H&R Block to make sure that they’re knowledgeable about how Airbnb works and what a host’s tax issues might be. We want to provide education and support on the income tax side.

**And what support do you provide for tourist taxes?** This must be the first time that many of your hosts have to deal with this tax.

We decided to take a more direct role with tourist taxes. They have many different names: hotel taxes, tourist taxes, occupancy taxes. These are taxes that need to be paid on every transaction. As every transaction runs through our platform, we realized we could definitely help with tax collection. As we collect the funds for the transaction between the guest and the host, we’re in a position to actually collect these taxes for the host and remit them to the relevant tax jurisdiction and take that administrative burden off of our hosts.

**How extensive is Airbnb’s tax support?**

We started in our very first jurisdiction just over two years ago, and we are continuing to expand. We’re currently collecting taxes in about 200 jurisdictions around the world out of the thousands of jurisdictions with tourist taxes in which we operate. So we’re still at a relatively early stage but definitely picking up scale. It’s a fairly major undertaking: in the US alone there are probably 3,600 separately administered taxes.
What is your vision for the future in terms of tax support for your hosts?

We continue to look at how we might support other taxes. For each tax we continue to ask ourselves: what is the right type of support? Is it education? Is it direct involvement? The same kinds of questions we’ve considered with income and tourist taxes. So far, we’re most active when it comes to income taxes and tourist taxes because they are the ones that are most important for our hosts. We may become more involved in helping with other taxes in the future, but those are the ones that we see as being most important to support our hosts at this point.

What has been the feedback on this initiative?

Well, it’s not a topic that we tend to get a lot of contact around necessarily. I would say to the extent that we have received feedback from hosts, they have been very positive and grateful. Tax jurisdictions are also very appreciative.

“Facilitating tax collection is one of the steps toward being a good partner to cities and the hosts all over the world.”

Beth Adair
Global Tax Director at Airbnb

A particular city or county might have hundreds or thousands of Airbnb hosts. From a tax administration perspective, it’s much simpler to have one large taxpayer rather than relationships with hundreds or thousands of small taxpayers. We have received good feedback from different tax jurisdictions: cities, counties, states, countries.

What are Airbnb’s plans for the future, and how can the tax function support the company’s vision?

I think that our focus as a company is truly about helping our guests feel like a local as they travel around the world and really experience the cultures that they’re visiting. The way that I see tax supporting this is that we need to be accepted, and home sharing needs to be accepted, in all of these communities around the world. Facilitating tax collection is one of the steps toward being a good partner to cities and the hosts all over the world.”
Transformation and innovation

What if tangible goods moved digitally across borders? If centralized production migrated to local markets? If products could be customized in real-time? What if distributors or even individual consumers produced a corporation’s goods?

For many companies, this is what the future will look like thanks to 3D printing, also known as print on demand. 3D printing is set to transform manufacturing and supply chains as we know them, creating significant tax implications for companies.

3D drug production

High-tech pills

Efficiency gains

3D printing will allow companies to make medicines safer and more effective through customization of size, shape, dosing and rate of release. Drug development is likely to become faster and pharma companies will be able to more profitably develop drugs for rare diseases, an attractive market for drugmakers.

The trailblazer

An epilepsy drug by Aprecia is the first 3D-printed medicine approved by the US Food and Drug Administration. The drug uses so-called 3DP (power-liquid three-dimensional printing), a process first developed at the Massachusetts Institute of Technology (MIT) in the 1980s and used in the automotive and other industries. The technology allows the drug to be made as a porous matrix that dissolves, making it easier to swallow.

A pill a day ...

Taking one’s daily medicine, especially for older people or those with a serious illness, can be a real challenge. Different pills, different days, different times. But 3D printing may soon come to the rescue. A chemical engineer at the National University of Singapore (NUS) used software to create an edible shell that can hold different drugs, and control their release at different times.

Printing drugs:
how 3D technology is shaping the future of pharmaceuticals
Transformation and innovation

The eureka effect

Tax authorities are experiencing a golden age of innovation. They are leveraging technology and cooperating in new ways in order to achieve an unprecedented understanding of their taxpayers.

Three years into his tenure as Mexico’s president, Vincente Fox installed a mechanical engineer turned finance executive as head of the country’s tax authority, the Servicio de Administración Tributaria (SAT).

The move may have seemed unusual, but Fox wanted José María Zubiría Maqueo for a specific purpose: his ability to use technology to boost collections.

Zubiría Maqueo used what he’d learned from his previous role reforming the billing department at a large Brazilian telecommunications company. Under his leadership, SAT expanded beyond electronic filing, adding more services online and building databases of information about its taxpayers. By 2006, Zubiría Maqueo was hiring analysts to mine the databases for insights, and was kept on when Fox stepped down and Felipe Calderón took over the presidency.

