FEATURE

Industry 4.0’s impact on VAT/GST reporting and compliance
Harnessing disruption to enhance processes

Gareth Pritchard, Debbie Hatherell and Lorraine Young
Industry 4.0 can create significant and multifaceted challenges in indirect tax compliance. This article explores the potential benefits of applying some of the more common Industry 4.0 technologies – sensors, digital ledger and artificial intelligence – to the indirect tax reporting challenges in the manufacturing industry.

As businesses invest in Industry 4.0 technologies, they should consider not only how they can be used to deliver operational benefits but also how they can benefit the tax function through improved use of the data they generate. That wealth of data can in turn drive detailed analysis to enhance the accuracy and efficiency of indirect tax compliance.

Current indirect tax reporting – the paper trail

Before looking at the benefits that new technologies can bring to indirect tax accounting, it is worth pausing to consider the status quo and reflect upon the current challenges faced by both taxpayers and tax authorities.

Current indirect tax reporting requirements rely, in many cases, on manually inputting key data such as client and delivery addresses. Such detail is key to determining the appropriate VAT/GST treatment of supplies of goods and services and the subsequent declarations that need to be reported for these transactions.

Ensuring that a business has the appropriate documentation can be an onerous process for many businesses.

From a VAT/GST perspective, it is vital to obtain and retain documentary evidence to support not charging VAT/GST on a supply where goods physically leave the jurisdiction in which they are located. In many jurisdictions, the current evidence requirements comprise a variety of different forms. For example, in order to confirm the VAT/GST treatment that has been applied, the tax authorities often request the supporting shipping evidence and customs declarations as part of a routine VAT/GST inspection. Therefore, ensuring that a business has the appropriate documentation can be an onerous process for many businesses. Yet without this evidence, tax authorities routinely issue VAT/GST assessments in respect of underpaid VAT/GST and in some cases penalties and interest, too.

It's not just VAT/GST that creates indirect tax challenges. From a global trade perspective, customs duties are a real cost to business, intrinsically linked to the classification of products for duty purposes. Classification can be a time-intensive and complex exercise. The task can be exacerbated by changing of the classification of goods, affecting both declarations and ultimately the duties payable. In additive manufacturing, for example, businesses may previously have been importing end products. But the increase in 3D printing means raw materials are being imported for printing, provoking a change to classifications, and, in some cases, to origin.

A change in the nature of a product increases complexity in terms of classifying a product for customs duty purposes; and classifying technology
goods can be increasingly difficult as technology evolves quickly (in many instances at a quicker pace than the underpinning tax legislation). The level of manual input required from a customs duty perspective can be significant and in many cases is outsourced. In practice, this may reduce businesses’ oversight of the process and can mean they don’t obtain the relevant documentation required to support the VAT/GST treatment being applied, nor assurance that the duties being paid are wholly accurate.

The fact that many indirect tax processes are manual is inefficient not just for taxpayers but tax authorities too. As businesses create more data, many tax authorities are requesting more information and becoming more advanced in terms of data analysis. E-information requests by tax authorities are becoming more regular and varied and the requirements and their complexity vary widely between jurisdictions. Already greater volumes of data must be submitted electronically to tax authorities more frequently, and in many cases real-time reporting requirements have been implemented. This is evidenced by an overall rise in the Single Audit File for Tax (“SAF-T”) requirements, which require additional data to be submitted to the tax authorities, in specific formats. It is clear that the global trend is for tax information to be created and retained digitally, with a move towards immediate information availability and real-time payments.

The current requirements for digitization of indirect tax accounting are the first steps for tax authorities and taxpayers on the road to automation. With the push for digitization of tax accounting globally, understanding how Industry 4.0 technologies can help achieve the goal of automation and support real-time information reporting could be a game changer.

**How Industry 4.0 technologies could put an end to the paper trail**

Industry 4.0 promises a world where digital enterprises are interconnected and autonomous, analyzing and using data to drive intelligent action in the physical world. This could and should be able to make tax reporting for organizations more streamlined and accurate. As the capabilities of new technologies continue to develop, their applications are likely to become more varied.

