Navigating Tax Technology Transformation: Trends, Trade-offs, and What's Next

Speakers

Ong Siew Yong
Tax Director
Deloitte Singapore

Senthuran Elalingam
Tax Partner
Deloitte Singapore

Ashish Kundra
Senior IT Manager
AMD

The urgency
Why tax technology is a top priority right now

The Perfect Storm

1. 130+ countries moving to real-time digital tax reporting
2. ERP cloud migrations forcing a complete stack rethink
3. Post-COVID pressure on tax function cost & headcount
4. Boards asking tax to do more with less, faster

Regulatory pressure

60%

of G20 nations have implemented or mandated e-invoicing/CTC regimes as of 2024—up from under 20% in 2019.

ERP modernisation

$1.3T

estimated global spend on ERP cloud migration through 2027. Tax teams are directly in scope—like it or not.

Data explosion

10×

increase in tax-relevant data volumes expected by 2028, driven by transaction-level reporting mandates.

Talent shortage

38%

of tax functions report difficulty hiring staff with both tax and technology skills (Deloitte Tax Transformation survey, 2023).

Maturity reality check
Where organisations actually are

Industry conversation obsesses over AI-led tax functions. Most organisations are still solving foundational problems.

Majority of organisations → **← Vendor & conference narrative**

~35%	~30%	~20%	~12%	~3%
Stage 1 **Manual & Spreadsheet**	**Stage 2** **Partial Automation**	**Stage 3** **ERP-Integrated**	**Stage 4** **Analytics-Driven**	**Stage 5** **AI-Augmented**
Mostly Excel, ad-hoc processes, limited audit trail	Some RPA or scripting; inconsistent across jurisdictions	Tax engine connected to ERP; clean transactional data	Dashboards, scenario modelling, proactive risk flagging	ML models, gen AI assistants, predictive compliance

The Aspiration Gap is Real

Based on recent report, it shows that only 8% of tax functions describe themselves as “highly digitised”. Yet 74% say digital transformation is a top-3 priority. The gap between intent and execution is not shrinking.

What's Blocking Progress?

The top three barriers are consistently: (1) data quality and availability, (2) lack of in-house technology skills, and (3) competing priorities during ERP migrations. Technology itself is rarely the constraint.

The “Pilot Trap”

Many organisations have run successful proofs-of-concept for AI or automation—but struggle to scale. A pilot that works for one jurisdiction or entity type often breaks under the complexity of global operations.

AI & Machine Learning in Tax Workflows

Trend 1

TODAY: Rules-Based Automation

- Automated VAT code determination on purchase orders
- Rule-driven withholding tax calculations
- Scheduled data extracts fed into compliance tools
- Condition-based alerts for filing deadlines

Mature, proven—but brittle when rules change or edge cases emerge.

NOW EMERGING: ML & Predictive Models

- Anomaly detection in large transaction datasets
- Predicted tax positions based on historical patterns
- Vendor/customer master data classification at scale
- Transfer pricing benchmarking with ML-assisted comps

Requires clean training data. Audit trail and explainability are non-negotiable.

NEXT: Generative AI Applications

- Drafting tax technical memos and rulings responses
- Summarising legislative changes across jurisdictions
- Contract review flagging tax risk clauses
- Natural language querying of tax data warehouses

High potential, high risk of hallucination. Human review remains essential—for now.

Real-time e-invoicing & the global compliance mandate

Trend 2

The single most disruptive regulatory shift in indirect tax in a generation. It is no longer optional—and it is accelerating.

130+	Countries with active or pipeline e-invoicing mandates
2026	EU's ViDA directive begins rolling implementation, individual APAC countries start adopting the framework
Real-time	Transaction Controls (CTCs) require sub-24hr reporting

What This Actually Means for Tax Teams

Data quality is now a compliance issue

Errors that once surfaced at period-end now trigger real-time rejections from tax authorities. Clean master data is not optional.

ERP integration becomes critical path

Finance systems must be capable of generating compliant e-invoices at transaction speed—not as an afterthought.

Jurisdictional fragmentation is the real challenge

Brazil's NF-e, Italy's SDI, KSA's FATOORA, India's IRP—each has different schemas, timelines, and enforcement. One platform rarely covers all.

