

DESIGNING AI PROGRAMS FOR SUCCESS

Part 1: Why AI Projects Fail – 3 Key Ingredients to Success



EARLEY
INFORMATION SCIENCE

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Today's Presenters



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- **Author, Speaker, Educator**
- **Knowledge Strategy, Information & Data Architecture, Enterprise Search & Retrieval (including AI driven chatbots and virtual assistants)**

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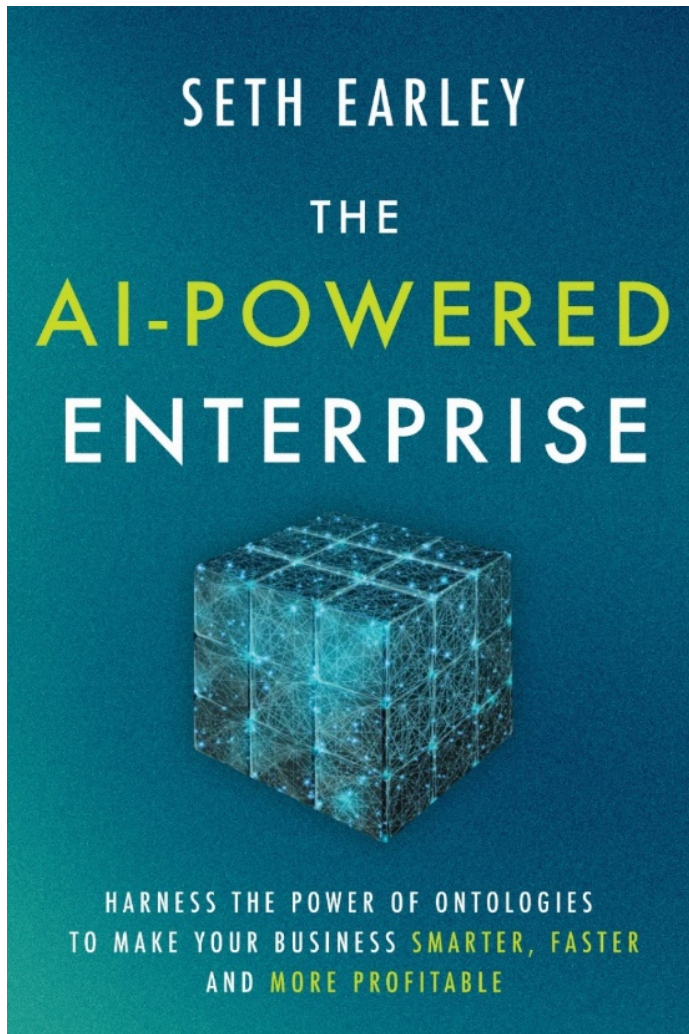
- **Managing Partner**
- **Pandata**
- **Data Scientist, Entrepreneur, Speaker**
- **AI, Predictive Modeling, Ethics**

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The AI Powered Enterprise



"I do not know of any books that have such useful and detailed advice on the relationship between data and successful conversational AI systems."

—**Tom Davenport**, President's Distinguished Professor at Babson College, Research Fellow at MIT Initiative on the Digital Economy, and author of Only Humans Need Apply and The AI Advantage

"A great resource to separate the hype from the reality and a practical guide to achieve real business outcomes using AI technology."

—**Peter N Johnson**, MetLife Fellow, SVP, MetLife

"Read this book to learn how leaders and companies are using AI with structured data to transform business. Insight from real world examples, combined with a proven methodology, will arm the reader with the knowledge and confidence necessary to drive AI in any organization".

– **Barry Coflan**, SVP & Chief Technology Officer, Schneider Electric – Digital Energy

Available for pre-order on Amazon now

<https://www.amazon.com/AI-Powered-Enterprise-Ontologies-Business-Profitable/dp/1928055508/>



KEY TAKEAWAYS



Understanding why
AI projects fail




The 3 key
ingredients for a
successful AI project



Setting and
managing realistic
expectations



Join us for the next session



March 11	Part 1: Why AI Projects Fail – 3 Key Ingredients to Success
April 1	Part 2: Getting ready for success
April 15	Part 3: Why You Need Ontology and Information Architecture for Artificial Intelligence to Succeed
April 29	Part 4: Beginning (or continuing) the AI journey – how and where do you focus your resources?

