What is AI and how can it help my business

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Agenda

- Defining Artificial Intelligence
- Why Now
- Printing Industry AI Use Cases
- Recommendations

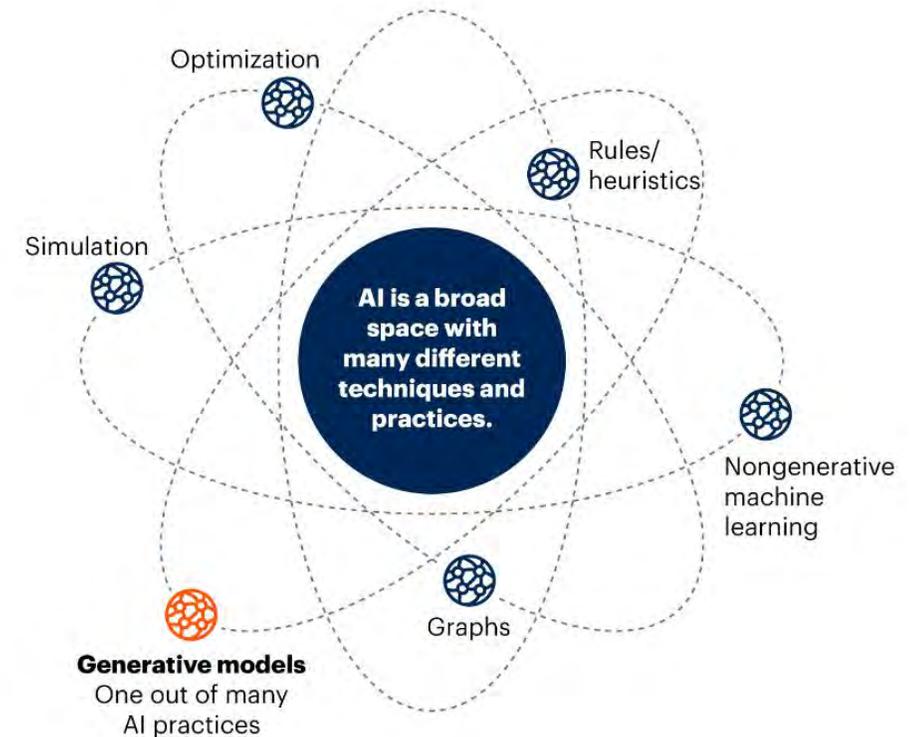- Final Thoughts and Tools

What is AI?

AI – A little history and what is it.

- Heuristics are often based on practical rules or guidelines that are derived from experience or general knowledge, rather than from exhaustive analysis.

- Non-generative AI refers to artificial intelligence systems that _do not generate_ new content, data, or outputs but instead perform tasks such as classification, prediction, scraping or decision-making based on predefined models or rules.

- Generative AI refers to a class of artificial intelligence systems that are capable of creating new content, data, or solutions by learning patterns from existing data.

