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Unleashing the potential of artificial intelligence – from a place of control

Artificial intelligence (AI) permeates our lives. We use it to navigate on the road, fly safely and keep our inboxes clear of spam. Some of us need it to spell correctly. And we all feel its presence in targeted advertising.

Most of the time, AI is working away in the background, just beyond our immediate perception. But there's always a chain of consequences associated with that. Often, AI only becomes apparent when something's not quite right. Have you ever blindly followed your GPS the wrong way up a one-way street? Or struggled to make yourself understood to a voice-recognition interface? In such cases, your human brain kicks in and takes back control to achieve the desired outcome.

Artificial intelligence in business

But what about in a business context, where AI is operating behind the scenes and on a potentially massive scale? One example is intelligent automation (IA), which happens when robotics process automation (RPA) technology is combined with AI to support cognitive decisions or actions. Intelligent automation can effectively mimic the decision-making process that a human operator would otherwise facilitate. This promises efficiency gains that translate into impressive potential for cost and time savings. Around 5%[1] of companies have extensively implemented AI in offerings or processes, and others are sure to follow. In the banking industry, many back-office processes are already being replaced by IA, and HR departments across sectors have discovered the benefits of intelligent automated candidate screening and employee onboarding.

As organizations adopt more sophisticated analytics, machine learning models and automated decisions, it's time to ask how complex algorithms will be governed to help ensure unbiased treatment and accurate outcomes. As is often the case with rapid technological change, regulatory provisions lag behind when it comes to AI, yet 60% of business leaders already see regulatory constraints as a barrier to implementing AI[2]. Sooner or later, the topic will certainly move further up the regulatory authorities' agenda. Leaders should be anticipating tomorrow's requirements now to future-proof their business. They also need to consider how they can safeguard the trust of other stakeholders.

A matter of trust

The widespread use of AI will make it imperative — and more difficult — to ensure that algorithm-driven processes produce trustable outcomes. Non-compliance with internal or external requirements, or failure to consider all relevant aspects of compliance, could lead to ineffective products and solutions, or regulatory and market repercussions. What can companies do to avoid the introduction of bias (e.g. gender, racial, etc.) when decisions are made by an algorithm? And what can they do to reassure stakeholders that they have considered these points when adopting AI solutions?

KPMG's recent CEO Outlook revealed that 67% of top business leaders have overlooked insights provided by data and analytics models or computer-driven models because they contradicted their own experience or intuition. And 92%[3] question the trustworthiness of data or are concerned about the impact on reputation. A lack of trust in data, tools and models can slow down adoption of AI and block potential business benefits. But acceptance can be supported through targeted change management.

In a highly agile development environment, the trust-building journey is complex and involves organizational change – especially when it comes to machine learning algorithms, which are self-developing by nature. A KPMG survey of clients active in technology risk revealed that 80% lacked confidence in their current AI risk governance. Organizations need to clearly define who is responsible and accountable for trustworthiness and accuracy of data-driven technology. The C-suite can

1 MIT Sloan Management Review https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/

2 IBM IBV AI 2018 https://www.ibm.com/downloads/cas/QQ5KZLEL

3 KPMG's Guardians of Trust report https://assets.kpmg/content/dam/kpmg/es/pdf/2018/06/guardians-of-trust.pdf

support and manage this change by implementing a robust framework of controls.

Technical debt and investment in controls

There are other good reasons to embed a culture of control in AI. As algorithms and deep learning evolve, systems will become even more complex – ultimately to the point that the human mind has difficulty keeping up. The nature of this increased complexity is also self-perpetuating. Although it might appear – and is often touted – as a simplification, AI can leave companies struggling with a technical debt.

The concept of technical debt describes the additional burden of extra programming or development work needed to fix problems arising when original code was written and implemented with a short-term view. In other words, it's payback for quick fixes or short-term solutions further down the line. If issues are ignored, the interest to pay on that debt is even higher – from embarrassing malfunctions to lost revenue.