By 2012, the tax authorities had collected enough information at hand to justify a more robust approach with multinationals operating within Mexico.

SAT withheld US$384 million in value-added tax (VAT) refunds from international companies that it was examining for the possible avoidance of tax. Mexico today can now use its decade-long digitalization process in two ways: to learn more about taxpayers, and also as a warning shot.

“What they really want is to send a message to taxpayers,” says Calafia Franco Jaramillo, an EY Tax Controversy Leader at the Latin America Business Center in New York. “They want everyone to know that audits can be more efficient and targeted because they have this data.”

Mexico is not alone. Tax authorities worldwide are in the midst of a golden era of innovation. They are upgrading old systems or switching to new ones, gleaning insights as they go. The results have often been immediate. The Canada Revenue Agency used its databases to predict which taxpayers might not comply, and then communicated with them to boost collections, bringing in an additional C$127.6 million in the first tax cycle in which they introduced this new approach. When Russia digitalized its VAT system, revenue increased within months.
01
Governments want to learn more about taxpayers

02
Governments expect data in real-time or near real-time

03
Digitalization is accelerating the timing of tax reporting/filing obligations for businesses

04
Pressure on data governance:
- Availability
- Quality (format)
- Risks

Impact on companies

Rapid digitalization of tax administration

... collecting more data
... using analytics and data matching
... moving compliance upstream

End of the tax return?
The data hunt
The evolution goes far beyond archiving the information taxpayers provide; the passive approach of waiting for an annual tax return to evaluate is gone. Tax authorities are now collecting information on a daily basis, and incorporating third-party information rather than just relying on what taxpayers disclose.

In the UK, Her Majesty’s Revenue and Customs (HMRC) pledges that by 2020 there will be no need to file a tax return. The tax authority will provide one, based on information requested and collected over the reporting period, and taxpayers will have the choice to accept or contest it.

There’s another tangential effect from the current era of innovation underway: it is easier than ever for tax authorities to share data with each other, swap insights on new tax structures and talk about taxpayers they have in common.

“This is an incredibly exciting time to be a tax administrator,” says EY Global Head of Tax Policy Chris Sanger. “They can get to a much greater level of understanding, and much more quickly, than they’ve ever been able to before.”

Several factors explain why tax authorities have been so quick to embrace innovation. Incentives start with the fact that governments are cash-strapped – of the 35 countries in the Organisation for Economic Co-operation and Development (OECD), at least 20 had budget deficits in 2015. That means tax authorities must do more with less. The Internal Revenue Service (IRS) in the US estimates it costs between US$40 and US$60 for an employee to help a taxpayer in person. This drops to US$1 if needs are handled online.

“Every tax administration is operating on a reduced budget and reduced head count,” says Rob Thomas, EY EMEIA Tax Digital and Innovation Leader. “Going digital is a potentially expensive investment, but also a solution.”

Another reason to increase collections from corporate taxpayers is growing public support for doing so, spurred on by media coverage of multinationals who are described as paying little or no taxes in a particular country. Tax authorities now go beyond their traditional focus on illegal tax evasion to include tax-avoidance strategies they consider too aggressive.

It isn’t all bad news for corporate taxpayers. The focus on getting them to pay more also comes with some service-oriented reforms — making filing easier, for example, and ending a tradition of overlapping requests for information. HMRC promises to issue refunds promptly instead of allowing them to build up over a tax cycle, and to keep accounts available online and updated in real-time, providing a constant and clear picture of a company’s tax position.

In Russia, the digitalized VAT process comes with a risk-assessment tool for companies: counterparties...
“Countries can come in and share what they’ve uncovered about a particular tax structure. There’s where you get the ‘aha!’ moment.”

Thomas Brandt, Head of the Tax Administration unit at the Organisation for Economic Co-operation and Development

can be checked in the system to determine if they present risks from a VAT perspective.

“This should make taxation more efficient,” says Charles Rossotti, a Carlyle Group executive and former IRS Commissioner. “This means the authorities can check returns, decide where there are issues and avoid wasting time.”

A broader approach

For many tax authorities, the digital journey starts with a re-evaluation. The Australian Taxation Office’s Smarter Data Program, established in July 2015, put one office in charge of data management, analytics, intelligence and risk assessment, and serves as a platform to test new technologies and data-management techniques.

But authorities also want to quickly get to the first steps in boosting collections, and they do it by using data to improve the audit process. A database of tax returns can help to quickly spot the atypical ones—a corporation with a significantly higher type or rate of deduction than competitors, for example.

A recent OECD survey found that of 16 member countries participating, 15 use advanced analytics to prioritize audits.

