

BDO Digital Advisory | Thought Leadership Series

Unleashing the Power of Intelligent Automation: A Paradigm Shift in Procurement Sector

Unveiling the Potential: AI's Role in the Future of Procurement



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Preamble

In an era characterised by unprecedented technological advancements, all industries are experiencing complex transformations. At the forefront of this revolution, BDO Digital stands as a trailblazer, leading the charge in this transformative wave in driving innovation and pioneering change. Through synergistic and seamless integration of generative artificial intelligence (AI) and automation, BDO Digital artfully connects disparate knowledge sources to forge new frontiers in efficiency, innovation, and collaboration. By collaborating with world-class digital partners, we assist organisations to convert enterprise knowledge into valuable assets, thus enabling sustainable growth and securing competitive advantage.

Featuring insights from procurement leaders and in partnership with esteemed AI authority, Dr. Jia Kui, who serves as Chief Product Officer at Cyclone Robotics, this article delves into the pivotal role of intelligent automation. It uncovers the profound implications, far-reaching benefits, and the potential to redefine the future landscape of the procurement sector. In June 2023, BDO Singapore orchestrated a thought-leadership panel discussion on the rise of AI in procurement, with Dr. Jia Kui as the keynote speaker alongside other distinguished panellists. This article encapsulates the valuable insights derived from that panel discussion on the latest trends, challenges, and opportunities that AI presents in the procurement space.

Dr. Jia stands as a distinguished luminary in the realm of AI, known for pioneering cutting-edge technologies. With extensive experience in product architecture and innovation at renowned enterprises such as Microsoft, Amazon Web Services, Cisco, and UiPath, Dr. Jia Kui is a technical visionary in the exploration of digital transformation, dedicated to enhancing digital product capabilities and intelligence. Dr. Jia Kui holds a Ph.D. in Robotics Automation & Control from Tsinghua University, with over 20 years of technical experience in the Silicon Valley, leading digital initiatives and managing product research and development of large enterprise software and cloud computing.

Brief

The convergence of AI and automation has birthed the concept of "intelligent automation", offering a promising solution to bridge the gap between enterprise knowledge and actionable outcomes. This innovative approach entails the seamless integration of cutting-edge technologies like Large Language Models (LLMs) and automation tools, culminating in the creation of an "automation brain" that revolutionises the way businesses operate. Dr. Jia Kui astutely highlighted a prevalent challenge, where numerous systems used within organisations often lack proper coordination and integration. Frequently, valuable knowledge remains siloed within disparate systems, documents, or the minds of individuals. Even after addressing this issue, a more formidable challenge remains: bridging the chasm between this knowledge and the intent for automation. Below, we identify a possible implementation area for intelligent automation.

