Hyper automation: Writing the future of content-centric processes

connected customer experience

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A perceptive forecast made by an analyst recently is that by 2018, 20% of business content will be authored by machines[1]. In the Enterprise Content Management (ECM) space, this spells relief. The volume and velocity of business data has reached chaotic proportions; fortunately, cognitive technologies are shining a light on the solution.

The solution comes with its fair share of questions for content-intensive industries like banking, manufacturing and retail: How is content (types, sources, utility, and half-life) evolving? What are the alternative approaches to content automation? What are the distinctions between these approaches? What is the technological implication in terms of change management and investments? And what do we need to do today so that we can seamlessly integrate as-yet-unknown processes and technologies in the future?

The flavours of automation

There are three fundamental types of automation that are of interest to content-centric businesses (see Figure 1 for details):

Robotic Process Automation (RPA)

Think of this as the automation of clerical processes that display rigid patterns and limited boundary conditions such as quote-to-cash

and loan processing. For these processes, RPA delivers substantial improvement in employee productivity, impacts cost and shows a dramatic reduction in error rates. This improves customer satisfaction and eliminates the time and cost associated with rework.

Analytics

Imagine analytics as a catalyst for intelligence when added to RPA. Analytics can discern patterns in structured and unstructured content (emails, chat records, voice files, images and video). Analytics can uncover fraud like fake medical claims, deliver fresh insights to aid decision-making, and provide visibility into content being consumed and its ROI. These influence future investments in the type of content to store and analyze.

Cognitive Process Automation (CPA)

Visualize a system based on a loose set of instructions that is in a constant state of evolution propelled by Machine Learning. The system dynamically adjusts rules to curate and generate complex content. As examples, this would include the automatic creation of financial reporting, legal submissions and regulatory compliance. The key advance here is the acceleration of complex content creation and the ability of the system to answer complex questions (e.g., which customer contract is the best?).
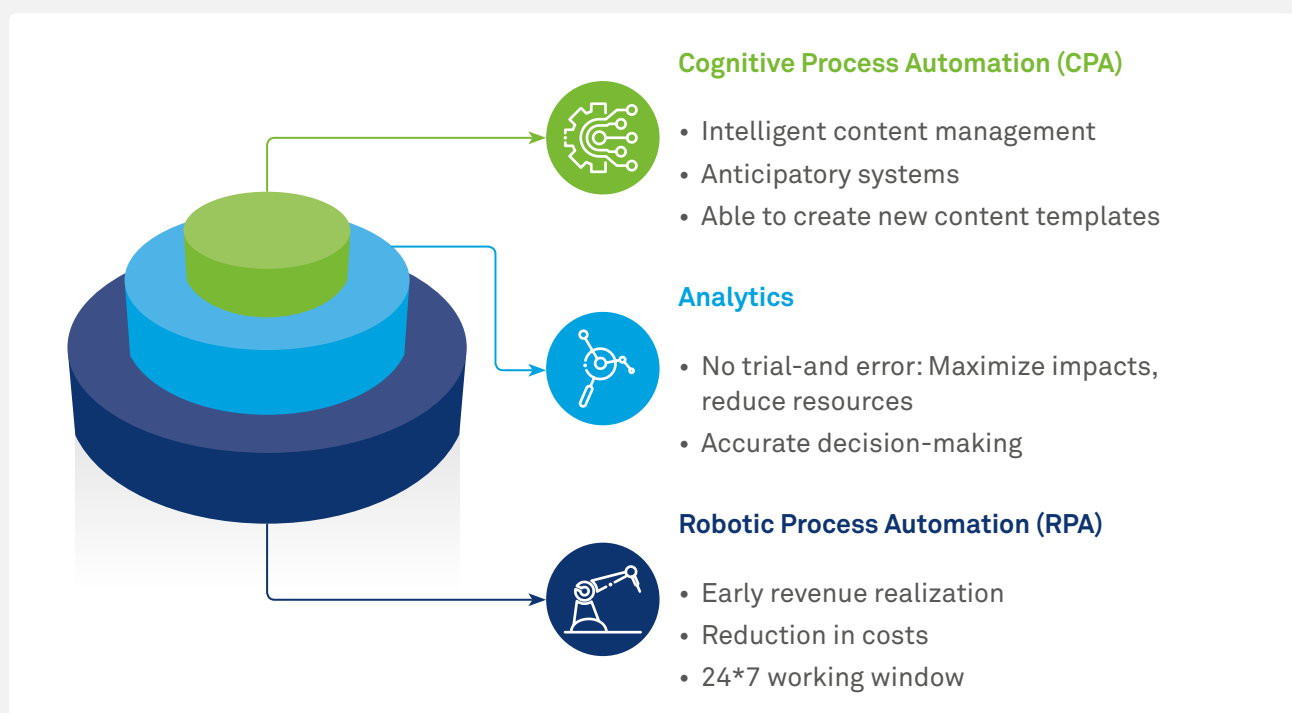

Cognitive Process Automation (CPA)

- Intelligent content management
- Anticipatory systems
- Able to create new content templates

Analytics

- No trial-and error: Maximize impacts, reduce resources
- Accurate decision-making

Robotic Process Automation (RPA)

- Early revenue realization
- Reduction in costs
- 24*7 working window

Figure 1: The three fundamental types of automation

1 http://www.andi.com.co/camarabpo/Webinar%202016/The%20future%20is%20a%20digital%20thing-%20Gartner.pdf

Which approach an organization takes to automating content for business processes depends on organizational data maturity as well as business case.