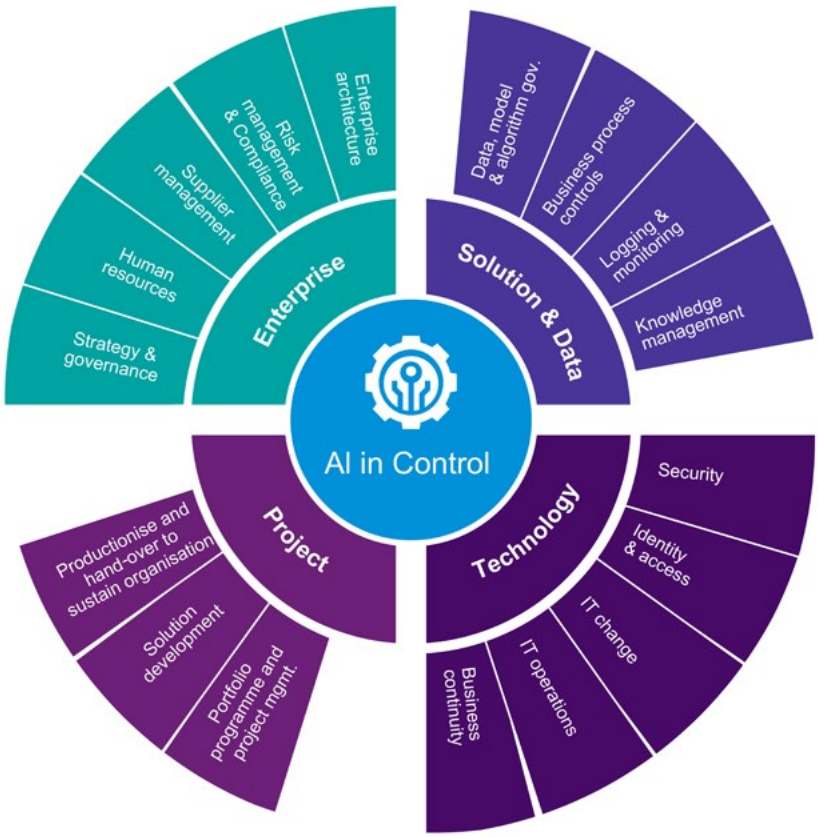
Embedding controls in a system to mitigate technical debt after its implementation is typically far more costly than designing-in the right controls at the start. Opportunities to build risk and control consideration by design will inevitably diminish over time. Companies should consider a positive and dynamic approach to building-in control as part of their AI development strategy.

Let's return to our GPS system example. What if that one-way street was a massive production plant, a nuclear power station or an airplane mid-flight. You'd want there to be a manual override, a real "driver". That is why organizations need to be certain that they have the right safeguards in place to avoid such situations. Or, when worst comes to worst, companies need to be in control of controls and able to roll back to a manual process execution should the algorithm fail.

"AI in Control" management framework

Even companies that are not currently using advanced technologies are likely to soon discover new use cases and benefits in our rapidly evolving environment. While the vast majority of organizations clearly believe that AI is a key strategic priority, many business leaders admit that they are out of their depth when it comes to AI risks, controls and audit. As the right controls can't be put in place overnight, it is key for governance, risk and compliance practices and capabilities to develop alongside the evolution of the usage of such technologies.

KPMG has invested significant resources, working hand in hand with organizations at the forefront of the AI wave to develop a comprehensive framework that addresses the control issue from every angle. AI in Control is a flexible approach which supports the implementation of and the assurance on controls.



KPMG's framework articulates across 75 risks, which are addressed by 106 controls, aligned to the 37 COBIT framework processes.

The framework focuses on the control environment in four core areas: Enterprise, Solution & Data, Technology and Project.

Within Enterprise, for example, business leaders need to consider the control environment around strategy and governance. How are your AI initiatives aligned to enterprise strategy and how is innovation driven? How are your values and culture embedded within AI solutions? And who is responsible and accountable for the use of AI – and any mistakes that it makes?

Technology includes aspects such as IT operations. Do you have – and maintain – a complete and accurate inventory of all AI assets? From a security angle, how do you protect against new threat vectors, e.g. the use of malicious data to corrupt/contaminate AI learning?

The Project view ensures that solid development and change management procedures are followed but also that effective portfolio management practices are in place so that appropriate priorities are assigned to different AI initiatives.

Finally, Solution & Data considers all important questions such as how to attract and retain IT talent that can design, develop and implement robotic process automation and other AI systems. It also covers business continuity considerations, for example, scenarios when the algorithm fails and we need to step in and execute a process manually. In other terms, how do we retain the relevant capabilities?

There is a lot to think about to ensure effective control practices are put in place on AI. A good control system helps companies gain clarity on their own processes and control requirements but is also the ideal guide for audit professionals providing assurance in increasingly complex environments.

The need for controls and the value of trust are essential: a confident C-suite leading change from the top down; a culture of innovation backed up by a robust and comprehensive set of controls; internal and external stakeholder confidence. And algorithms that will make innovative exploratory journeys, but with you still safely in the driver's seat.

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