“It’s no longer just a person peeling through the paperwork and deciding who to audit,” says EY Americas Tax Policy Leader Cathy Koch. “It’s an electronic review of the data to flag companies outside the norm. Then they’ll take a closer look.”

The next step for tax authorities has typically been to harmonize digital platforms across government agencies, allowing tax authorities to use data from all of them to spot trends and patterns. This is useful to predict which taxpayers are most likely to underpay, miscalculate or fail to file a return at all. Tax offices then use these tools to warn potential problem taxpayers through advance communication such as messages through social media, and influence behavior through targeted policy adjustments.

“Most tax administrations are trying to expand or broaden their thinking far beyond what they need to have in place to deal with a taxpayer who hasn’t filed or who hasn’t paid,” says Thomas Brandt, Head of the OECD’s Tax Administration unit. “They’re thinking about whether a taxpayer would be more likely to respond to a letter or some other type of contact, and they’re thinking about the right timing to do it.”

Canada Revenue Agency, for example, has moved from a prediction model on the basis of a single tax cycle to a ranking system in which taxpayers are evaluated digitally on an ongoing basis for the risk of non-compliance. Risk-scoring corporations and high net worth individuals has resulted in a 33% increase in revenue, from C$9.4 billion in the 2012–2013 fiscal year to C$12.5 billion in 2015–2016, the agency says.

Spotting problems

Computer models can also be designed to spot specific types of issues within a tax return and supporting information. Ireland uses analytics to spot income declarations that could be too low, and Sweden tests for unreported income. Australia’s “nearest-neighbors model” identifies erroneous deductions. For corporate taxpayers, it’s important to mimic this process, and spot in advance what elements of their tax returns could draw attention, says EY’s Sanger. Tax authorities can dig deeper into tax returns using artificial
Transformation and innovation

was absorbed into a database managed by the Office of Tax Shelter Analysis, which was created in 2000. As of late 2015 the team behind this innovation were exploring whether other areas of tax law are suitable for this artificial-intelligence approach.

For corporate payers, the focus on VAT is particularly relevant. Authorities in France, Mexico, the Netherlands, Norway and elsewhere have all reported building analytical models to uncover problem claims. Singapore, Malaysia and New Zealand use social network analysis — the visual display of connections between entities — to detect VAT carousel fraud, which exploits VAT-free treatment of cross-jurisdictional sales. Social network analysis can spot links between taxpayers and joint bank accounts, or shared telephone numbers.

This data-driven approach is changing the profile of employees in tax administrations. In October of 2015, the Netherlands’ tax authority, Belastingdienst, simultaneously announced 5,000 redundancies along with 1,500 new postings for data scientists.

Information exchange

Alongside this ongoing process of bulking up intelligence and analysis capabilities, tax authorities are increasingly sharing information about specific taxpayers and tactics to understand the data with their peers worldwide. There is not a long history of sharing at this level between tax authorities, in part because hard copy data is not as easily shared as electronic versions. Going digital makes it possible.

“If you submit something electronically, it will be shared in real-time with many other governments,” EY’s Thomas says.

While countries can act on their own initiative — Canada Revenue Agency reports sharing based on its double-taxation treaties — the OECD is also a leading facilitator of exchange. Its Forum on Tax Administration was created in 2002, and the 46 current member countries account for more than 85% of global economic output. A members’ meeting on advanced analytics in Dublin in 2011 increased existing demand for the regular trading of information, experiences and innovations.

That led to the repurposing of another OECD body, the Joint International Tax Shelter Information and Collaboration Network (JITSIC). Formed in 2004 by four OECD member countries, it has since broadened its

“The should make taxation more efficient … the authorities can check returns, decide where there are issues and avoid wasting time.”

Charles Rossotti, a former IRS Commissioner, now a Carlyle Group executive
purpose and been renamed the Joint International Taskforce on Shared Intelligence and Collaboration. Membership has jumped to 36 countries. JITSIC helps to foster relationships among tax officials through meetings in which they can talk about the tax structures and other mechanisms taxpayers use to avoid or evade tax. At a meeting in early July, for example, members discussed the “Panama Papers” data leak and how best to use that information.

Tax officials do not discuss specific taxpayers or returns in these settings – that must be done through the tax treaties and exchange agreements countries sign with each other. But sharing the techniques they are using to spot compliance issues often helps officials spot opportunities to meet separately to address specific taxpayers and returns, outside the JITSIC process. “Countries can come in and share what they’ve uncovered about a particular tax structure,” Brandt says. “There’s where you get the ‘aha!’ moment. Then everybody can go back and apply those insights.”

