



The future of Product Control

June 2026

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Executive Summary

Product and Valuation Control play a pivotal role in value protection of banks – this criticality will not change with technology. What is already changing is how this value protection is achieved, and the pace of that change is accelerating. As strategic transformation is achieved this creates opportunity for a greater proportion of time to be spent in value creation.

KPMG UK's 'The Future of Product Control 2025' survey has informed our perspective on the future of Product Control (PC) over the next five years. A clear theme has emerged: the mandate of PC is evolving. Historically centred on value protection through its core control responsibilities, the function is increasingly positioned to play a broader role in value creation by delivering insight, enabling decision-making and supporting the strategic objectives of the investment bank. This shift is being enabled by the following factors:



Automation

Automation has already delivered meaningful efficiency gains across areas such as P&L production, reconciliations and reporting. However, progress is uneven and many functions remain reliant on manual intervention and end-user computing tools (e.g. spreadsheets). Most organisations are now reaching a plateau where further gains cannot be achieved through incremental automation alone. Instead, the next phase requires a broader transformation across data strategy, enterprise architecture, technology platforms, and operating model design.



AI adoption

AI presents significant potential, but adoption within PC is currently targeted and controlled rather than transformative. Use cases are emerging, yet remain constrained by data quality, governance requirements and explainability concerns. The immediate opportunity lies in leveraging AI to optimise existing processes (improving speed, accuracy and scalability) rather than replacing them entirely. However, over time, as data foundations and organisations mature, AI will play a greater role in redefining processes. Stronger governance frameworks will become increasingly essential to maintain transparency, auditability and regulatory confidence.



Data

Across the industry, data quality remains the single biggest challenge. Fragmented systems, inconsistent data and weak lineage not only drive cost and inefficiency but also constrain the adoption of automation and AI. Banks that establish a robust, integrated 'single source of truth' (supported by strong governance, reconciliation and traceability) are better positioned to scale innovation, improve reporting speed and enhance decision-making. Conversely, poor data risks widen the gap between leading and lagging institutions.



Workforce

Traditional pyramidal structures are evolving toward more specialised, hybrid models, with a greater emphasis on experienced professionals capable of combining technical expertise, data fluency and commercial insight. Automation is reducing entry-level work, creating risks for talent pipelines, while simultaneously increasing demand for higher-judgement roles. Several banks have already begun re-evaluating the location strategy for Product Control, recognising the benefit of business proximity and balancing with access to deep expertise and cost efficiency. Over time, this is likely to lead to a greater separation between Centre of Excellence and cost-arbitrage offshoring models, with AI acting as a catalyst for further change.



Looking ahead, we expect Product Control to increasingly become a consumer and interpreter of trusted data, with AI and automation taking greater ownership of data cleansing, reconciliation and lineage management. This will enable PC to focus less on manually resolving data issues and more on applying judgement, oversight and insight to its control mandate. Success will depend on a set of 'no-regrets' priorities: working cross-functionally to help build a unified data foundation, modernising legacy processes, deploying AI selectively, strengthening governance frameworks and reshaping teams around higher-value capabilities.

Banks that invest early and holistically in data, technology and people will not only meet growing regulatory expectations, but also unlock significant value through faster insight, improved decision-making and greater organisational resilience.

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The function will become increasingly data-driven, automated and AI-enabled, while remaining firmly rooted in its control mandate.”

The Evolving Mandate of Product Control

From Value Protection to Value Creation

The historical context

Traditionally PC focused on value protecting activities such as P&L explain, Balance Sheet attribution, reconciliations, valuation control and regulatory compliance. Typically, this has been against a backdrop of cost pressures which has led to significant levels of nearshoring/offshoring and a smaller investment into technology. With cost being the priority, there has been a trade-off leading to inconsistent quality and reduced control.

The current state

Recent KPMG PC Survey insights confirm that traditional Product Control activities continue to dominate time allocation, with an increasing emphasis on core control responsibilities. The function has seen a continued strengthening of its control mandate, as banks respond to heightened expectations around governance, accuracy, and accountability.

This has been accompanied by a gradual reduction in more manual, time-intensive activities such as data validation, driven by ongoing investments in technology and front-to-back simplification initiatives. While these developments are improving efficiency and reinforcing the control environment, the anticipated pivot towards a more value-adding, insight-driven role has yet to fully materialise.



