Exploring the AI Frontier

Turning boundless opportunity into sustainable growth

Daniel Shuart
This is not the “next big thing” of the past years - this is game changing.

This can replace or augment human capabilities that have not been automated before.

A Pervasive Wave of Opportunity/Risk

AI can create a unique opportunity to excel in public sector services.

This game will be won with who has the best AI skills & practices.
Executive Survey: AI’s Productivity Outlook

- Increasing employee productivity
- Reducing headcount
- Increasing inclusivity
- Helping me understand if employees’ work is aligned to company goals
- Enabling employees to access and recall institutional knowledge
- Accelerating employees’ pace of work
- Augmenting/enhancing human capabilities
- Eliminating employee time-spend on low-value activities
- Helping employees with necessary, but repetitive/mundane tasks

- 31% of respondents identified reducing headcount as a key productivity benefit.
- 16% believe increasing inclusivity is crucial.
- 18% highlight the coordination challenges of hybrid work, such as scheduling virtual meetings.
- 20% note the importance of helping employees understand if their work aligns with company goals.
- 21% emphasize the need for enabling employees to access and recall institutional knowledge.
- 24% stress the acceleration of employees’ pace of work.
- 24% see augmenting/enhancing human capabilities as a productivity enhancer.
- 26% recognize the need to eliminate employees’ time-spend on low-value activities.
- 29% agree that increasing employee wellbeing is essential for productivity.

Illustration by Manuel Portoletti
Adopting AI as a set of tools
You build skills and adopt AI as part of your job. You look at AI as added support.

AI as a team member
AI handles part of your workflow and tasks. It has a specific role, role, and function like any other worker.

Your AI Digital Twin
Your personal AI twin can act in your behalf, make recommendations, be your intermediary.

AI as a Boss
AI recommends or assigns tasks, makes projections, identifies risks and actions.
THREE APPROACHES TO USING AI

Build your own AI Solutions
• Microsoft
• Google

Use stand alone tools
• ChatGPT
• Midjourney

Integrated AI Capabilities in your current applications or “Applied AI”
• Microsoft Copilot
• Salesforce Einstein GPT
Capability Levels: Sophistication States

**SELF LEARNING**
An ability to observe data and results and build new rules and algorithmic variables in order to achieve better outcomes.

**SEMI AUTONOMOUS**
Can perform a percentage of processes and decisions without human help with the balance being provided by people.

**FULLY AUTONOMOUS**
Can perform a process without any human intervention (except in a rare disaster situation).

**SELF AWARE/COGNITIVE**
Is aware of its mission, has the ability to correct actions on its own based on research and new data. Can interact with people easily.
Intelligent Automation

Automation tools like UiPath and Power Automate are used to automate business process (Robotic Process Automation).

Intelligent Automation uses AI features where AI is making decisions instead of just following a set of predefined steps.

Key Components of Intelligent Automation:

• **Rule-Based Automation**: For repetitive and well-defined tasks.

• **Machine Learning**: For tasks that require pattern recognition or predictive capabilities.

• **Natural Language Processing**: For tasks involving human language, like chatbots or sentiment analysis.

• **Decision-making Algorithms**: For optimizing operations, scheduling, and various logistical tasks.
What can AI be used for?

- **ANALYTIC** (Creating New Insights)
- **DIAGNOSTIC** (Explaining the Why)
- **PREDICTIVE** (Modeling the Future)
- **PRESCRIPTIVE** (Achieving a Preferred Future)
- **SIMULATION** (Intelligent Digital Twins)
- **GENERATIVE** (AI/Human Collaboration)
WHAT IS GENERATIVE AI?

Capable of creating new data points, whether it's text, images, music, or even code.

Self-taught, learning from a large data model.

Can create intricate and highly complex Outcomes.
This is an unimaginable improvement in the world.

- Solves the blank canvas problem
- Delivers new ideas & additive knowledge
- Replaces some tasks formerly done by people
- Improves the speed and quality of work
ChatGPT
Describe the day’s weather for North Dakota in December

Today, the weather will be ________

- snowy
- sunny
- windy
- rainy
- cloudy
HOW FAST IS CHATGPT IMPROVING?