- Each has there place but thanks to ChatGPT, Google and Meta Generative AI gets all the press but is NOT the only AI
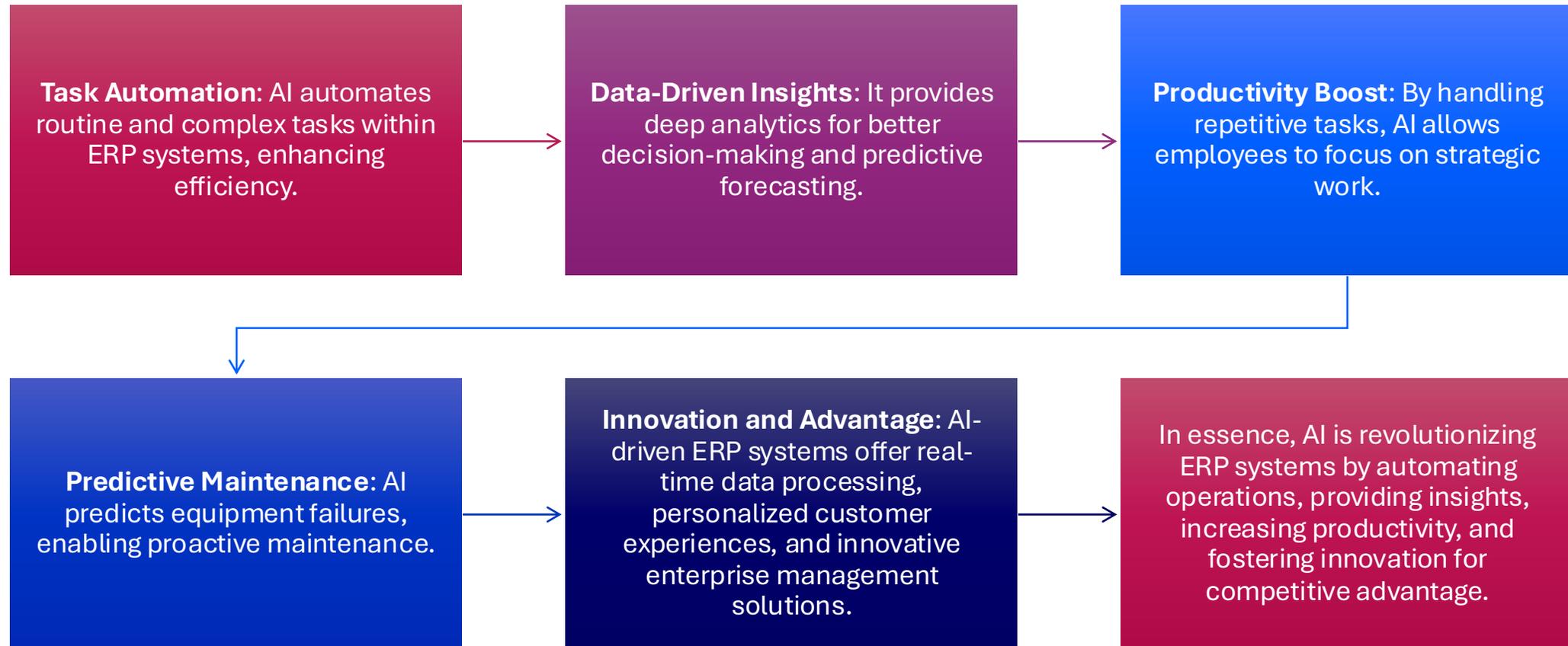

AI Does Not Revolve Around GenAI

Optimization

Rules/heuristics

Simulation

AI is a broad space with many different techniques and practices.