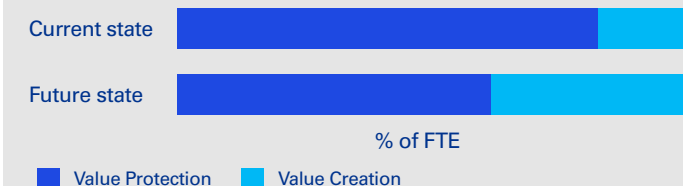
The next 5 years

The 2025 survey highlights that the primary strategic priorities (driving automation and operational efficiency and improving data quality and infrastructure) are shaping the next phase of PC. As automation, technology, and data maturity improve, core value protection activities will become more efficient, creating headroom for PC to generate greater value through enhanced business partnering and more insightful decision support.

Realising this opportunity depends on addressing poor data quality constraints, which are not typically within PC's direct control. While Product Control can define requirements, set standards and provide independent challenge, remediation of underlying data, process and control issues must sit with the accountable business, operations, technology and data owners.

Control will remain at the heart of PC's mandate. This is not changing; rather, the role is evolving: from executing controls to shaping, overseeing, and continuously enhancing the control environment across the value chain.

Current state to future state – value protection to value creation



Data as the Foundation of the Future

The Data Challenge

Significant investment has been, and continues to be, directed towards the strategic transformation of front-to-back processes. However, siloed, inconsistent and incomplete data remains a persistent challenge for many banks, driven by fragmented operating environments and legacy infrastructure. While this has long created inefficiencies and additional reconciliation effort, the implications now extend further, constraining PC's ability to adopt emerging technologies effectively. Over time, this is likely to widen the gap between leading institutions and the rest, both in terms of cost efficiency and period end timelines, as well as the ability to deliver dynamic insights to other functions that create value.

In our discussions with Product Control teams, data quality consistently emerged as the primary area for improvement. This theme extends beyond Product Control and is reflected more broadly across Finance functions, as highlighted in KPMG's recent [Intelligent Banking survey](#).

The central challenge is that data issues cannot be resolved by Product Control in isolation, given its dependence on disparate upstream data sources outside its ownership. However, the most successful data quality transformation programmes are typically those shaped with strong input from Product Control, working in close partnership with the Front Office, Risk, Operations and Technology functions to deliver meaningful change that meets the needs of all end users.

AI Market Survey*

>36%

of organisations – predominantly banks – identify improving data quality, integration, and system interoperability as the primary opportunity to unlock greater value from AI.

*KPMG AI in Finance Survey 2026

Key Considerations

Accuracy & Veracity (the 'Truth' Factor)

Banks must ensure that the underlying transaction data, customer profiles, and market feeds are consistent and reliable. This requires robust reconciliation loops and automated data validation at the ingestion point.

Front to back transformation will allow common areas of challenge, such as appropriate bookings, to be addressed at source reducing the volume of control work required by PC.

Lineage & Traceability (The 'Audit' Trail)

Banks need data lineage tools to track data from source through transformations to model outputs, enabling full traceability of datasets behind decisions.

Data fluency is emerging as the most critical capability need: the ability to assess data quality, interpret outputs and communicate findings in terms the business can act on. Organisations that are most advanced have invested in creating single sources of commonly used data that can be controlled once and used by multiple stakeholders – for example, market data repositories used by Front Office, Risk and PC.



Automation: Progress and Limitations

Where Automation is Delivering

There has been progress in automating daily P&L production and reconciliation, report generation and distribution, and front-office to finance trade feeds. However, progress has been more incremental than transformational, with

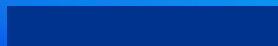
some manual extraction, re-keying and fragmented hand-offs still persisting in parts of the control environment. Exception-based workflows exist in many areas, but maturity remains uneven across processes, platforms and locations.

PC Processes by level of automation

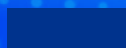
Report generation and distribution



Daily P&L reconciliation



IPV/FVA calculations



Balance sheet substantiation



Data validation and quality checks



None of the above/
Limited automation



The Persistent EUC Challenge

Despite this progress, automation is not yet pervasive. Upstream processes remain less automated and significant components of the PC workflow remain reliant on manual intervention.