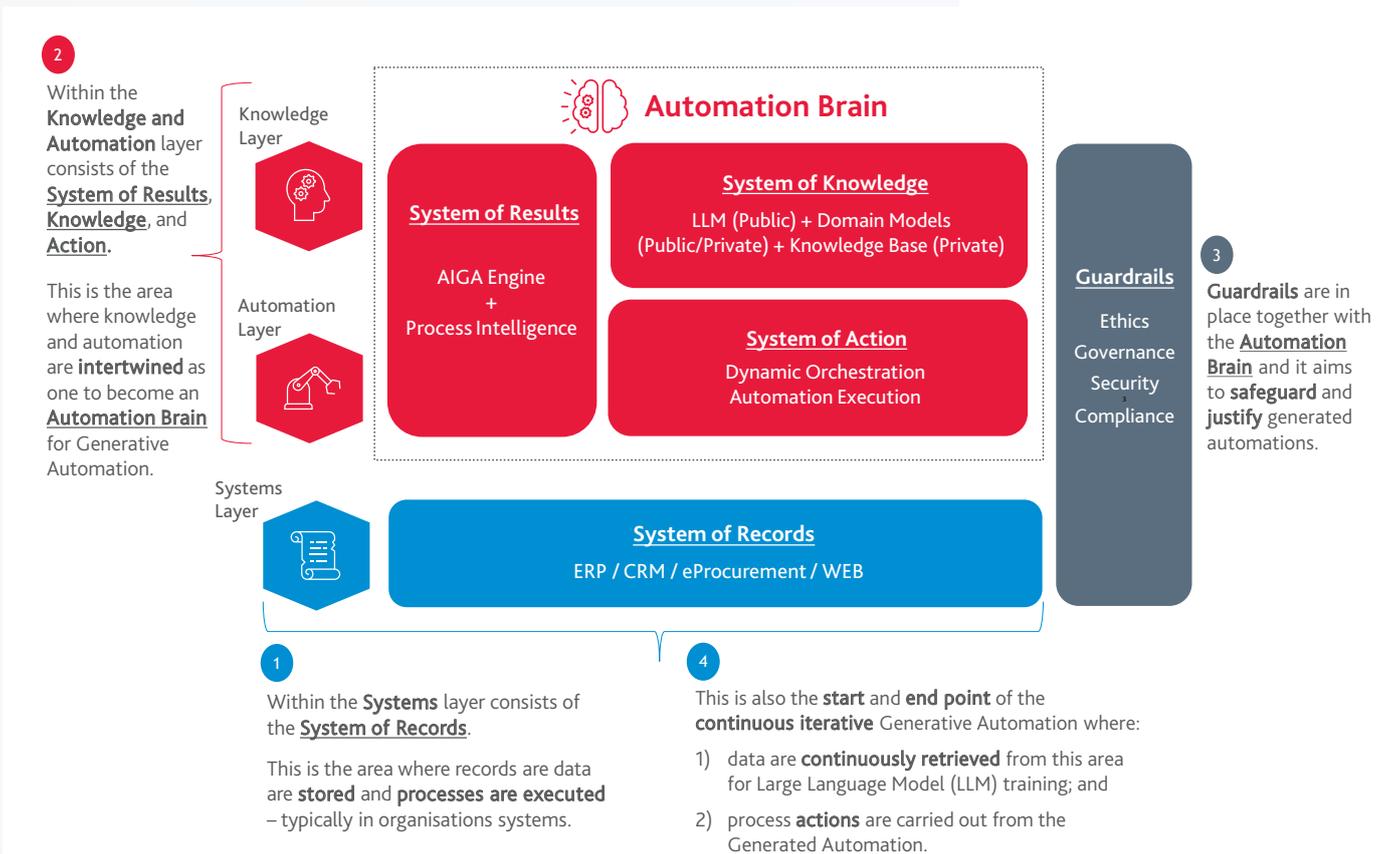
Connecting Dispersed Knowledge

Intelligent automation thrives on the ability to digitise and accumulate knowledge, frequently siloed across diverse systems, documents, or even individual expertise. Dr. Jia unveiled a systematic approach to drive this process, characterised by the intelligent integration of 4 separate systems in the construction of the knowledge layer, also recognised as LLMs:

1. **System of Records:** Encompassing separate data or record systems such as Customer Relationship Management (CRM), eProcurement (S2P systems) and Enterprise Resource Planning (ERP).
2. **System of Knowledge:** Incorporating segregated knowledge and information systems or know-how such as public LLMs. The System of Knowledge may also include internal company-level knowledge including standard operating procedures (SOPs), knowledge manuals, decision matrices and the organisation structure (including the various roles and responsibilities).

3. **System of Action:** Involving dynamic orchestration technologies and processes such as Robotic Process Automation (RPA), Business Process Management (BPM), and Integration Platform as a Service (iPaaS).
4. **System of Results:** Focusing on generative AI and intelligent process automation to monitor and learn from events, decisions and transactions and support the generation of desired outcomes.

Smart integration of the segregated systems is illustrated in the diagram below:



Source: Cyclone Robotics

Intelligent automation can comprehend and generate human-like text and commonly used industry jargons and acronyms. It excels at extracting insights from diverse sources within the organisation and transforming unstructured data into actionable information or automation.

Leveraging the enterprise insights and knowledge extracted, intelligent automation can be extended to encompass diverse automation technologies such as RPA, BPM and iPaaS. This integration, known as **AI: Generative Automation (AIGA)**, is facilitated through natural language interfaces, enabling seamless interaction between humans and machines. This is where LLMs truly shine, as they enable the harmonisation of all automation technologies to streamline complex workflows.

AI GA in the Procurement Sector

In the procurement sector, a wealth of information is often scattered across various systems, posing challenges to efficient decision-making. By harnessing the capabilities of intelligent automation to unify dispersed knowledge, procurement professionals can access a consolidated repository of insights. This greatly accelerates supplier evaluation, negotiation, and contract management processes, ultimately leading to more informed decisions and reduced cycle times.