Nongenerative machine learning

Graphs

Generative models
One out of many AI practices

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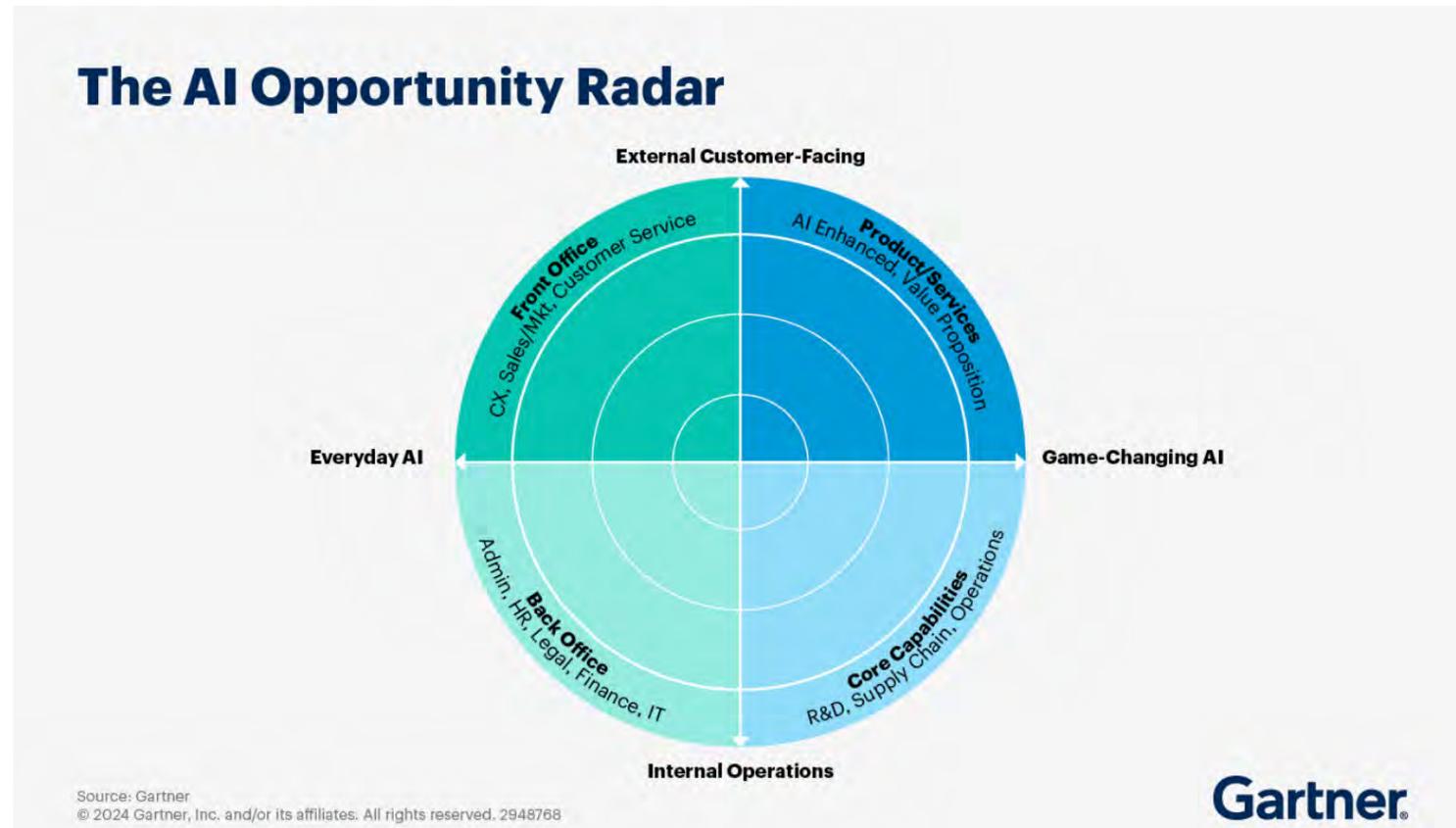
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What is AI?

Comparable to Internet or Mobile market disruption

Task Automation: AI automates routine and complex tasks within ERP systems, enhancing efficiency.

Data-Driven Insights: It provides deep analytics for better decision-making and predictive forecasting.

Productivity Boost: By handling repetitive tasks, AI allows employees to focus on strategic work.

Predictive Maintenance: AI predicts equipment failures, enabling proactive maintenance.

Innovation and Advantage: AI-driven ERP systems offer real-time data processing, personalized customer experiences, and innovative enterprise management solutions.

In essence, AI is revolutionizing ERP systems by automating operations, providing insights, increasing productivity, and fostering innovation for competitive advantage.

TAGA
NextGen

What is AI?

Gong, Salesforce Einstein CoPilot...

