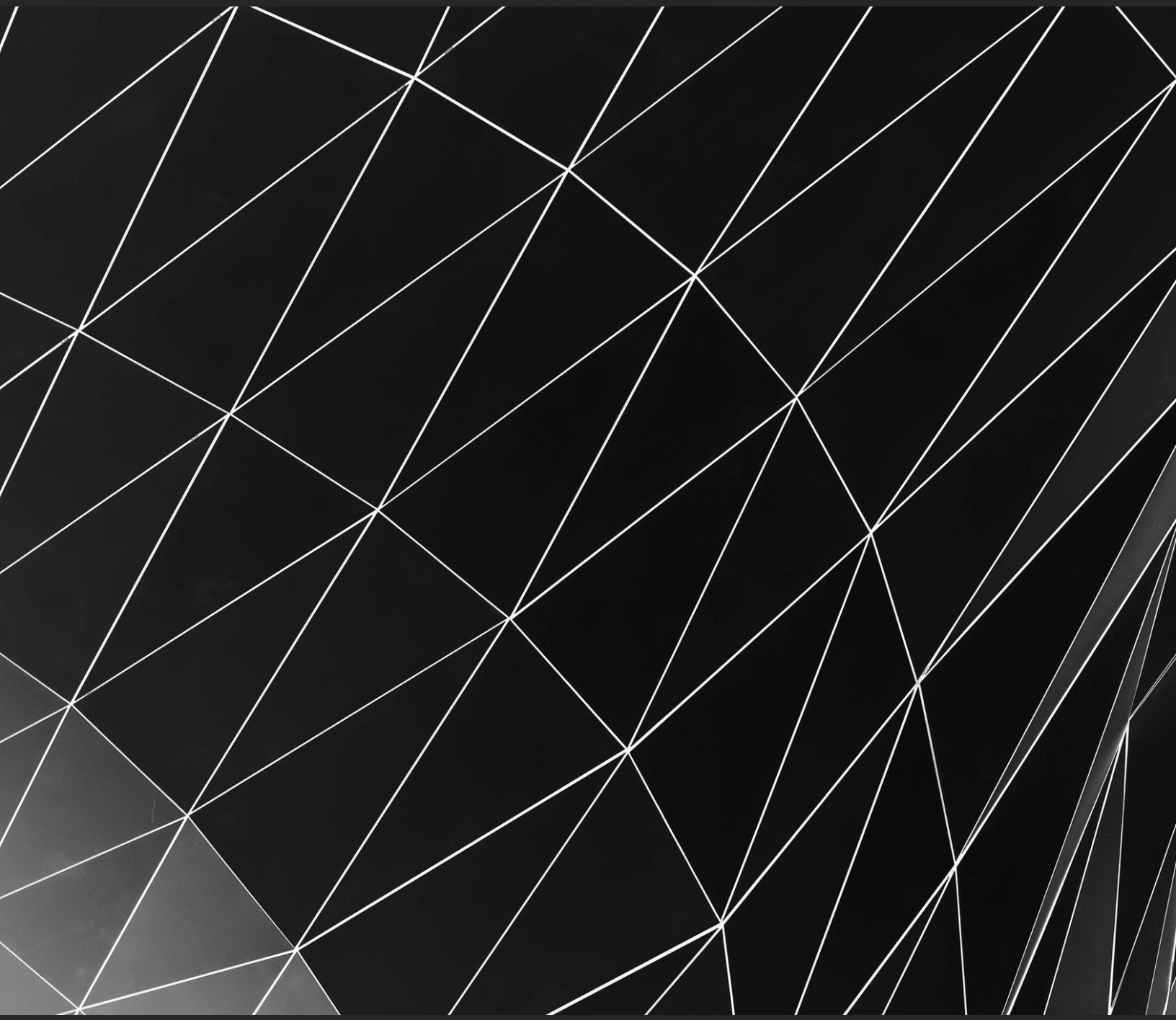
THE FOUR PRINCIPLES OF ANALYTIC PROCESS AUTOMATION

A Business Leader's Manifesto for Value Creation



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Prepared for Alteryx
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The Four Principles of Analytic Process Automation

In the post-COVID business environment, digital capabilities will define the future. Global lockdowns and stay-at-home orders put every organization to the test. Many leaders tired of the term “digital transformation” and claimed it was old news. However, within a week of the shutdown, every digital business model either failed or proved its resiliency in the new marketplace. As a result, organizations are looking for ways to put intelligent automation in the hands of more of their workforces and continually improve business outcomes.

