

	Knowns	Unknowns
Known	Confident Predictions from Model (Known Knowns) Current Model State	Non-Confident Predictions from Model (Known Unknowns) Uncertainty Sampling
Unknown	Latent Information in Related Models (Unknown Knowns) Transfer Learning	Gaps in Model Knowledge (Unknown Unknowns) Diversity Sampling
	Solve with Machine Learning	Solve with Active Learning & Annotation

How the "Human-in-the-Loop" Can Accelerate AI's Expertise in Procurement

There has been a great deal of excitement about the use of AI in procurement, but very few real-life examples we can hold up as success stories.

Perhaps this is because we are more focused on what AI is than what AI can do, when it should be the other way around. AI is not a black box that takes in data and spits out results. In fact, AI is not even inherently intelligent.

Many AI algorithms are freely available for download, because their owners and creators know it is not the algorithm that holds the value. What is truly valuable is a trained AI, one that has gained experience through constant access to data and refining feedback.

AI learns from user examples over time. The more time and the more sample data it is exposed to, the more 'intelligent' the AI will become on a shortened timeframe.

AI needs access to as many users as possible, because they expose it to significant numbers and relevant situational variations.

This connection between human and machine is the 'last mile' of data and automation.

It is also the only true source of AI customization – the unique experiences that can only be had through specific contextualized application.

AI learns best by doing; activities, choices, and results are ingested and processed in real-time, allowing the logic to evolve with them. Like a human developing expertise over the course of a career, the AI can recognize increasingly granular distinctions over time.

Unlike humans, however, the AI learning curve is not constrained by the passage of time. It is a simple matter of the time required to process an equivalent number of transactional data – something technology can do in a fraction of the elapsed time required for a human to achieve expert status.

The goal for AI is to identify 'conflicts' between collective and specific use patterns and decide which are random variants and which are associated with deep domain expertise.

AI is naturally curious, effectively raising its hand and asking, "What?" in circumstances that diverge from its learning/usage experience.

The responses it is given in response to this question become part of the foundational intelligence.

Not all lessons are equally difficult for the AI to learn. Some straightforward policies can be 'hard-coded.' This is the lowest value work for AI to complete because the governing logic is simple and known in advance.

From there, we move into what can be known from the data even though it has not been codified through corporate governance (unknown knowns) and questions that procurement has that can be answered through analysis (known unknowns).

AI can deduce the answers to both of these by analyzing available data in response to a query or by surfacing patterns that humans did not think to search for.

The most complex - and valuable - work of all is related to guidelines that procurement does not know to look for and that the AI cannot simply process an answer to.

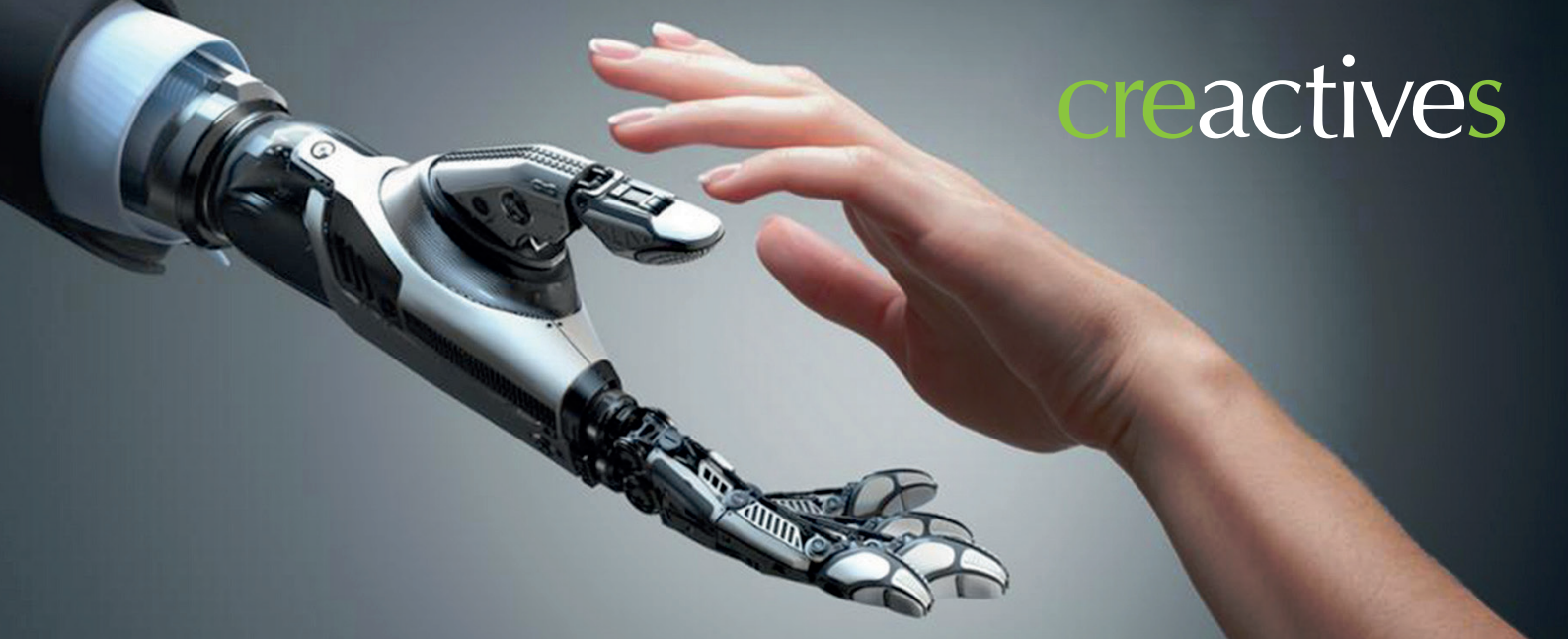
Only exceptions over time will lead the AI and its corresponding humans to recognize this new class of unknown unknowns, calling for consideration and new guidelines that alter the business' strategy or approach.

By separating the buying activity from the development and 'enforcement' of procurement policies, buyers and AI are both allowed to do what they do best.

As the AI becomes more and more experienced, more sophisticated recommendations can be brought forward, achieving the highest value contributions AI can make to corporate procurement.



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Founded in 2000, Creactives SpA is a company that specializes in providing solutions for procurement and supply Chain digitization. We offer services such as MMD Cleansing and Governance, Spending Categorization, as well as AI solutions for real-time analytics, inventory management, procurement optimization, and data migration. Creactives SpA started as a cost reduction consulting company and has evolved to develop supervised AI-powered technologies to address complex real-life business problems in data management for the supply chain.



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"Creatives solves the multi-lingual data harmonization problem across global ERPs where every ERP is in a different language and encodes the product/service/entity using a different format/encoding specific to that language and locale, and it does it very quickly for large data sets. Similarly, it supports simultaneous taxonomies in global spend analytics".

Abigail Ommen, Research Analyst & Analyst Production Manager