Register: <http://info.earley.com/en/design-ai-programs-for-success-webinar-series>



Take The Poll

Where are you in your AI journey?

- a. Have not started
- b. Considering the role of AI (initial investigation)
- c. Some limited small scale success (not operationalized)
- d. Narrow deployments that have been fully operationalized
- e. Major wins that have been fully deployed and operationalized



Misleading Definitions of AI

Artificial intelligence (AI) is...?

...an area of computer science that emphasizes the creation of **intelligent machines that work and react like humans**.

Some of the activities computers with artificial intelligence are designed for include: Speech recognition, Learning, Planning, Problem solving*

...the **simulation of human intelligence processes by machines**, especially computer systems.

Specific applications of AI include expert systems, natural language processing (NLP), speech recognition and machine vision.**

...a branch of computer science dealing with the **simulation of intelligent behavior** in computers.

The capability of a machine to imitate intelligent human behavior.***

*<https://www.techopedia.com/definition/190/artificial-intelligence-ai>

**<https://searchenterpriseai.techtarget.com/definition/AI-Artificial-Intelligence>

***<https://www.merriam-webster.com/dictionary/artificial%20intelligence>



Misleading Definitions of AI

Why are these definitions problematic?

“intelligent machines that work and react like human”

“simulation of human intelligence”

“imitate intelligent human behavior”



Practical Definitions of AI

Cal's definition

AI is...

Software that learns to recognize and react to patterns emulating traditionally human tasks like:

- understanding language
- recommending business actions
- synthesizing large amounts of information

AI works best when it **assists humans** by learning very repetitive and specific tasks that depend on large amounts of information.

Seth's definition

AI is...

Software that helps to **reduce the cognitive load for humans** working with information.



Artificial Intelligence should always be in the service of **Human Intelligence**

AI helps people get their work done

(Like any technological innovation throughout history)



Why Do AI Projects Fail?

Misalignment with the business

- Incorrect expectations – marketplace hype, management by magazine article
- Excessively broad scope and poorly defined outcomes
- Confusing, ill-defined processes – you can't automate what you don't understand

The data management challenge

- Lack of training data – what is the nature of training data, anyway?
- Differences between pilot data and the deployment environment
- Missing reference architecture – if data is inconsistently defined, it cannot be leveraged

Lack of governance and socialization

- Underestimating the role of culture – adoption and change does not happen by itself
- Trust in the results – people will not trust what they do not understand
- Lack of success measures – without metrics, we cannot judge the value of results





3 Key Ingredients for a Successful AI Project

CORRECT ALIGNMENT WITH BUSINESS GOALS

QUALITY DATA SOURCES

EFFECTIVE METRICS AND GOVERNANCE

Alignment with the Business

Keep in mind

- AI depends on humans
- Have clear goals and realistic expectations
- AI should take on *specific tasks*, rather than entire functions



Not correctly managing expectations will lead to loss of credibility and executive fatigue



A tale of two clients

Client A

- AI solution to understand how visitors engage with their space
- Provided education and training on how to use the solution
- Sign off from the clients that the deliverables were accepted

For 3 months – crickets => all is well

End result: Where is the dashboard again?

Client B

- AI solution to understand how employees' behavior may result in cyber risk
- Provided education and training on how to use the solution
- Sign off from the clients that the deliverables were accepted