**Searching for stateless income**

With digital innovation rolling out on a larger scale, the future is likely to include even more data to absorb into systems and mine for insights. Another OECD effort, the project on base erosion and profit shifting (BEPS), will present new opportunities for sharing as well as potential challenges to the international co-operation fostered at JITSIC.

The OECD in October 2015 unveiled its 15-point BEPS action plan that, if adopted by governments, would amount to the biggest global tax rewrite in history. It is based on the argument that reforms are necessary as multinational company now have global footprints that transcend the scope of country-level tax authorities, and can use legal structures in low-tax jurisdictions and countries that facilitate secrecy to reduce their taxes and generate “stateless income.”

One of the main BEPS actions requires companies to share a complete global picture of sales, operations, employees, profits and other key figures using a country-by-country report with all tax inspectors, in each of the jurisdictions in which they operate.

The first of these reports are to be filed at the end of 2016. Tax inspectors will be looking for that stateless income and determining to which country it should belong. This suggests the need for even more collaboration with peers from other countries. It also means that tax authorities will be soon able to compare the revenue they derive from a multinational company with what it pays elsewhere, and they might not always agree on what’s proper or appropriate.

As the BEPS process, evolves countries have already developed differences of opinion on how to implement its reforms, which could put corporate taxpayers in the crosshairs of a debate between tax authorities. American multinationals in particular could find themselves in this position thanks to a unique feature of the country’s tax system – that US corporations’ profits are not taxed until repatriated.

While there is no formal requirement that tax authorities share the country-by-country reports with others in the original BEPS plan, many countries have since signed up to do so. In May 2016, Canada, China, Iceland, India, Israel and New Zealand signed the Multilateral Competent Authority Agreement. Signatories to this treaty, which now number 39, pledge to automatically exchange taxpayers’ country-by-country reports.

With excitement building around tax authorities’ new tools, corporate taxpayers are being forced to keep up with these changes and prepare for a future with myriad new compliance requirements.

“You need to have a sense of what the data is going to convey to authorities – what they are going to see, and you need to be able to talk about it with them and communicate your positions,” EY’s Koch says. “If you can’t consistently explain why your taxes look like they do, you could be in for a difficult time.”

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**Key action points**

- Staying in compliance across multiple jurisdictions means regular checks with tax authorities and close monitoring of their communications, as new requests for digital submissions are frequent.
- With tax authorities better able to evaluate tax returns for outlier numbers, organizations should look at what they are submitting and anticipate which elements of them are most likely to raise questions at tax authorities. Responses to potential questions can be prepared as a precaution.
- The ability to compare tax returns quickly means that organizations should know more about how their peers approach common deductions and declarations. It’s important to have a sense of how your organization’s tax return differs from those of similar organizations.
- Organizations should be aware and prepared for the fact that data they submit will be shared with other tax authorities worldwide.
- As tax authorities move closer to real-time access to corporate tax systems and e-audits, ensure data reporting delivers the correct tax treatment.
For much of history, transformation has been a subtle and constant process. An object or act – recording information for example – slowly evolves over the course of centuries. More recently, however, the speed of development has gone into overdrive. Technology, new laws and increased transparency are thrusting change upon tax each day. Those who work in tax will need to quicken their pace to keep up.
Transformation and innovation

1,300 BC
Wedge-shaped tablet from Ugarit (Syria)

2016
Tablet computer
The Egyptians began recording their history, etching it in hieroglyphics and hieratic script on papyrus with split-nibbed reed pens using black ink.

1st millennium BC – 1,000 AD
The Romans were the first to perfect the metal stylus, which was visually similar to a modern pen, inscribing letters on a wax, and later a slate tablet. Styluses were widely used in Europe until the late Middle Ages.

6th–19th century AD
Feather-handled quills were the primary writing instrument in the Western world in the period from the 7th century through to the Industrial Revolution. In Latin a “penna,” the source of the word “pen,” is a feather.

The expanding world of tax

Governments are always on the lookout for new ways to tax their subjects and businesses – both today and in ancient times. The first tax collectors, dating back to 5,000 BC in Mesopotamia, recorded tax payments and obligations on clay tablets called “burdens.” British prime minister William Pitt the Younger introduced the world’s first direct income tax in 1798, while the US ratified a federal income tax in 1913. Since then, taxation has developed at a dizzying pace. France introduced the first value-added tax in 1954, and Finland inaugurated another world first – a carbon tax – in 1990. The European Union further expanded the tax frontier in 2015, enforcing a region-wide tax on digital products.
The evolution of tax returns