End-User Computing (EUCs), also referred to as End-User Developed Applications (EUDAs), often Excel-based, remain deeply embedded in Product Control, with inventories frequently numbering in the hundreds or thousands. These introduce material operational risk, limit scalability and consume skilled resources.

The survey indicates that reliance on EUCs remains widespread across banks. While the scale of dependence varies according to organisational size and the complexity of trading activities, reducing this reliance remains a foundational enabler of greater effectiveness and efficiency within the core Product Control function.



An example of what organisations can do now: Excel-to-Python Model Conversions

Excel-to-Python refers to AI-enabled solutions that convert complex Excel models (capturing formulas, macros and logic) into equivalent Python code. Tools such as large language models can interpret entire workbooks and generate programs that replicate calculations. This enables PC teams to modernise spreadsheet-driven processes, replacing manual Excel workflows (e.g. P&L, IPV, regulatory reporting) with scalable Python solutions. It reduces reliance on specialist Technology or FO Quant support, enabling faster, more independent change. Deployment should also be governed through UAT testing against validated EUCs to ensure accuracy, equivalence and auditability.

The shift delivers both operational and control benefits. Python-based processes are faster, more reliable and better governed, with built-in version control, testing and auditability that mitigate EUC risk. Complex tasks that previously required significant manual effort can be completed rapidly, supporting quicker decision-making and iteration. Critically, it reduces reliance on individual spreadsheet users by embedding knowledge into robust, scalable processes that integrate more effectively with enterprise data and reporting frameworks.

Overall, while this does not completely eliminate the need for strategic projects to remove the root causes that created many of the initial use cases for the EUC, it provides an efficient and timely approach to reducing operational risk from EUCs and increasing automation in the short term while longer-term strategic transformation proceeds.



AI in PC: Pragmatic Adoption

AI as an Enabler, not a Magic Bullet

Artificial intelligence has generated considerable interest, but its adoption within Product Control is likely to be evolutionary rather than transformative in the near term. Many of the core enablers required to support scaled adoption (particularly around data quality, architecture and process standardisation) depend on complex, cross-functional change programmes. Coupled with the need to maintain robust control environments, this helps explain why implemented use cases remain relatively limited and focused in scope.

Recent survey findings suggest that most banks now have access to secure internally deployed large language model tools, alongside enterprise solutions such as Microsoft Copilot.

However, the functionality available to users remains uneven, with more advanced capabilities, including agentic features, typically concentrated among leading institutions. Practical use cases currently in development or deployment tend to be narrow, while questions around explainability, data confidentiality, auditability and regulatory oversight continue to constrain broader adoption.

Product Control continues to prioritise the automation of repetitive activities such as data enrichment, reconciliations, and analytics. Delivering strategic automation at scale typically requires significant upfront investment in technology and delivery capacity, with the longer-term benefits of cost reduction, time savings, and improved control through reduced manual intervention.

These initiatives rely heavily on shared technology and change resources that sit outside Product Control's direct remit, with upstream data remediation requiring clear sponsorship and prioritisation from the Front Office and other accountable data owners. As a result, delivery timelines are often constrained, slowing the pace of end-to-end strategic transformation. While PC can define requirements, prioritise use cases and articulate the control imperative, execution is dependent on broader enterprise investment, Front Office sponsorship and delivery capacity.

Key considerations

AI has created opportunities for accelerated development of effective tactical solutions which facilitate automation with non-IT colleagues in more controlled and robust solutions than has been possible with historic End User Developed Applications. This can be a powerful solution to drive process and control enhancements within Product Control.

Targeted deployment use case examples include automating Excel-to-Python model conversions, model code annotations and natural language explanations, use of large language models to query and/or enhance internal methodologies, or AI agents that perform research and code reviews. All of these examples are practical and focused on addressing clear business needs.