Tax authorities have more data than you

Governments can now cross-reference your reported invoices against your suppliers' and customers' submissions in near real-time. Audit risk has fundamentally changed.

The Tax Data Layer

Trend 3

A unified, tax-specific data architecture that sits between source systems and compliance tools—connecting ERP, billing, payroll, treasury and customs into one audit-ready foundation.

Source Systems — SAP · Oracle · Workday · Salesforce · Custom

Tax Data Fabric — Standardised, enriched, reconciled, versioned data

Compliance & Analytics — Vertex · ONESOURCE · Avalara · Sovos Internal dashboards

Organisations that invest in this layer now will have compounding advantages. Every analytics or AI use case gets cheaper and faster.

ERP Modernisation

Trend 4

S/4HANA, Oracle Fusion, and Workday migrations are reshaping the foundation that every tax tool depends on.

The Opportunity

Cloud ERPs offer richer transactional data, better APIs, and native compliance hooks. Tax teams that engage early can design better data structures.

The Risk

Tax is often treated as a configuration step late in the ERP project—not a design stakeholder. Retrofitting is expensive and creates lasting technical debt.

The S/4HANA Specific Issue

SAP's BSEG tables are replaced by Universal Journal (ACDOCA). Existing ABAP tax logic, custom extractors, and third-party connectors often break and need to be rebuilt.

The Strategic Implication

Tax needs a seat in the ERP governance structure—from requirements through go-live. One wrong data model decision can affect compliance for a decade.

Build vs Buy vs Integrate

And why it's rarely simple

Trade-off 1

Build

Internal development/bespoke tools

ADVANTAGES

+ Full control over logic and data model
+ Can model complex multi-entity structures
+ Competitive advantage if tax logic is differentiating

WATCH OUTS

– Maintenance burden grows with regulatory change
– Dependent on internal tech talent (scarce)
– Rarely survives leadership changes

Right for: Highly specialised organisations where standard tools genuinely cannot replicate the logic. Rare.

Buy

Licensed vendor platforms (Vertex, ONESOURCE, Avalara…)

ADVANTAGES

+ Regulatory updates managed by vendor
+ Faster time-to-value for standard use cases
+ Established integration libraries

WATCH OUTS

– Licensing cost scales with transaction volume
– Customisation is limited and often fragile
– Vendor lock-in—migration is expensive

Right for: Standard indirect tax determination and compliance in established jurisdictions. The default choice.

Integrate

Composable/best-of-breed connected stack

ADVANTAGES

+ Pick the best tool per function/jurisdiction
+ Lower single-vendor dependency
+ Can replace components without full rip-and-replace

WATCH OUTS

– Integration complexity is underestimated
– Data consistency across tools is hard to maintain
– Total cost of ownership is hard to calculate upfront

Right for: Large, complex multinationals with mature IT teams and a clear data strategy. High reward, high risk.

The human side of transformation
What nobody budgets for

Trade-off 2

Technology stalls are rarely caused by technology. The three most common reasons transformations fail are people, people, and people.

Why Transformations Stall

#1 The skills gap
Tax professionals trained in law and accounting are now expected to configure systems, write data specs, and interpret API documentation. That's a significant capability leap.

#2 Ownership ambiguity
Who owns tax technology? IT says it's tax. Tax says it's IT. Finance transformation ignores it. Without a named owner with authority and budget, nothing gets done.

#3 Change fatigue
Many teams have lived through multiple ERP migrations, system consolidations, and 'digital transformation' programmes. Scepticism is rational, not resistance.

#4 Scope creep from vendor demos
A vendor demo works in a clean sandbox with perfect data. Real implementations hit real data quality problems, legacy customisations, and political obstacles within weeks.

What Actually Works

Hire 'tax technologists' deliberately
The profile exists: tax knowledge + data literacy + curiosity about systems. They are not cheap, but they are transformational. Build a job architecture for them.

Make technology part of tax appraisals
If digital capability is not in performance reviews, it will not be prioritised. Simple but effective.

Start with problems, not tools
Transformations that begin with 'we need to implement X platform' fail more often than those that begin with “our biggest pain point is Y—what solves it?”