It all started with the Mesopotamians and their clay tax “burdens.” The Egyptian pharaohs introduced the concept of tax audits around 4,000 BC. By 500 BC, tax collectors received a technological boost with the debut of the abacus. With the later introduction of paper, tax collectors could assemble and store tax records. As the tax universe expanded, so, too, did the rule book. The 1913 US Internal Revenue Code ran to 400 pages; its 2013 cousin weighed in at a whopping 16,000 pages, including regulations. Fortunately for all, tax filings have moved online, with companies and individuals submitting them via the internet. The next big move – a global push by governments to replace the filing of tax returns with real-time information exchange – is well on its way.
Greater transparency

We think of transparency in tax affairs as an invention of the modern world. It is anything but. Back in 1814, Norway posted everyone’s full income and tax records in a public place for all to see. Sweden and Finland later followed suit. More recently, there has been a global push for tax transparency led by the OECD, designed to prevent base erosion and profit shifting (BEPS) through increased cooperation between global tax authorities and the introduction of country-by-country reporting for companies.

5,000 BC
First used in what is now the Middle East, these heavy clay tablets were used as portable notepads. Tablets were wet, then indented in a “cuneiform” style, with reed pens used to make wedged indents in the moist clay.

3,000 BC
Papyrus, a thick, gummy paper made from the pith of the papyrus plant, was first used in ancient Egypt. The material was easily stored.
Real-time information exchange

Governments are big fans of this trend and for good reason. In 2015, the Chief Financial Secretary to the UK Treasury announced plans to eliminate the tax return within five years. Rather than filing returns, each individual or institution in Britain would have their own digital tax account that would state how much they owe the state. Tax authorities from Brazil to China to Singapore have invested heavily in technology in order to be able to collect tax data in real time. It allows them to respond faster and more effectively to compliance risks, and promptly address taxpayers’ concerns. But this development is tempered by concerns that hackers could break into state databases and tamper with financial records.

The workplace reinvented

Technology is reshaping the workplace, and the tax industry is no exception. Get ready to share your workload with computers, adapt to a changing role, and potentially amplify your own intelligence.

By Elliot Wilson

For centuries, tax compliance work has been a handcrafted business that involves a professional manager extracting data from a company’s accounts, and then submitting returns to a tax authority in a prescribed manner. Technology, however, is challenging our entire notion of work. It is transforming how we interact with each other, how we allocate our time and resources, and where and when we choose (or are told) to work. No industry is safe. Even the way tax solutions are sought and dispensed is changing, forcing practitioners to adapt at high speed.

The rise of new innovations offers opportunities, as well as threats for tax professionals. Richard Susskind, the UK-based co-author of The Future of the Professions, and president of the Society for Computers and Law (SCL), believes the tax world will benefit from the introduction of software capable of making sense from mayhem or disorder. He points to the US tax code, which becomes more complex – and difficult to understand, even to highly educated professionals – every year.

"Tax codes in America and elsewhere are complex webs of often barely intelligible rules,” Susskind says. “Computers are great at picking apart problems created by humans, and making sense of it all.”

The tax profession has already been forced to evolve in recent decades amid technological innovation. Individuals used to rely on accountants to help them file their annual income tax return. Internet-based software programs now let people prepare returns on their own.

"Tax software changed how personal tax services are delivered,” says Susskind. “Think of it as a ‘community of taxpayers.’ If you have a tax-related problem, you can go online and find people willing to help you.”

"Bots" at work

Further change is ahead. “Bots” software applications that run repetitive tasks at super-high speeds are moving into the tax sphere. These little packets of hard-working code will transform the way people interact with the tax function, predicts Beerud Sheth, cofounder and CEO of San Francisco-based Gupshup, a chat bot messaging platform for businesses.

Sheth uses the example of white-collar workers processing work-related expenses with the aid of an app on their smartphone, while standing in line at a coffee shop or airport. While employees tend to view their expenses as a chore, this will no longer be the case in the future, according to Sheth.

“Imagine all your employees uploading expenses as they go,” Sheth says. “You’ll be able to see clearly and in real time how money was being spent on what, where, and by whom.”
Transformation and innovation

will increasingly demand a more automated form of tax advice. New, intelligent forms of technology will also force companies to reassess how they train employees, from lower-level staff to current and future C-suite executives. In many companies today, workers get to know every aspect of the firm and the industry from their first day on the job, learning how to deal with clients, run teams and manage up and down. Technology is quickly transforming this traditional approach.

“Firms will increasingly assign lower-level tasks, then more higher-level tasks, to machines,” Steadman says. “So firms will have to adapt, creating training programs that help young workers learn how to complete more complex tasks, earlier in their careers. It is the only way to stand them in good stead as they evolve into senior staff.”

While some experts and practitioners believe machines will struggle to solve highly technical tax issues for a multinational company or a high-net-worth client, with assets and property spread around the world, Susskind isn’t so sure.