Along with resiliency, the digitalization of everything opens the door for the acceleration of analytic process automation. The end game of analytics has always been the automation of intelligent action. Recent advances in automation technology have made their way into every phase of the information management lifecycle, including data access, preparation, analysis, and algorithm and data science recommendations. In addition, there is a convergence of data-driven automation and process-driven automation.

EMA PERSPECTIVE

Intelligent automation of analytic and business processes that focuses on outcomes will explode over the next five years. Organizations adopting automation technology will gain a significant competitive advantage.

WHAT IS ANALYTIC PROCESS AUTOMATION?

Analytic process automation (APA) is the intelligent automation of data access, advanced analytics, and business processes with the use of analytic algorithms and machine learning made easily accessible to everyone. This new category emerged from the convergence of analytics, data science, and process automation over the last five years. It builds on the self-service models of the last decade and provides an easy way to upscale more business users to benefit from the use of analytics and improve outcomes.

The time is right for analytic process automation because of the potential for cost savings, value generation, and workforce upskilling. While cost savings fell out of favor in the last several years in a strong economy, recent challenges make cost relevant to every business. Analytic process automation benefits organizations in two ways. First, the intelligent automation of data and analytical processing extends the value of analytics to a broader set of business areas and business users. Second, the intelligent automation of business processes continually decreases cost and increases value generation.

THE FOUR PRINCIPLES OF ANALYTIC PROCESS AUTOMATION

APA can be summarized in four basic principles. Each principle describes a shift in the way data is analyzed, the speed at which outcomes are delivered, and the simplicity of turning data into intelligent action.

Principle One: From Data Discovery to Auto-Discovery

Data discovery has long been the most time-consuming and resource-intensive aspect of operationalizing analytics. Recent advances in machine learning technology make it possible to move from manual data discovery to the automatic discovery of critical data assets in any format. This includes the discovery of potential value in all kinds of data, including pdf files, data platforms, web logs, data lakes, event streams, text, or purpose-built bots doing continuous data gathering.

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According to recent EMA research, 52% of participants are already prioritizing the use of AI and machine learning for data preparation and integration.[1] In addition, the top three capabilities prioritized for automation were data profiling (75%), cleansing (60%), and blending (54%).[2]

Principle Two: From Self-Service to Auto-Service

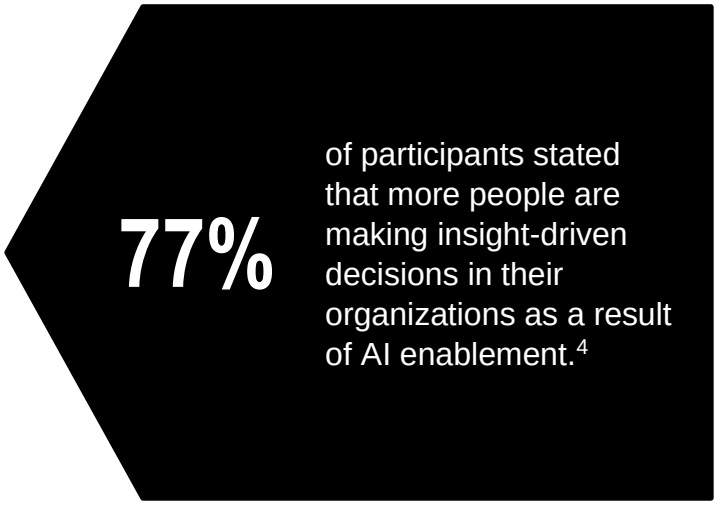
Self-service analytics has been the promise of the last decade. When data and business analysts can easily find, quickly analyze, and efficiently share data, organizations will always see an increase in insight-driven decisions. APA platforms move the service paradigm one step further by automating insight, auto-triggering recommendations, and automating business processes in applications. Citizen users can easily build their own diagnostic, predictive, and prescriptive analytic applications in a drag-and-drop environment. In addition, these platforms automate insight delivery using machine learning to identify and recommend new, relevant insight, not discoverable by human means.