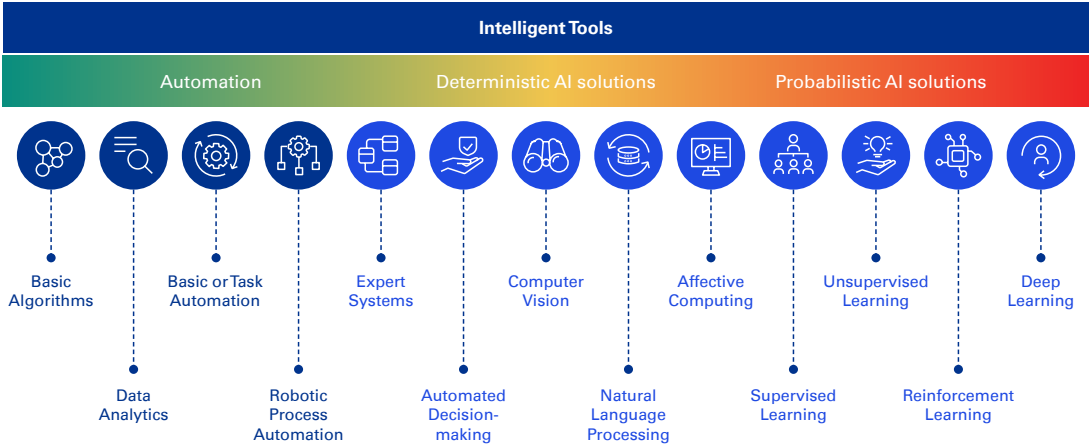


A key challenge in driving AI adoption is definitional clarity. As outlined in this page, capabilities range from rules-based automation to advanced generative AI; a common internal language helps clarify what is being adopted, the risks involved and the controls required.



What are Intelligent Tools?

Intelligent Tools refers to the spectrum of technology that involves automation and AI. In many cases, the risks between the various types and uses of Intelligent Tools are different and additional considerations may be necessary when evaluating the impact on controls when Banks use more sophisticated Intelligent Tools.



Risks and opportunities of AI in Product Control

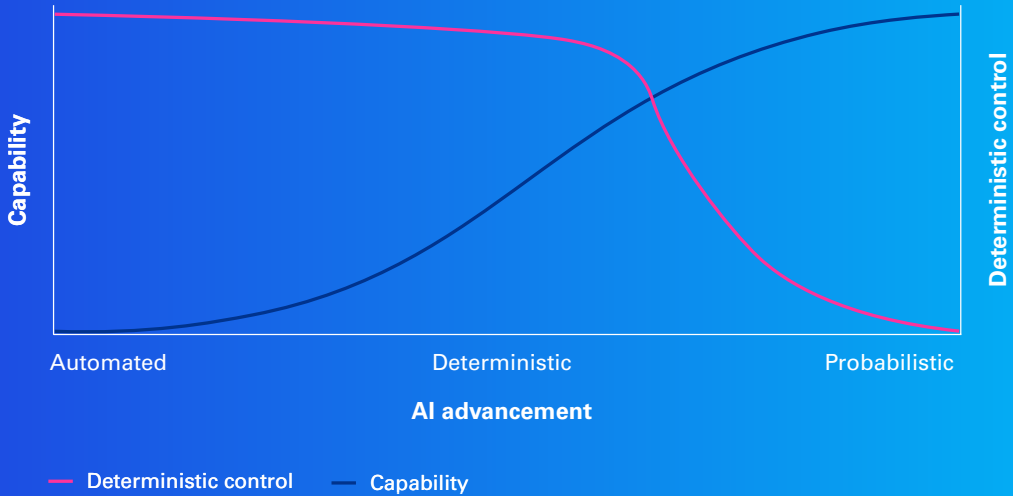
As illustrated, Intelligent Tools span a spectrum from defined automation, through deterministic routines and onto complex, probabilistic AI.

Automation tools operate on strict, pre-defined 'if-then' rules, producing identical outputs for identical inputs. Deterministic AI extends this through advanced logic structures or explicit knowledge bases to emulate expert judgement but remains fully traceable and rule-bound. In contrast, probabilistic AI operates on statistical patterns, generating outputs that may vary for similar inputs as they reflect data-driven predictions rather than fixed logic.

As tool sophistication increases, so does the potential for impact and efficiency; however, incremental risks also emerge and must be managed through additional controls. Understanding this AI continuum and the associated risks is critical. The focus is not on selecting a superior tool, but on aligning the right tool to the specific use case. As AI complexity rises, deterministic control decreases, necessitating stronger safeguards.

On the next page we set out an example of how risks vary based on the nature of the AI tool.