Content automation across industries

In the banking and insurance sector, the opportunity to use RPA is significant in processes such as loans, mortgage and claims processing. The volumes are large and businesses can do with technological assistance. But CPA can have an even bigger influence on speed, accuracy, cost and customer satisfaction. A leading Indian bank has a classic CPA implementation for the straight-through processing of loans. Customers do not have to go through time consuming calls as cognitive systems assist them in completing the process accurately. The system automatically validates the documentation and the loan is sanctioned in minutes.

The manufacturing sector, fecund with IoT data, is leveraging CPA to accelerate business and create new revenue streams through effective, real-time content management. As an example, automobile manufacturers can use sensors in vehicles to remotely identify components that may be going out of warranty or may need repair/replacement. The telemetry content is mapped to the location of the vehicle and the owner sent a message about the nature of the issue with details of the nearest service center.

A cognitive content management system could also generate fresh content, by way of providing an estimate for the repair/replacement, and set up an appointment for the vehicle at the service center.

For retailers, cognitive automation of content is intensifying in both B2B and B2C segments, with the growth in the use of Natural Language Interface for conversational commerce. Chatbots dig out data on customer profile, history, behaviour (this could include data from fitness monitors), location, even details of competitive products/pricing, to provide recommendations to customers on the fly. These bots are able to create and send customized content such as promotional offers, recommendations based on preferences, geography or weather, make reservations and book tickets. The end result of this intelligent, contextual, real-time content is increased sales.

Starting the content automation journey

There are several types of enterprise content that can benefit from the application of CPA (for a sample, see Figure 2). An organization's ability to leverage cognitive automation depends on its data maturity levels. Those with a large corpus of dependable data can adopt unsupervised cognitive systems faster. In addition, the data must be in a digital state, failing which the content must first be digitized.

Common content automation capabilities

Business support services

- Reconciliation services
- Business rules management
- Forms capture
- Data quality services
- Event management
- Collaboration services
- Signature management

Data services

- Client/party data management (golden copy)
- Account/profile data (golden copy)
- Data transmission
- Data load for validation/ enrichment
- KPI/SLA data

Process patterns

- Process configuration management
- Request management process pattern
- Process initiation & enrichment investigation, fulfilment & notification patterns

Document services

- Document capture, validation, indexing, tracking, archiving
- Data extraction
- Document creation
- Bulk document import
- Document obsoleting

Security services

- User profile management
- User authentication management
- Process & task access control
- Document process control
- Data access control
- Access history logs

Workflow services

- Worklist management
- Task management (priority, actions, deadlines, escalation, audit, archiving)
- Workflow integrity

Figure 2: Common content automation capabilities

Today, raw data must first be available and examined for structure, content components and the relationships between the components. For this, think of an invoice and its various components. The cognitive system needs to examine hundreds of invoices to establish the relationship between the components and create a reference model that can be deployed in production.

Abundant data is the key to reliable models. Currently, these models are tailored for specific industry and business needs; in the near future, the corpus of data with the reference models will be commoditized and available as ready-made, off-the-shelf products.

Patience brings results

For the moment, creating models is painstaking work where results are slow to become visible. Customers need to be patient and must firmly believe that the investment they are making in developing these cognitive models for content

management will bear fruit. In our experience, this—patience—has been the toughest barrier that businesses face.

One way to relieve the anxiety around the efficacy of cognitive automation for content is to identify use cases, determine the type of automation to be applied and estimate the ROI. Having worked with a number of clients on content automation, it has become obvious that there are considerable gains to be made, from making processes highly accurate and scalable to improving employee satisfaction.

In the months to come, an increasing number of content-centric business processes will begin to examine and adopt CPA for two simple reasons: the data exists and taking advantage of it is just a matter of time; and if CPA is not used, the data will overwhelm entire organizations. Then, consider the benefits: paper savings, productivity gains, improved compliance, faster delivery of products and services to markets and improved revenue.

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Sumanta Basu has over 23 years of IT industry experience. He is an ECM evangelist, leading digital solutions to deliver innovative solutions to customers through IP and integrated service offerings in the area of Digital Marketing, Digital Commerce, Cognitive Automation and Process Digitization. He is part of a think tank for solutions in enterprise services, holds key roles in the development of solutions, and consults on various transformation programs across the US, Europe, the Middle East and India.

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