ePS "CoPilot" & Actionable Insights...
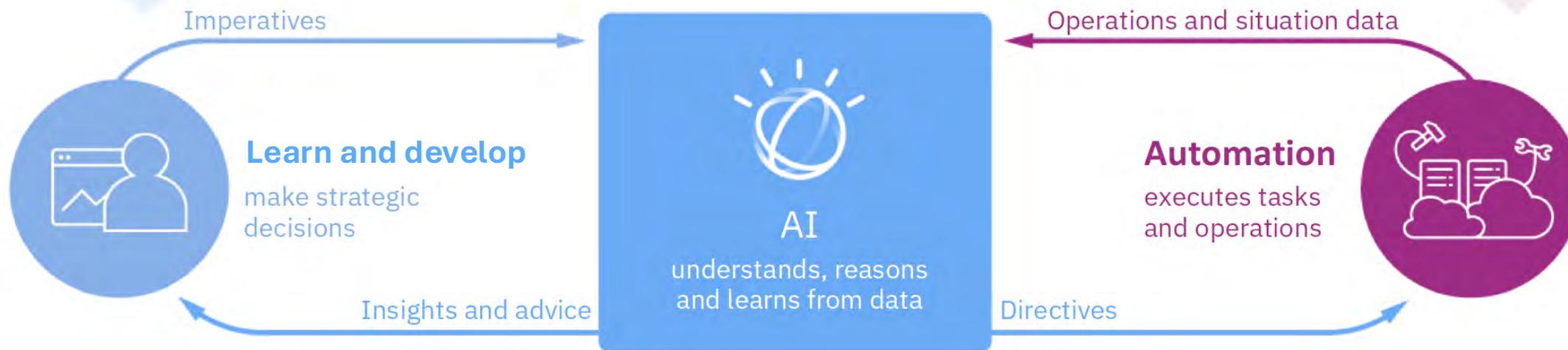

ChatGPT...

CoPilot...

The Generative Difference

Augmenting human intelligence
with cognitive insights

- Train
- Learn
- Improve

Autonomously managing IT operations

- Execute
- Track
- Enhance

Imperatives

Learn and develop

make strategic
decisions

Operations and situation data

AI
understands, reasons
and learns from data

Automation
executes tasks
and operations

Insights and advice

Directives

AI in the Printing Industry: Why Now?

- Industry labor shortages and skills drain - We have an aging workforce with tribal knowledge (heuristics in their heads)

- Increasing labor costs

- Increasing material and transportation costs

- Need for diversification

- Higher levels of pre and post print work (personalization, special finishing, special packaging requirments)

- Less sophisticated buyers

Where do I start?

- There are so many things I think I can use AI for but where do I begin?
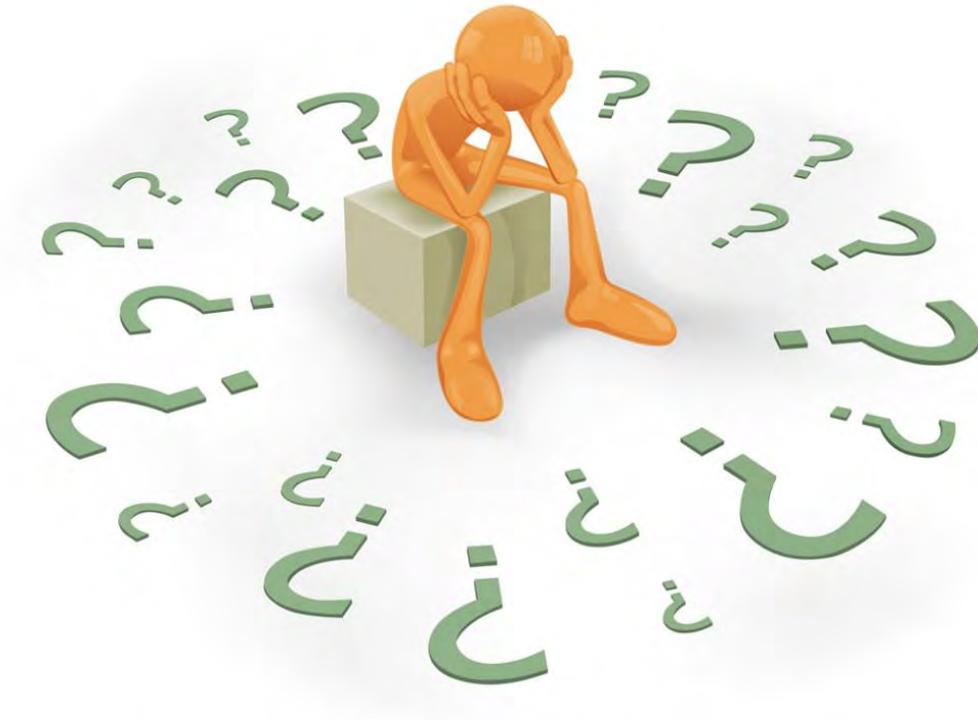
Prevalent Print Use Cases

- Imaging and artwork
  - Color management and output control
  - Prepress processing
  - Image / artwork and interactive generation

- Smart Manufacturing and Industry 4.0:
  - Integrating IoT devices to monitor equipment health and performance in real-time.
  - Leveraging predictive maintenance to reduce downtime and improve asset utilization.
  - Implementing digital twins to simulate and optimize production processes.