AI Advancement (Capability/Control)



A Use Case Example

Choice of AI tool depends on risk tolerance/governance, complexity and requirement to use judgement

Daily P&L Explain and Attribution – a key process where leading PC functions are currently trialling the deployment of AI.

Deterministic Machine Learning (ML) tool:



AI Tool: ML model trained to categorise daily P&L into fixed driver categories (e.g. creating scoring based on historic training on market movements, new trades, carry, etc. to assist identification of outliers based on size of P&L, correlation to markets etc.). This allows automated generation of commentary via a defined template with exceptions highlighted for further manual investigation. When the training phase is complete the routine is back tested and then deployed. Outputs are consistent, repeatable (the same input yields the same explanation) which is fully traceable, explainable and easy to verify via an evidenced audit trail.

Key characteristic: Explainability: allowing for predictable outcomes (same input, same output).

Trade-off: No improvements to the process over time.

Dynamic (Probabilistic/Adaptive) ML tool:



AI Tool: An ML model that continuously learns from new P&L patterns. Unlike the deterministic example, this allows the refinement and improvement of attributions over time and allows for incorporation of a generative AI (LLM) that writes a more natural and nuanced P&L commentary. However, while this brings the benefit that outputs can improve and learn from new data and the actions being performed by humans (e.g. overrides/edits), it also brings the risk of drift. Drift in model performance occurs due to changes in data or in the relationships between input and output variables. Model drift (also known as model decay) can negatively impact model performance.

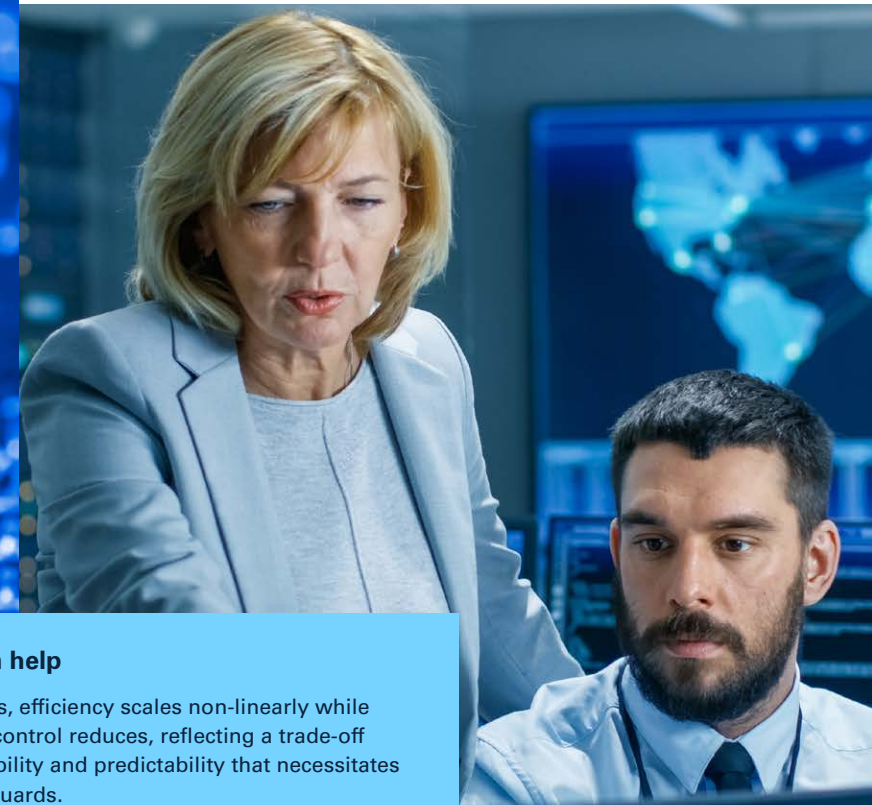
Key characteristic: Allows for dynamic outcomes, learns and evolves.

Trade-off: Risk of drift/inconsistent outputs and hallucination.

How we can help

As AI advances, efficiency scales non-linearly while deterministic control reduces, reflecting a trade-off between capability and predictability that necessitates stronger safeguards.

We bring together deep subject matter expertise and significant AI investment to help organisations adopt AI safely, improving outcomes while maintaining control, transparency and trust.