**With the push for digitization of tax accounting globally, understanding how Industry 4.0 technologies can help achieve the goal of automation and support real-time information reporting could be a game changer.**

**BEYOND MANUFACTURING: LEVERAGING IOT AND SENSOR DATA TO DIGITIZE INDIRECT TAX REPORTING**

Businesses currently use Industry 4.0 technologies in a variety of ways in order to elevate core business activities. For example, a global manufacturer of power tools deployed a real-time location system in its manufacturing plant in Mexico, which produces millions of power tools each year, in order to track materials, reduce complexity in supply chains and increase the visibility of its manufacturing processes. The company introduced Internet of Things technology to create a connected production line with a Real-Time Location System (“RTLS”). The RTLS includes small and easily deployed Wi-Fi active tags that can attach to virtually any material and provide real-time location and status.
The use of this technology has resulted in improved production quality and labour efficiency. The question, however, is whether such technology could also be used to drive efficiencies in the tax function of the business (and by inference in the relevant Tax Authorities). Conceptually, the RTLS system could create significant efficiencies in respect of the business’s indirect tax reporting obligations. As the VAT/GST treatment of a supply from raw materials to the finished product, with the detail stored on a transparent and secure blockchain platform in a shared system. This can be integrated into an existing ERP system. Blockchain is already being used in numerous different ways by businesses. For instance, a consumer goods manufacturer is using it to track movements of its shipping containers, thereby streamlining its shipping, accounting and administrative logistics.

Virtual Substantiation: Using Ledger Technology to Streamline Processes and Reduce Fraud

Other Industry 4.0 technologies could be used to reduce the often onerous requirements to provide evidence of movement of goods to substantiate the associated VAT/GST treatment. Ordinarily a suite of evidence must be retained, comprising commercial and official evidence. This paper trail could be simplified using blockchain, which can track physical movements of goods on a digital ledger. Each transaction in a supply chain, indicating a movement of goods, can be recorded, and the detail stored on a transparent and secure blockchain platform in a shared system. This allows for the sharing and storage of transaction data between parties. Wherever a tax authority is moving towards newer technologies, the ultimate goal is to escape from the manual processes and spreadsheets that currently dominate indirect tax accounting processes.

Some progressive tax authorities are also recognising the advantage of this technology in reducing VAT/GST fraud. A common form of VAT/GST fraud is for a taxpayer to recover VAT/GST on a fraudulent VAT/GST invoice. The Thailand Revenue Department is now testing blockchain technology with the aim of tracking VAT/GST payments and identifying false invoices. The Chinese city of Shenzhen is also testing how new technologies such as blockchain can assist tax bureaus. It is operating a pilot whereby merchants can submit invoices through a blockchain-enabled invoicing system. This allows for the sharing and storage of transaction data between parties. Wherever a tax authority is moving towards newer technologies, the ultimate goal is to escape from the manual processes and spreadsheets that currently dominate indirect tax accounting processes.

New technologies may help tax authorities to achieve their own aims. Split payments, for example – where a consumer pays for a supply, the net value of the payment flows to the supplier and the tax value flows directly to the authorities – have
been suggested as a mechanism to reduce the incidence of VAT/GST fraud. However, a study conducted for the European Commission concluded that although split payments could decrease the tax gap, the administrative costs of collecting the tax would significantly increase. Therefore, to create the benefit that tax authorities seek would require targeted scoping and the use of new technologies to reduce the administrative cost.

**INTELLIGENT VAT/GST: USING ARTIFICIAL INTELLIGENCE TO DRIVE TAX PROCESSES**

Artificial Intelligence (AI) could be used to further simplify processes. AI covers a range of technologies, including machine learning, in which algorithms can spot patterns in data, allowing a computer to learn. AI is also already being used by some businesses to determine VAT/GST liabilities and in the future it is possible to envisage that this technology, coupled with robotics, could form the basis for an end-to-end automated indirect tax process. Tax-related applications that go beyond rule-based solutions already exist in which the tool learns from the user’s tax decisions and rapidly analyses complete datasets, eliminating the risk of human error and sampling bias. Looking ahead, the next generation of AI-enabled tax solutions may be able to consider both relevant, tax law and practice as well as the particular policies of the parent organization, allowing the best mix of artificial and human intelligence.

Taking this simplification one step further by adding machine learning, the concept of using trackers and embedded data to alert businesses to indirect tax risks from a supply is not inconceivable, and in real time. Consider an enterprise that is fully digitally connected. The tax team could use the organisation’s ERP system to track shipments and identify the importation of goods. A check could then be performed against the jurisdictions in which that organisation is VAT/GST registered to determine if a new registration obligation has arisen. An automatic flag or alert could then be created to alert the tax team to the need for action.