Celebrate early wins loudly
A successful automation of one tax compliance process—however small—builds more organisational buy-in than any strategy deck. Make it visible to leadership.

The cost of over-automation and the centralisation trap

Trade-off 3 and 4

Over-automation

The Cost of Automating the Wrong Things

Automation removes human review points. In tax, some of those review points exist because the underlying law is ambiguous—and ambiguity requires judgment, not rules. When a black-box system produces a wrong answer at scale, the exposure is enormous. Ask yourself: if this process fails, what is the blast radius?

CENTRALISATION vs FLEXIBILITY

When One Global Tax Engine Isn't the Answer

The promise of a single global indirect tax platform is compelling. The reality: Brazil alone has over 50 tax types. India's GST has state-level variations. The EU's OSS regime still has member-state derogations. Centralisation works for common cases—but a strategy that cannot accommodate edge cases will be expensively patched from day one.

A Simple Decision Framework: What Should and Should Not Be Automated

AUTOMATE

- High-volume, repetitive, rule-based
- Low-value, low-judgment tasks
- Where errors are easy to detect and correct

SEMI-AUTOMATE (Human in the loop)

- Calculations requiring periodic review
- Jurisdiction-specific edge cases
- Processes tied to regulatory ambiguity

KEEP HUMAN

- Tax positions requiring legal judgment
- Novel transactions with no precedent
- Disclosures with reputational exposure

The 3–5 year horizon: where tax technology is headed

NOW → 2027

Generative AI moves from pilot to production

The use cases are real but narrow: drafting technical memos, interpreting regulatory change, summarising audit queries, flagging contract risk. The productivity gains in these tasks are material—40–60% time savings in early pilots. The critical constraint is hallucination risk and the need for explainable outputs that can survive a tax authority challenge.

Ongoing

Regulatory digitisation accelerates beyond e-invoicing

E-invoicing is the leading edge. Coming next: pre-populated returns (where the tax authority already has your data and you confirm rather than file), digital audit interfaces, and in some jurisdictions, tax authority systems that can pull transactional data directly from your ERP via API. The question is no longer if but when—and whether your systems can respond.

NOW → 2030

Tax function structure fundamentally changes

The compliance factory model—large teams processing returns—compresses significantly. Higher-value activities (controversy, planning, M&A, regulatory interpretation) grow in importance. Tax functions that invested in technology and upskilling will have smaller, more capable teams. Those that didn't will be under intense cost pressure and talent attrition.

BEYOND 2028

Autonomous tax agents—a realistic horizon

Agentic AI systems that can monitor regulatory feeds, update tax logic, run compliance checks, and escalate only exceptions to human review. This is not science fiction—the components (LLMs, tool use, structured data pipelines) already exist. The governance, liability, and regulatory acceptance frameworks are the long lead items.

How to navigate the change

01 Audit your data before your technology

No tool performs well on bad data. Invest in data quality, lineage, and governance before any major platform decision. This is unglamorous but foundational.

02 Get a seat in the ERP programme—now

If your organisation is mid-migration or planning one, tax must be represented in design decisions. A late seat costs ten times more to fix.

03 Map your e-invoicing exposure by jurisdiction

Build a jurisdiction-by-jurisdiction compliance calendar for the next 3 years. Many mandates are already decided. Not knowing is not a defence.

04 Hire or develop one tax technologist

One person who speaks both languages—tax and technology—changes the dynamic of every conversation with IT, vendors, and finance.

05 Pick one AI use case and do it properly

Not a pilot. A real production deployment with governance, quality control, and a defined business case. Build the muscle before scaling.

06 Define what “done” looks like for your function

Transformation without a target state is expensive wandering. Decide what your tax function should look like in 2028—and work backwards.

Key Takeaway

1. Most organisations are at Stage 1–2. The gap between ambition and reality is the real strategic risk.
2. E-invoicing and real-time reporting mandates are non-negotiable. The timeline is decided. Compliance is the floor, not the ceiling.
3. Build vs buy vs integrate is the wrong framing. The right question is: what problem are you solving, and what data do you need to solve it?
4. Technology transformation fails when people and governance are afterthoughts. Change management is not soft—it is the critical path.
5. The future tax function might be smaller, but more capable, and structurally different. Investing now in data, talent, and process creates compounding advantage.

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