AI in PC: Building Trust in Technology

The adoption of advanced technologies introduces new governance challenges, making a robust governance framework essential to managing risk and maintaining transparency. As outlined in KPMG's [Trusted AI Framework](#) below, these should encompass established technology risk considerations, such as security, while also addressing AI-specific dimensions including transparency and explainability.

There are also important considerations around human-in-the-loop controls, which combine automated decision-making with targeted human oversight at key stages in the process to enhance accuracy, safety and reliability. This is likely to be particularly important in areas involving greater judgement, for example, when assessing IPV adjustments for less liquid or harder-to-value instruments, or where conflicting market evidence challenges an existing valuation mark.

Firm-level Principles

Safety

AI solutions should be designed and implemented to safeguard against harm to people, businesses and property.

Security

Safeguard AI tools from unauthorised access & change. Lock down who can use or modify AI systems and where they source data. Implement monitoring to detect unusual usage or outputs.

Sustainability

AI solutions should be designed to be energy efficient, reduce carbon emissions and support a cleaner environment.

Privacy

AI solutions should be designed to comply with applicable privacy and data protection laws and regulations. For instance, use secure, internal AI platforms to ensure confidentiality is upheld.

Fairness

Ensure AI models are free from bias and support objective valuations and controls.

Principles which are key for Product Control

Transparency

Establish clear visibility of where AI is deployed in PC controls. Implement a formal governance framework to document use cases, ensuring transparency over application and result generation.

Reliability

AI models used should produce consistent results for similar inputs and perform in a demonstrably reliable manner over time. For example, a deterministic P&L anomaly detection AI model, as overviewed on page 11, can be back-tested on past results and monitored daily to confirm it flags known issues consistently.

Accountability

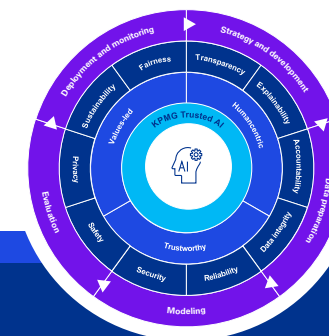
Human oversight and responsibility is embedded across the AI lifecycle to manage risk and ensure compliance, likely aligning to a broader firm level policy. Probabilistic AI output (e.g. FVA recommendations) must be independently validated and explicitly approved prior to booking, in line with UK SM&CR¹ obligations.

Explainability

AI outputs must clearly explain the 'how' and 'why', enabling Product Controllers to trace inputs, logic, and data sources. For instance, AI could potentially be deployed to support an initial AVA² methodology gap analysis assessment comparing documented internal methodology against RTS³ requirements. A LLM can support not only mapping the RTS to specific internal methodology references and highlighting potential gaps which can be proactively addressed, but they can also be prompted to provide explanations as to why the methodology is considered compliant with the RTS. This provides an advanced starting point for a PC reviewer to independently assess compliance and make further enhancements as necessary.

Data integrity

Use accurate and complete input data, with end-to-end data lineage from Front Office systems through to AI outputs to help ensure full traceability. For example, FOBO reconciliations should utilise golden source trading data, with auditable links from each AI-identified break to the underlying trade IDs. As a core enabler of 'Value Protection', data quality presents a significant automation opportunity in the short term.



The KPMG Trusted AI framework is showing what's possible. Organisations with controls, evidence and oversight in place report the strongest performance gains. Trust is becoming the engine of progress.

1. The UK Senior Managers and Certification Regime (SM&CR) strengthens accountability and governance in financial services by holding senior managers individually responsible for their areas of oversight, with reforms focused on simplifying the regime while maintaining its effectiveness.
2. Additional Valuation Adjustments (AVAs) in financial Prudent Valuation are regulatory deductions taken from a bank's Common Equity Tier 1 (CET1) capital.
3. Regulatory Technical Standards (RTS) set out detailed, prescriptive requirements covering data security, legal accountability, and operational processes in Open Banking. They are issued by the European Banking Authority and onshored into the UK regulatory regime by the Bank of England.