- **GPT-1**: was released on June 11th, 2018
- **GPT-2**: was released on May 28th, 2020
- **GPT-3**: went Beta on February 14th, 2019
HOW FAST IS CHATGPT IMPROVING?

- GPT-3: was released on June 11th, 2020
- GPT-3.5: was released on March 14th, 2023
- GPT-4: (the current version) was released on November 30th, 2022
HOW FAST IS CHATGPT IMPROVING?

- GPT-4: (the current version) was released on March 14th, 2023
- GPT-5: possible AGI by October 2023
- GPT-4.5: ?
ChatGPT Enterprise: Now Available

CURRENT PRICING
• $20/person/month
• Priority access
• Full features

FUTURE PRICING
• Possible by December 2023
• Special pricing tiers
• Lower cost per person
Midjourney's interpretation of the prompt:

{{a human hand}}

versions 1 - 5.2
## MORE EXAMPLES OF GEN-AI

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Every industry will be impacted by the implementation and pervasive use of AI engines.

The more accurately we can predict these impacts, the more wisely we can invest in the skills and tools needed to win in that future.

Let’s paint a picture of Municipalities in the AI era.
“We’re more about what you can do, not what you can’t do,” says Sybil Gurney, Alameda County’s assistant chief information officer. County staff are “doing a lot of their written work using ChatGPT,” Gurney adds, and have used Salesforce’s Einstein GPT.

“At every level, governments are searching for ways to harness generative AI. “

- Sybil Gurney, Alameda County
“guidelines in San Jose, Seattle, Boston, and the state of Washington require that employees disclose their use of generative AI in their work product while Kansas’ guidelines do not.”

“The earliest government policies on generative AI have come from cities and states, and the authors of several of those policies told WIRED they’re eager to learn from other agencies and improve their standards.”
Generative AI Use Cases

**Emergency Management** - ChatGPT could act as a force multiplier in various capacities, supporting emergency management agencies in preparation, response, and recovery.

**RFP Generation** - The application of ChatGPT in automating RFPs serves dual purposes: it standardizes the RFP process, making it efficient and quick, while also allowing for customization based on the unique needs of each project.

**City Planning** - While the tool can't replace the expertise of urban planners, architects, and civic leaders, it could serve as a valuable assistant in various facets of the city planning process.
Emergency Management Use Case – ChatGPT Can...

**Preparation Work**

- **... generate scenarios**

  **Training Scenarios**: ChatGPT can generate a range of emergency scenarios based on local risks (e.g., hurricanes, earthquakes, industrial accidents) to aid in training drills.

  **Public Awareness Content**: The AI can craft informational articles, FAQs, or social media posts on how citizens can prepare for different types of emergencies.

**Incident Response**

- **... draft Incident Briefs & mass communication**

  **Incident Briefs**: ChatGPT could generate initial incident briefs based on incoming raw data, which can help decision-makers get a quick grasp of the situation.

  **Mass Communication**: In an emergency, timely and accurate information is vital. ChatGPT can assist in drafting emergency alerts, press releases, and public advisories.

**Resource Allocation**

- **... do resource matching & logistics planning**

  **Resource Matching**: Based on the scale and type of emergency, ChatGPT could recommend initial allocations of resources like personnel, equipment, and emergency supplies.

  **Logistics Planning**: The AI can assist in generating logistics plans to optimize the transport of crucial supplies during an emergency.
Post Incident Analysis

... draft after-action reports & Community Outreach

After-Action Reports: ChatGPT could draft a baseline after-action report by pulling data from various incident logs, which human experts can then refine and finalize.

Community Outreach: Post-emergency, the AI can help in preparing tailored communications to communities, summarizing actions taken and lessons learned.

Additional Context:
Combining ChatGPT with real-time data analytics could create an even more powerful decision-support tool.

An integrated system that utilizes both generative AI and predictive analytics could be groundbreaking in foreseeing and preparing for emergencies.

The Obvious:
All AI-generated information must be verified for accuracy and appropriateness.