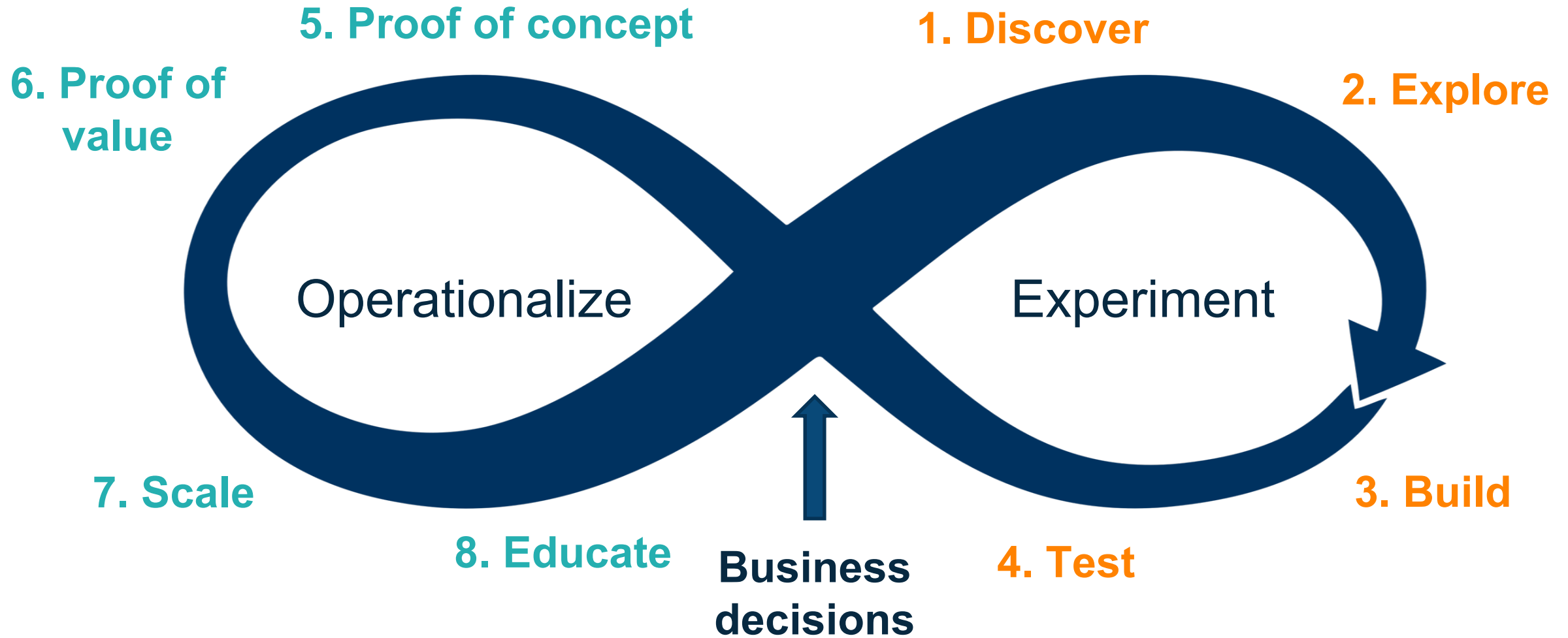
For 3 months - daily questions, adjustments, edge cases