“Tax planners still believe their jobs are too complex to be done by a machine,” Susskind says. “But wherever we look, however complex the challenge, there is someone creating software that is taking on tasks that we used to think required human experts. Tax work will be no exception. No one is immune.”

Smarter humans

Experts believe there is another way that technology could develop in the workplace in which people and machines communicate with one another through a shared language and skill set. It is known as augmented intelligence or intelligence amplification (IA). These are systems that can enhance human capabilities by connecting the visual cortex – the best-understood part of the brain – with a computer. IA is still in its infancy, but its potential uses are endless.

In the long term, IA could help humans process larger amounts of data and detail over a shorter period of time: vital for helping, say, a call-center employee to locate a problem in a customer’s account.

IA will also change the finding of tax solutions: an “augmented” human hooked up to a grid could match the right guidance to the right client and situation, far faster.

Those most likely to embrace IA will be young professionals on short-term contracts, says Daniel Araya, Hult-Ashridge Research Fellow at the Global Center for Disruptive Innovation in San Francisco. That makes sense, given that the workforce of the future is likely to be scattered around the world, with individuals paid on a piecework basis by companies and institutions.

“Most of your employees will not be sitting at a set location doing the same thing,” says EY’s Steadman. “Instead, companies will communicate via crowdsourcing or work management tools, handing out tasks to a virtual network of employees.”

IA will also likely prove the best way to ensure that machines do not replace humans entirely at work in the future.

“Adding capabilities to the biological human is the best way to empower our existing labor force, and to ensure that they perform tasks better than computers,” says Araya.

Key action points

• Tax professionals must embrace technological innovation and prepare to adapt the way they provide tax services.
• Tax departments should leverage robotics and artificial intelligence to take on some low-level, form-driven work.
• The tax function should follow developments in intelligence amplification (IA), which aims to enhance the way humans and machines work together.
Transformation and innovation

David Gauke, UK Chief Secretary to the Treasury, in March 2015 outlined ambitious plans to modernize Britain’s tax system. By 2020, every individual and small firm would have its own digital tax account that stated how much tax they owed, he revealed in an HMRC report.

Within a few years, Gauke added, “millions of people” would no longer have to file annual or quarterly tax returns. And in time, no one would.

There are few governments in the world that are not investigating the incalculable benefits of digitalizing their tax systems. And that includes investing in software that automatically calculates the tax obligation, whether it’s a small business owner or the CFO of a Fortune 500 company.

Reasons to invest in the creation of a fully automated tax system varies from country to country. China’s focus on simplification and digitalization is a reaction to the rapid and variable growth of its economy. The US Internal Revenue Service (IRS) lags behind in the race to automate, according to Elda A. Di Re, EY Area Leader Personal Financial Services Department, Financial Services Office (FSO), in New York. It sees digitalizing its tax system as an ideal way to cut costs.

Brazil sees digitalization as the best way to eliminate tax fraud by cutting out the need for human interaction or contact during the entire tax process, according to Carolyn Bailey, the Houston-based EY Americas Digital Government Tax Transformation Leader. Indeed, Bailey believes that automatic tax filing, signaling the end of the tax return, could become the norm for tax authorities around the world.

“This is going to happen,” Bailey says. “It’s going to be easier for a tax authority to administer tax policies if they go down this path. Everyone is embracing automation, so why not tax authorities too?”

“In certain countries it’s the ‘new normal’ already,” Bailey says. “Some countries will get there very fast, while others will take a few years.”

Latin America leads

The drive to digitalize and automate national taxation systems is being led by countries as far-flung as Brazil, Oman, Russia and Estonia. The authorities in these jurisdictions have not traditionally been at the forefront of tax innovation. But this is clearly changing.

Take Brazil, which in 2006 rolled out a simple public digital bookkeeping system called SPED that it has systematically honed and perfected. SPED now trawls digitally through a company’s bank accounts, financial filings, daily invoices and sales slips.

At the end of each financial year, it issues an automatically generated income tax report tailored to each domestic individual, corporate and institution. Brazil’s tax authorities “can literally see the innards of a company,” Bailey says.

This revolution hasn’t always been popular in Brazil. But its value to the nation’s treasury cannot be refuted. According to data collected by the EY Center for Tax Policy in the US, the amount of federal taxes collected rose by an annual average of 12.46% in the five years to the end of 2015, helping the government boost its revenue take without raising the tax rate.

By Elliot Wilson

UK individuals

2016: Every individual/small business will have access to a digital tax account allowing users to: review their income tax estimate and tax code; fill out/send their personal tax return; view how national insurance contributions impact their pension; check/update work benefits, such as medical insurance; and make a tax refund claim.