The procurement landscape is characterised by intricate workflows potentially entailing interactions across diverse systems. AI GA simplifies these processes by empowering procurement professionals to engage with multiple systems through intuitive conversations. This innovation fosters enhanced collaboration, minimises errors, and expedites tasks such as purchase requisitions, approvals, and contract amendments.

Summary

The convergence of AI and automation heralds a new era in the procurement sector. The transformational power of intelligent automation, with its twin pillars of uniting dispersed knowledge and leveraging natural language-based hyper-orchestration, promises to revolutionise how procurement can be conducted. Businesses that embrace this paradigm shift will reap the rewards of increased efficiency, enhanced collaboration, and heightened strategic decision-making. As we navigate the ever-evolving landscape of AI in digital transformation, intelligent automation emerges as a beacon guiding procurement professionals towards a future of unprecedented possibilities.

Unveiling the Potential: AI's Role in the Future of Procurement

Introduction

In the ever-evolving landscape of business and technology, the procurement sector stands at the cusp of transformation. As industries embrace digital innovation, the potential integration of AI into procurement processes emerges as a captivating avenue. Delving deeply into the multi-faceted yet intricate relationship between AI and procurement, we explore key insights, considerations, and the pivotal question: should we tread with caution or dive headfirst to embrace this revolutionary journey?

Brief

AI, a convergence of cutting-edge technologies, has ignited debates regarding its relevance and impact across diverse sectors. In procurement, this is no different. With a spectrum of viewpoints, experts are bifurcated into two principal camps: one characterised by caution and vigilance, the other by optimism and a forward-looking perspective. We distil the essence of their arguments to shed light on the converging factors that can serve as guiding principles for organisations in making informed decisions.

Key Point 1: The Potential

AI's potential in procurement transcends operational boundaries. It offers a gateway to optimised processes, underpinned by machine learning algorithms that can sift through voluminous data sets, unveil patterns, and predict future trends.

The result? Enhanced efficiency, reduced costs, and invaluable insights that empower decision-makers to devise strategies with unparalleled precision.

Key Point 2: The Dilemma

As the potential beckons, so do the accompanying dilemmas. Ethical and regulatory concerns loom large, especially in sensitive domains like healthcare and defence. The fear of unintended consequences, biased algorithms, and security breaches stands as a significant barrier.

Nevertheless, these concerns while valid, need not impede progress; rather, they should serve as guiding principles in the establishment of robust frameworks that ensure AI serves as a tool for good.

Key Point 3: The Synergy

AI's true potential comes to fruition when it collaborates with human expertise. Rather than displacing jobs, AI can augment and empower procurement professionals, elevating their roles from mere transactions to strategic decision-making.

This human-AI synergy equips organisations with the ability to innovate, identify untapped opportunities, and navigate complexities with greater finesse.

Where and How to Incorporate AI in the Procurement Sector?

The integration of AI in procurement is not a binary choice but a strategic one. It seamlessly aligns with sectors marked by high-volume, repetitive tasks, such as data analysis, contract management, and spend analysis. These tasks often involve vast datasets that surpass human capacity for efficient processing. Here, AI's prowess shines, delivering rapid and accurate insights.

While enthusiasm for AI is warranted, it is prudent to proceed with caution. AI's transformative potential is accompanied by the responsibility to address ethical, regulatory, and societal implications. In the wake of any industry paradigm shift, two distinct camps emerge, each with its own beliefs and views on AI.

While the 'Advocates' champion AI's potential, it is imperative to acknowledge that AI is a tool, not a panacea. Responsible management and continuous human oversight are essential for its optimal utilisation. Moreover, organisations must foster a culture of adaptability, upskilling, and collaboration to effectively harness AI's capabilities.

Summary: A Middle Ground

In conclusion, the integration of AI into procurement holds immense promise. As the debate between caution and optimism rages on, a middle ground emerges: one that harnesses AI's potential while heeding ethical, regulatory, and societal considerations. In the realm of procurement, AI can indeed be a formidable ally. The decision to embrace it, however, must be anchored in a strategic vision, a dedication to responsible deployment, and a holistic understanding of its transformative power. The journey forward is as much about technology as it is about the values shaping its evolution. Leveraging intelligent automation to seamlessly interlink seemingly fragmented knowledge, frequently siloed across diverse systems, documents, or even individual expertise, emerges as the strategic imperative to elevate knowledge connectivity for securing a competitive edge in procurement.



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