End result: Operationalized and deployed system

Lesson: checking the box versus doing the hard work of socialization



AI implementation is iterative



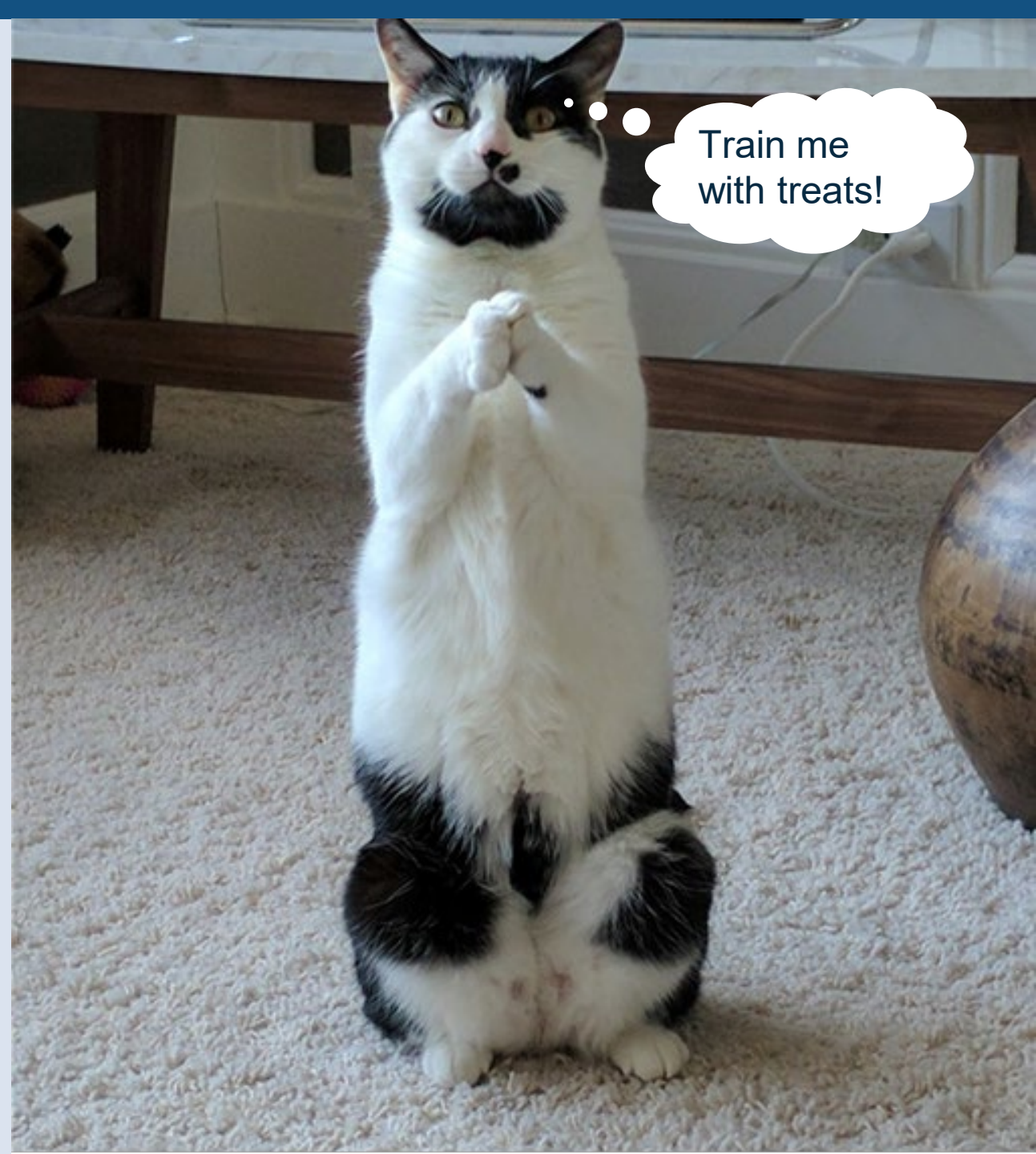
The Data Management Challenge

Usually put into language that confuses the issue:

Vendors say that they need to “train the AI”

What do you “train the AI” with?

...high value data and content assets (quality data and curated content)



AI Fallacies

- **Just point the AI to all of your data...**
- **The AI will fix the data...**
- **You don't need metadata models or taxonomies...**

...(the AI will do it...)



Effective Governance

- Manages conflicts in business priorities (between initiatives, business units, drivers, etc.)
- Allows for ongoing input from various stakeholders and constituencies in order to evolve capabilities with the needs of the business
- Prioritizes efforts and allocation of resources
- Assigns roles and responsibilities with accountability to critical functions
- Takes into consideration various levels of maturity in the organization – no one size fits all
- Ensures that investments in systems, processes and tools are providing sufficient return to the business
- Balances centralized standards with decentralized decision making
- Aligns incentives to use a system with business goals
- Ensures socialization and communication takes place to encourage adoption



A simple change...

Problem: Finding qualified leads for the sales organization to call on to join a high value loyalty program

A predictive model was developed to prioritize sales outreach efforts.

- Rich transactional and behavioral was used to determine who would qualify and be most receptive
- Qualified members were contacted and helped through the application process
- Result: model helped identify 30% more potential members and increased program participation