In addition, information such as whether there are additional tariffs or country-specific restrictions could be provided. This level of analysis could result in optimised supply chains, reduced VAT/GST costs and better cash flow management for businesses.

**Summary**

As the global compliance landscape changes and Industry 4.0 technologies are deployed more widely, manufacturing companies can apply these technologies to tax reporting and compliance obligations. Tax leaders should analyse the technologies already being used by the businesses and consider how they can be applied to tax functions.

These advances can allow businesses to adopt Industry 4.0 technologies to drive operational supply chain efficiencies and grow their market – and also meet the continued demand from corporate leaders for improved back-office efficiency. They can also help businesses to comply with tax authorities’ demands for more rigorous compliance procedures.

**Advances will allow businesses to adopt Industry 4.0 technologies to drive operational supply chain efficiencies and grow their market – and also meet the continued demand from corporate leaders for improved back-office efficiency.**
It can be hard to predict what tomorrow’s tax function will look like, but given current applications of Industry 4.0 within organizations and its ethos of end-to-end connectivity and visibility, it will likely be data-driven and operate in real time at an enterprise level, with access to all ERP data sources. Already progress is being made in using algorithms to deliver tax knowledge and robotic process automation (RPA) is beginning to take the burden of laborious, repetitive manual tasks. But the real challenge is expected to be combining different technologies across the end-to-end VAT/GST reporting process to allow intelligent, interactive and real-time insight.

In the context of Industry 4.0 changes, the opportunities for additional, secure data sources to feed into an ERP system are significant. With careful planning it is possible to envisage a system using the operational data an organization already creates to refine indirect tax reporting processes significantly. It hasn’t happened yet but if tax authorities recognise the benefits of a digital rather than a paper trail, it could. By understanding the data available within their organization, tax leaders should start to consider how existing information can inform their compliance processes to increase both efficiency and compliance.

The journey has already begun. Many businesses are taking steps to implement Industry 4.0 technologies to streamline their processes. However, the technologies being used have by no means reached their full potential. The Industry 4.0 technologies that businesses are implementing to grow their market share, find new ways to create value and create efficiencies in the manufacturing process can also be used to bring indirect tax reporting benefits. As businesses invest in these technologies, detailed consideration should be given not only to how they can deliver the operational benefits intended but also how the data created could be harnessed to improve accuracy and drive efficiencies in the tax function. With careful planning the wealth of data created by these technologies and the detailed analysis they can provide could be harnessed to enhance indirect tax compliance.

Equally, as global tax authorities continue to request an increased level of digital information, they too should consider the benefits that these new technologies bring. It may require a more flexible approach to certain parts of current tax legislation, but if tax authorities and corporate enterprises can work together to align their approach, all parties could benefit from improved and more efficient tax accounting.
Endnotes


2. For example, Hungary and Spain.


Acknowledgement

Philip Brocklehurst and François Disch.
About the authors

Gareth Pritchard | gpritchard@deloitte.co.uk
Gareth is a partner with over 20 years of experience advising large global businesses on indirect tax matters. He leads the Deloitte UK Manufacturing Indirect Tax team and is also lead indirect tax partner for aerospace and defense businesses across EMEA. He has a special interest in disruptive technologies affecting the manufacturing sector.

Debbie Hatherell | dhatherell@deloitte.co.uk
Debbie is a director in the Deloitte UK Tax service line. She primarily advises manufacturing businesses and has 15 years of experience advising multinational clients on a wide variety of indirect tax issues, including complex international supply chains.

Lorraine Young | loryoung@deloitte.co.uk
Lorraine is an associate director in the Deloitte UK Indirect Tax team. She has 10 years of experience working with the finance teams of many manufacturing businesses to assess tax risks and ensure compliance obligations are met.

Connect

To learn more about the DCHS and our research, please visit https://www2.deloitte.com/uk/en/pages/manufacturing/topics/industrial-products.html
Contact us

Our insights can help you take advantage of change. If you’re looking for fresh ideas to address your challenges, we should talk.

Industry leadership

Gareth Pritchard
Partner, Tax | Deloitte Services LLP
+44 2920 26 4294 | gpritchard@deloitte.co.uk

Debbie Hatherell
Director, Tax | Deloitte Services LLP
+44 2920 26 4372 | dhatherell@deloitte.co.uk

Lorraine Young
Associate director, Tax | Deloitte Services LLP
+44 118 322 2448 | loryoung@deloitte.co.uk
Industry 4.0’s impact on VAT/GST Reporting and Compliance: Harnessing disruption to enhance processes