2017–2019: Taxpayers will be able to view the interest paid by banks and building societies, along with an overview of their tax liabilities via their digital tax account. Users will also be able to report different sources of taxable income, and access child benefit services through their digital account.

Advice and support available via web chat/ messaging, tailored to a taxpayer’s unique needs, such as a change in employment status or a new baby.

Transformation and innovation

UK companies

3 Phased-in transition from annual returns to real-time tax reporting through 2020.

- Businesses will use software and apps to collect tax-related data on a daily basis, reviewing it for possible errors or omissions, and then send it digitally to the HMRC.

- Companies will also be able to review information concerning their tax affairs through their digital account, including a calculation of the tax that they owe.

- HMRC will issue targeted guidance and alerts for taxpayers.

Automation to the rescue

In countries where tax structures are either incomplete or chaotically jumbled, there is a clear incentive to embrace the death of the manually filed tax return. The US tax code, notes Di Re, has become “horrendously and incredibly inefficient. Many US firms have to commit resources they don’t have each year, hiring extra help to fill out hundreds of pages of the tax code.”

Automation should solve that problem at a stroke, allowing governments to burrow into a taxpayer’s finances and apply their analytics to that data. Proponents of a fully digital future rarely see the downside of allowing government to assess their tax bill.

In his March 2015 report, the UK’s Gauke highlighted the benefits of seamless tax digitalization, from the ability of individuals to view their pension contributions, to companies being able to view their tax data on a day-to-day basis.

“Authorities are motivated by the need to make themselves more efficient than ever before,” says Aidan O’Carroll, Global Compliance and Reporting Leader at EY in London. “This is creating a race to the top, with firms investing in artificial intelligence and analytics in order to be well placed to respond to automated tax demands.”

Not so fast

Yet this future isn’t written in stone. Many businesses are uncomfortable with being told how much tax they owe. Others worry about placing too much information in the hands of government.

Chief among their concerns is the rising prevalence of data theft incidents. In February 2016, IRS servers were the target of a hacker attack in which 101,000 stolen social security numbers were used to generate e-file PINs – personal identification numbers used by taxpayers digitally to file their annual tax returns. Identity theft is another rising threat, leading to American taxpayers being issued with erroneous tax bills.

“Filing tax returns electronically saves money and speeds up the tax filing process,” notes EY’s Di Re. “But it opens the door to fraud, and the IRS has paid out billions in fraudulent tax refunds.”

She also points to the danger of being issued a tax bill that is plain wrong.

“Imagine the average uneducated taxpayer getting a tax bill with a government letterhead on it that states in clear letters: ‘This is what you owe.’ When my clients get a letter like that, I tell them to hang tight until I’ve read the tax bill, as in some cases, the government’s estimates are wrong.”

Authorities are working hard to solve these problems as they occur. In Brazil, any taxpayer has a narrow window of opportunity to lodge a protest against an automated bill. In the US, the IRS is seeking ways to make it easier for taxpayers to get transcripts of their own accounts.

But as tax systems around the world become increasingly automated – run by machines and overseen by humans – the taxpayer, whether individual, small business owner or global corporate, faces a daunting challenge: to educate themselves about the ongoing digital tax revolution, or risk a fine, or worse.

Taxpayers in countries with e-returns, for example, must be prepared to respond quickly when controversy arises. “If a government examines my accounts and tells me that I owe them more money, I need to be ready with a response,” says EY’s Bailey. “Companies will increasingly need to be ready digitally to back up their position.”

The UK’s HMRC is moving to end the time-honored practice of annual tax returns by 2020. The HMRC’s vision is to transform the entire UK tax system “into something that feels completely different” and make it easier and faster to file and pay taxes.
“There’s no one size fits all”

Today’s tax functions are grappling with a sweeping range of unfolding innovations by revenue authorities, from digitalization and analytics to new legislation.

Interview with Grace Perez-Navarro, Deputy Director of the OECD’s Centre for Tax Policy and Administration.

**Tax Insights: What impact is digitalization having on tax authorities and taxpayers?**

Grace Perez-Navarro: Technology and the digitalization of taxpayer data give tax authorities a jump start in everything from the identification of mathematical errors to the use of risk assessment tools. There are also many benefits for taxpayers. For example, e-filed tax returns continue to increase, which tend to be easier for taxpayers and accelerate the payment of refunds. New technologies also facilitate responsiveness from a service standpoint, providing taxpayers with better and easier-to-use formats and more information, all in real-time. Tax authorities globally, even if they are at different levels of development, are really coming together around the idea that technology can make the entire taxpayer interface with tax administrations much easier.

How do you think tax will change in a real-time monitoring environment?