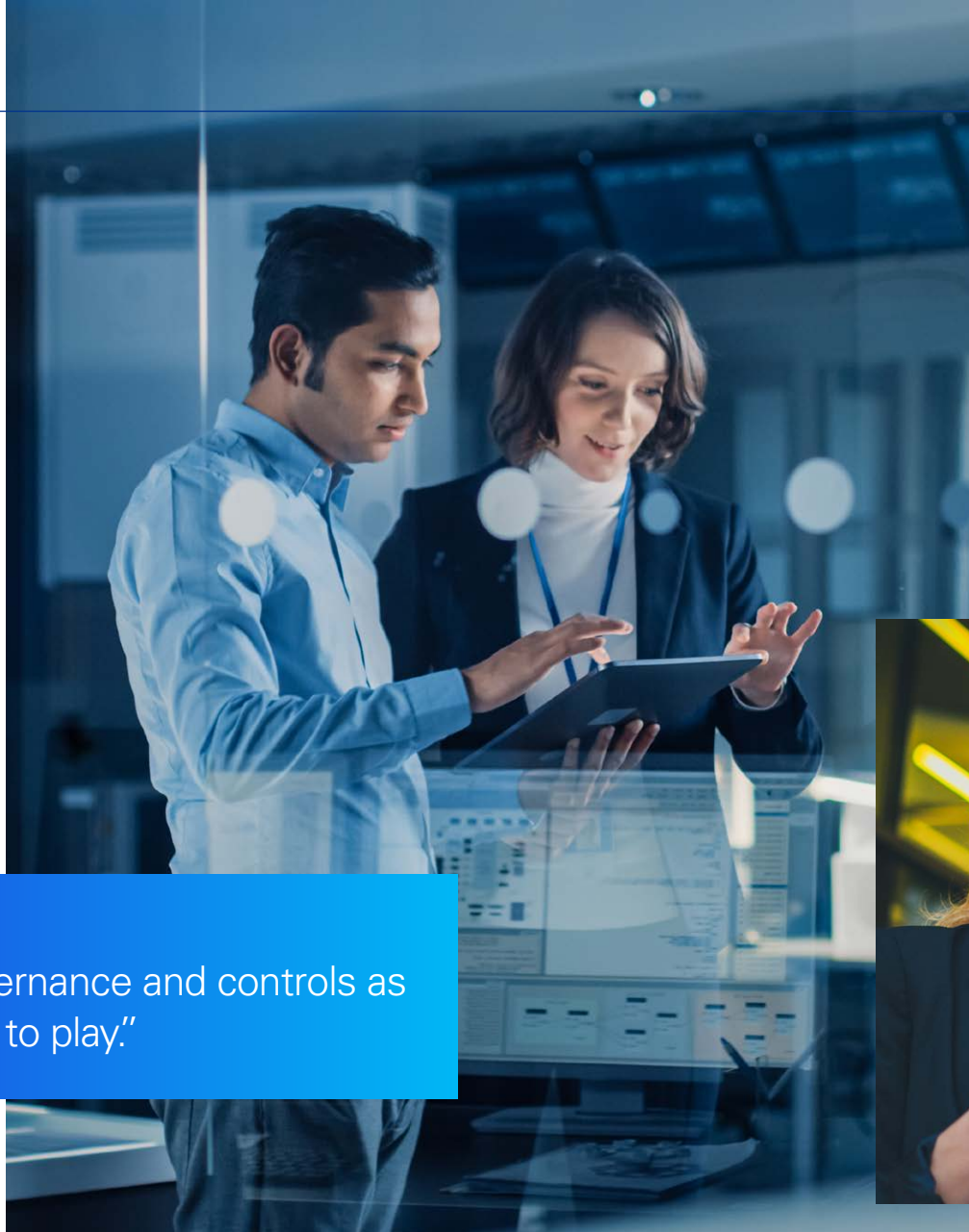
Next steps

Prioritise governance and increase firm-wide familiarity and confidence with the requirements for safe AI use. Collaborate early with IT, Risk, and internal and external auditors to help ensure that technology deployments are secure, explainable, transparent and compliant with regulatory expectations.

Invest in governance, audit trails and evidence capture alongside AI deployment. Organisations with stronger controls are scaling faster and seeing significantly better outcomes. The inverse is equally true: without them, organisations face disruption, regulatory delay, and the erosion of stakeholder confidence. Controls enable confidence, and confidence enables scale.

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Treat governance and controls as the ticket to play."