Ensure content meets the guidelines set by emergency management agencies and legal entities.
RFP Generation Use Case – ChatGPT Can…

Planning Stage

S1

... build needs assessment

Needs Assessment: Before diving into the generative process, it's crucial to identify what elements are standard across most RFPs and what variables you’ll need to plug in for specific cases.

Template Creation: Develop a master template for RFPs that includes key sections like project overview, scope of work, submission guidelines, evaluation criteria, and terms and conditions.

Generative phase

S2

... help content creation

Project Overview and Objectives, Scope of Work, Qualification Criteria, Proposal Guidelines, Evaluation Metrics, Legal and Compliance

Review and Refinement

S3

... coordinate internal review and feedback

Internal Review: Before sending out the RFP, an internal review process should be conducted to ensure that all technical and legal aspects are covered.

Feedback Loop: Use the observations and feedback from the review process to update the model for future RFPs.
City Planning Use Case – ChatGPT Can…

Idea generation and scoping

... brainstorming & feasibility studies

**Brainstorming:** Use the AI to generate a list of innovative urban planning ideas based on specific inputs like population density, geography, and community needs.

**Feasibility Studies:** ChatGPT could assist in outlining the pros and cons of various planning options, providing a balanced viewpoint for decision-makers.

Public Engagement

... help with citizen queries, survey analysis

**Virtual Public Consultations:** ChatGPT could handle basic queries from citizens during public consultation periods, freeing up human resources for more complex interactions.

**Survey Analysis:** The AI can synthesize public opinion from surveys or social media to generate reports that give insights into community needs and preferences.

Documentation

... do report generation and meeting minutes

**Report Generation:** From environmental impact studies to zoning proposals, the AI can draft initial versions of these complex documents.

**Meeting Minutes:** ChatGPT could be tasked with generating minutes and summaries for planning meetings, capturing essential points and action items.
Project Management

... build timeline estimates and resource allocations

Timeline Estimation: Using historical data and project scopes, the AI can generate estimated timelines for various phases of an urban planning project.

Resource Allocation: It can suggest an initial allocation of resources based on the scope and scale of the project.

To Consider:
Ethical and legal compliance is paramount in city planning. Always subject any AI-generated plans or documents to rigorous human review.

Transparency in how the AI’s suggestions are generated and used is crucial to maintain public trust.

Opportunity:
Given the complexity and impact of city planning, integrating machine learning models for simulation and predictive analysis alongside ChatGPT could provide a more comprehensive toolset.

Partnering with GIS (Geographic Information System) platforms to create a multi-faceted AI-driven planning tool might be an avenue worth exploring.
Big Picture Risk Aspects of AI

AI’s can be biased or discriminatory when improperly trained and this can cause regulatory or legal risk.

Over-reliance on an AI’s advice might carry big consequences. AI’s might provide a wrong answer that residents depend upon for advice thereby causing possible legal problems.

AI tools are a new cost area and will add to your funding and budget model. This might mean dropping other investments to invest in AI.

Exposure to downstream AI risks from vendors who build AI engines into their tools (e.g. HR tools) - liability for their mistakes.

Cyber criminals are also using AI to launch more sophisticated attacks on government entities. Some of these will use deep-faking audio and video to get access to sensitive data.
1st AI Category: Embedded AI
(e.g. MS Copilot, built into applications)

2nd AI Category: Automation/Decision/Creation AI Tools
(Internal: Intelligent Automation, Bots)

3rd AI Category: Generative AI Capabilities
(External: chatbots, automated marketing)

Foundation: AI Infrastructure
(e.g. library, documentation, training)

Foundation: AI Governance Model
(e.g. risk oversight, audits, categorizing)
Test out new AI engines as fast as you can. Learn to use them with your own hands.

Identify people around you who are advancing their AI skills & share information.

Think about what AI can be used for that has never been done before.

Build a great AI River of Information, blogs, podcasts, websites, newsletters.
AI SUPERPOWERS
TELEKINESIS
(Activating Objects Without Direct Contact)
X-RAY VISION
(SEE THROUGH/INSIDE PHYSICAL OBJECTS)
RESOURCES

- Copy of presentation
- Trends Report
- Top 10 AI Strategy Questions

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