The new environment should result in more real-time responses and real-time assessments and a resulting reduction in taxpayer uncertainty.

A number of countries are also trying to achieve more real-time resolution for larger taxpayers with complicated or new situations, especially as business models are changing. If a company is uncertain about how a particular transaction should be characterized, it can be of great value to have the issue resolved in real-time instead of a traditional approach, in which an issue can remain open for years. That’s not good either for companies or tax authorities. A number of countries have adopted various kinds of cooperative compliance programs in which taxpayers can get fast-track answers on specific issues. Digitalization and real-time monitoring should facilitate faster resolutions under all these programs.

What is the impact of big data on tax administration?

Big data is both a challenge and an opportunity. Tax authorities need to be able to harness technology in a way that can effectively sift through massive amounts of data in order to carry out risk assessment and focus resources on relevant issues. On a separate level, many tax authorities are responsible not just for tax administration; they are also providers of other services or benefits through the tax system. They need to gather information from other government agencies and integrate it all. I also think we will increasingly see tax authorities viewing taxpayers more holistically rather than focusing on income tax in one department, VAT in another department, etc. Without technology, it would be very hard to do that effectively.

In what ways do you think the OECD’s BEPS Action 5 – the nexus approach for intellectual property – will affect innovation?

Before addressing Action 5, it’s important to put IP boxes and similarly named incentives into context. These are income-based tax incentives that reward only successful innovators so they may be more likely to benefit large incumbent firms, which are already successful and have profits that credits can offset. These incentives may not necessarily be the best tax tool to spur...
“In Action 5, we were not trying to bless IP boxes as an innovation tool ... You could say we were putting a box around the box.”

Grace Perez-Navarro
Deputy Director of the OECD’s Centre for Tax Policy and Administration
innovation, especially by small start-ups, which do not have profits to use credits against and don’t have the financing to undertake R&D activities in the first place. Newer innovative firms need money and support from government at the beginning stage of the process to enable them to finance their R&D.

With that in mind, how might Action 5 affect innovation?

In Action 5, we were not trying to bless IP boxes as an innovation tool. We were trying to provide a rule that would limit the tax benefit of an IP box to the profits attributable to the economic activities undertaken and the value created in a jurisdiction, in order to prevent base erosion using highly mobile items like patents and other intellectual property. You could say we were putting a box around the box.

You mentioned earlier that income-based incentives might not be the best way for governments to spur innovation. What are other ways for governments to use their tax systems to spur innovation?

Measures such as R&D credits and accelerated depreciation support innovation through tax benefits, though on the income side. Also, tax loss limitations can affect the value of targeted R&D incentives. We have also seen that other elements of the tax structure can play an important role. For example, the tax treatment of employee stock options has an impact since options can be more favorable to a start-up than paying cash salaries because it helps to ease their cash flow problems. Labor taxes such as employer payroll taxes can significantly increase the cost of doing business, so lower labor taxes for innovative activities can make a difference. Very different companies are innovating, so it’s important not to limit support to just one tax benefit.

What impact do overall tax rates have on innovation?

The overall tax structure makes a big difference. For example, inventors that are innovating on an individual basis will be concerned about personal tax rates. High tax rates hinder innovation because if you don’t see yourself as getting the benefits of your hard work,

Do governments have other ways to support innovation?

Government subsidies, which are expenditures rather than tax benefits, also support innovation. Also, our science and technology department has been looking at the role that public policy can play in facilitating innovation. They have found, for example, that innovation thrives in an environment with a skilled workforce that has the knowledge and skills to generate new ideas and technologies, bring them to the market and adapt to technological changes across society as they happen. The tax system has a role to play in supporting the development of that skilled workforce, through education credits and other tax benefits. It’s also important to have a sound business environment that encourages investment in technology and, again, tax is a part of that by providing support through R&D credits and other types of incentives. Governments also need to support science and technology, including strong and efficient systems for knowledge creation and diffusion. The right mix of policies depends on many factors; there’s no one size fits all.

Grace Perez-Navarro
Grace Perez-Navarro is the Deputy Director of the OECD’s Centre for Tax Policy and Administration. She plays a key role in the work on base erosion and profit shifting (BEPS), improving international tax cooperation, promoting better tax policies and engaging developing countries in OECD tax work. Previously, Ms. Perez-Navarro was a Special Counsel at the IRS Office of the Associate Chief Counsel (International) where she was responsible for coordinating guidance provided to field offices on international tax issues, overseeing litigation of international tax issues, negotiating TIEAs (tax information exchange agreements), overseeing the drafting of regulations, rulings and other policy advice and participating in treaty negotiations. In 1993, she was seconded by the IRS to the OECD to launch the revision of the OECD’s Transfer Pricing Guidelines.
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