Organisational design, people and succession planning

Organisation size and delivery model

Responsibilities have become better defined between Operations, Middle Office, and PC and large parts of the production process have been automated or transferred offshore or nearshore shared services, resulting in a leaner onshore PC capability. In many banks, onshore teams retain control ownership, judgement, stakeholder engagement and regulatory interpretation, while offshore teams continue to support production, reconciliations, report preparation, data enrichment and other repeatable processes. However, the historical cost advantage has narrowed and stronger control expectations are prompting some work to move back closer to the business. As a result, the future operating model is less a one-way offshore migration and more a hybrid design, with location choices driven by judgement, control intensity and risk.

Talent retention and attrition

Automation, process and workflow redesign and offshoring continue to reduce the volume of traditional entry level Product Control positions but at the same time, banks are pushing for stronger control environments. This is increasing the demand for experienced reviewers in the middle layer and weakening the internal pipeline for future leaders if that work is removed without a clear talent model.

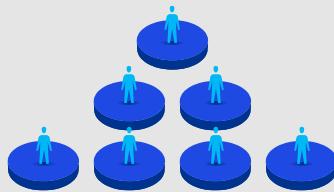
As a result, certain Product Control and Valuations processes are being moved back nearshore and onshore, particularly higher-judgment or higher-risk review work such as valuation and reserving adjustments, IPV challenge and sign-off, model and parameter governance, control oversight, complex month-end close reviews, stakeholder and regulator-facing analysis, exception management and other escalated reviews.

Retention therefore depends increasingly on visible career pathways, deliberate upskilling and giving high performers more strategic, analytical and stakeholder-facing work.

Future shape of the PC function

The future Product Control model is likely to be less a traditional pyramid and more a broader middle, with fewer junior roles and greater demand for controllers who can combine judgement with data, automation and business-partnering capability. In practice, the shape is often hybrid rather than a simple diamond, because specialist work increasingly sits across Product Control, Operations and Finance as banks rebalance production, oversight and insight.

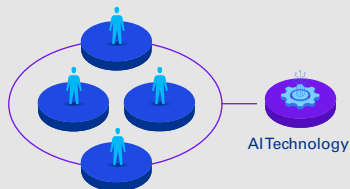
Past



Now



Future



Key takeaways

- The core risk is a weaker talent pipeline as junior production work is automated or shifted into shared services.
- The operating model is becoming more hybrid: repeatable activity may still sit offshore, but narrowed cost arbitrage and stronger control expectations are moving some core work back nearshore and onshore.
- Dependent on the nature of tasks, work most likely to shift location may be correlated either to where upstream business ownership sits to facilitate faster decision making and stakeholder management, or to where the greatest depth of PC knowledge and experience resides for critical and complex judgements.

What organisations can do now

- Define clear ownership across Product Control, Operations and Finance, including which activities should stay nearshore/onshore because they carry higher judgement, control or regulatory risk.
- Protect succession through rotations, targeted upskilling and clearer progression into higher-value control roles.



Key Takeaways

To position Product Control for success over the next five years, finance leaders should focus on:

1

Data quality (the foundation)

- Availability of complete, accurate and timely data across trading, risk and finance
- Strong data lineage and traceability from source to reporting
- Standardised data models to enable scalable automation and analytics
- Ongoing data governance to prevent degradation as systems evolve

2

Explainability

- Ability to clearly articulate how outputs are generated, particularly for P&L and valuations
- Transparency of models to satisfy audit, regulatory and stakeholder scrutiny
- Differentiation of where deterministic vs probabilistic approaches are appropriate
- Clear documentation and interpretability of AI-driven insights

3

Governance

- Robust model risk management frameworks for both traditional and AI models
- Defined controls over model development, deployment and ongoing monitoring
- Alignment with regulatory expectations on AI usage in financial services
- Clear accountability across Product Control, Risk and Technology

4

Human oversight

- Maintaining expert judgement in reviewing and challenging AI outputs
- Embedding AI as decision-support rather than fully autonomous decision-making
- Upskilling teams to effectively use, interpret and challenge AI tools
- Establishing feedback loops to continuously improve model performance

5

Positioning PC for success

- Deploy AI selectively and safely, targeting high impact, well governed use cases with successes shared to encourage adoption
- Modernise core workflows
- Evaluate where existing tactical solutions dependent on spreadsheets and EUCs can be transformed with AI to realise short term efficiencies and reduce operational risk





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