- Supply Chain Resilience and Optimization:
  - Real-time visibility into supply chains to predict and mitigate disruptions.
  - Optimizing manufacturing and warehousing locations to optimize just in time delivery and cost.
  - Utilizing AI and ML to optimize inventory levels and improve demand forecasting.

Prevalent Print Use Cases

- Documentation
    - Experienced users often struggle to train new users on YOUR specific business process – They're not writers
    - Every department is a collection of notes, pdf's, diagrams all written at different times by different people
    - Feed an AI Engine (like OpenAI) and ask it to turn YOUR notes into user documentation

- Customer or Employee Centric Operations:
    - Personalizing customer experiences through advanced CRM integrations.
    - Provide contextual help to a user struggling with a specific item (ChatBot).
    - Assisted AI Workflow. Example; When an estimator wants to create a new estimate, they can add simple product descriptions, quantities, etc. and the system will find similar past estimates to make suggestions or generate entirely new estimates

- Utilizing analytics to gain insights into customer preferences and behaviors.
    - Generative AI: Summarization, Look for Key Insights, etc.
    - Generative AI: Transform underlying SQL of a visualization (Widget)
    - Generative AI: HELP ChatBot based on Product Docs and Knowledgebase articles

Basic Generative AI is everywhere

Where do I start in my business?

- The Checklist
  - Identify Obstacles
  - Assign responsibility
  - Identify Priorities (start small)
  - Continuous Learning
  - Human Touch (remember the early years of GPS)
  - Security
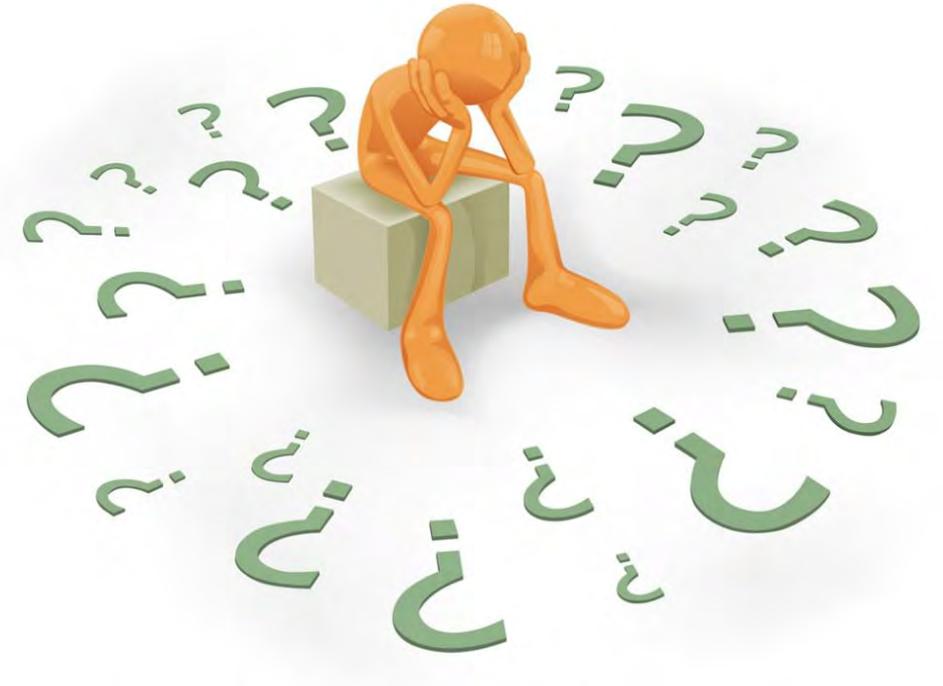
There are endless tools – These are mine!

- Amazon Lex
- Amazon Bedrock
- AWS Lambda
- Claude
- Azure Ai services
- Azure Speech services
- Azure Conversational Language Understanding Service
- OpenAi
- ChatGPT
- Python
- Flask API
- Nginx (Web Server)
- Angular (UI)
- Redis (Cache)
- ML libraries
  - Scikit learn, StatsModels, Tensorflow, NLTK, Spacy