EMA research shows that the top three priorities for automation in the self-service model are assisted (66%) and automated insight (49%), along with next-best insight (53%). In addition, 46% of respondents see automated algorithm selection as a top priority. Fifty-two percent of respondents expressed the importance of embedding AI or machine learning in business processes to replace or assist human decisions.[3]

Principle Three: From Manual Coding to Auto-Generation

Code-first solutions that depend on Notebooks and Python have become barriers to entry for organizations that want to upscale their analytics programs and proliferate analytics for more business outcomes. Data scientists are expensive and in short supply. APA shifts the analytic paradigm from code-dependent data science to the code-free, auto-generation of models and algorithms. These modern analytic capabilities enable citizen data scientists, especially those with a deep understanding of the business, to operationalize AI and machine learning without an advanced degree in mathematics.

EMA research indicates that the use of AI and machine learning to automate data science and business processes accelerates the journey toward becoming an insight-driven enterprise. More people are using data, sharing data, sharing insights, and asking for data. Most importantly, 77% of participants stated that more people are making insight-driven decisions in their organizations as a result of AI enablement.[4]



[1] "Innovation in the Use of Artificial Intelligence and Machine Learning for Data Integration and Preparation," EMA, 2019.
[2] Ibid.
[3] "Innovation in the Use of Artificial Intelligence and Machine Learning for Advanced Analytics," EMA, 2019.
[4] "Innovation in the Use of Artificial Intelligence and Machine Learning for Data Integration and Preparation," EMA, 2019.

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Principle Four: From Embedded Insight to Auto-Process

In the last decade, there were many attempts at simplifying the embedding of insight in business processes as the ultimate goal in closed-loop intelligence. APA goes beyond embedded analytics by automatically delivering insights and triggering actions via bots. Once intelligence is injected into a business process, it is possible to continuously improve responses with every transaction. A fully functional APA platform enables the auto-delivery of insight to a broad variety of outputs including APIs, mobile apps, bots, robotic process automation, business intelligence applications, documents, or operational AI.

Along with continuous value generation, EMA research shows that the top motivation for APA supports the digital transformation narrative. The number-one driver for AI enablement and automation is the opportunity for innovation. Eighty-eight percent of participants also said that they are seeing an increase in the rate of innovation as a result of the use of AI-enabled automation in analytics and business processes.[1]

TURNING INSIGHT INTO A CONTINUOUS INCREASE IN VALUE

Every digital, analytic, outcome-focused leader wants to see a return on their analytics investments. In the old way of thinking, that return was usually measured and monitored based on an initial analytic model being put into production. The cost side of the equation accounted for resources and software needed to complete the project. The return side looked at the improvement of business processes where the analytics were embedded, as measured by time, resource, or money savings, along with revenue generation.

EMA anticipates that organizations deploying APA platforms will gain a competitive advantage over those that stick with resource-intensive, narrowly focused, analytical solutions.

The automation of the entire analytic lifecycle, combined with business process automation, sets in motion the potential for a continuous increase in value creation. When a single APA platform automates data discovery, algorithm selection, data science processing, and business processes, a continuous loop should generate more value each time a transaction cycles.

EMA anticipates that organizations deploying APA platforms will gain a competitive advantage over those that stick with resource-intensive, narrowly focused analytical solutions. Platforms that unify analytics, data science, and process automation will quickly yield cost savings and increase value generation. In addition, companies that adopt APA technology early on will use the model of automatic continuous process improvement to maintain that same advantage. Now is the time to invest in digital superiority. EMA also recommends doing scenario planning and testing new APA systems for risk aversion.

Alteryx: A Proof Point for Analytic Process Automation

Alteryx is a pioneer in analytic process automation. The Alteryx Analytic Process Automation (APA) platform provides organizations a unified, human-centered platform experience that automates access to data, analytics, data science, and process automation all in one. This is enabled via hundreds of ready-to-use automation building blocks in the platform that make it easy for anyone, with any skillset, to achieve analytic outcomes in hours. The Alteryx APA platform automates the discovery of data assets, automates all analytics and data science, and automates publishing outcomes to visual BI dashboards, enterprise applications, RPA systems and bots, corporate-ready documents, mobile apps, key stakeholders, and more, to enable fast decisions and automated actions. The Alteryx APA platform is adopted in more than 6,000 companies globally and is widely used across Global 2000 organizations.

[1] "Innovation in the Use of Artificial Intelligence and Machine Learning for Advanced Analytics," EMA, 2019.

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