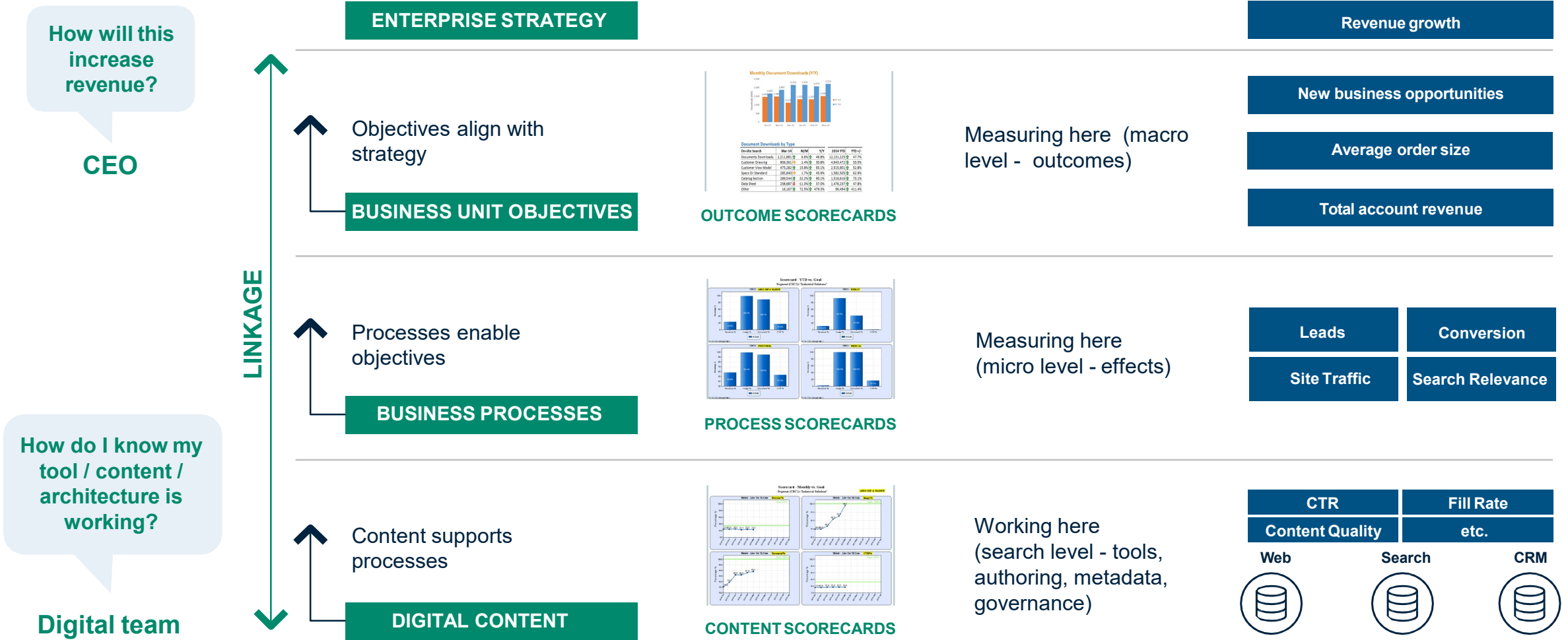
One year later...

- Small modification to business criteria around program qualification
- Change was not communicated to tech team
- Assumption that process change was inconsequential
- Result: Significant decline in performance

Lesson: Governance around change management (process, architecture, terminology) includes accountability for and measurement of downstream impact.



The key is to tie to objectives using metrics and KPIs



Setting & Managing Expectations



Questions to ask

- What is the real business problem that the solution is attempting to solve?
- What is the quantifiable impact? How can it be measured?
- How will the organization adapt to and act on this new information?
- Where will the data come from? Is it of sufficient quality?
- Will a proof of concept scale? What was required to make it work?
- How will data issues be addressed upstream?
- Is the process clear? What aspects of the process will AI improve?
- Who will own the solution? Who else will be impacted? Who will fund continued development?
- Has the organization been correctly informed about expected capabilities?

Engaging in this dialog will help to manage expectations





“If you're serious about harnessing the power of AI in your business — and you should be — this book will show you how to make it an operational reality.”

– **Scott Brinker**, VP Platform Ecosystem, HubSpot, Editor, chiefmartec.com

Further Reading

Pre-order “AI-Powered Enterprise”

<https://www.amazon.com/AI-Powered-Enterprise-Ontologies-Business-Profitable/dp/1928055508/>

Forbes Magazine “Why 'Ontology' Will Be A Big Word In Your Company's Future”

<https://www.forbes.com/sites/cognitiveworld/2018/07/20/why-ontology-will-be-a-big-word-in-your-companys-future/>

For more on AI topics, check out our AI Resources page

<https://www.earley.com/ai-resources>



Q&A





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THANK YOU!

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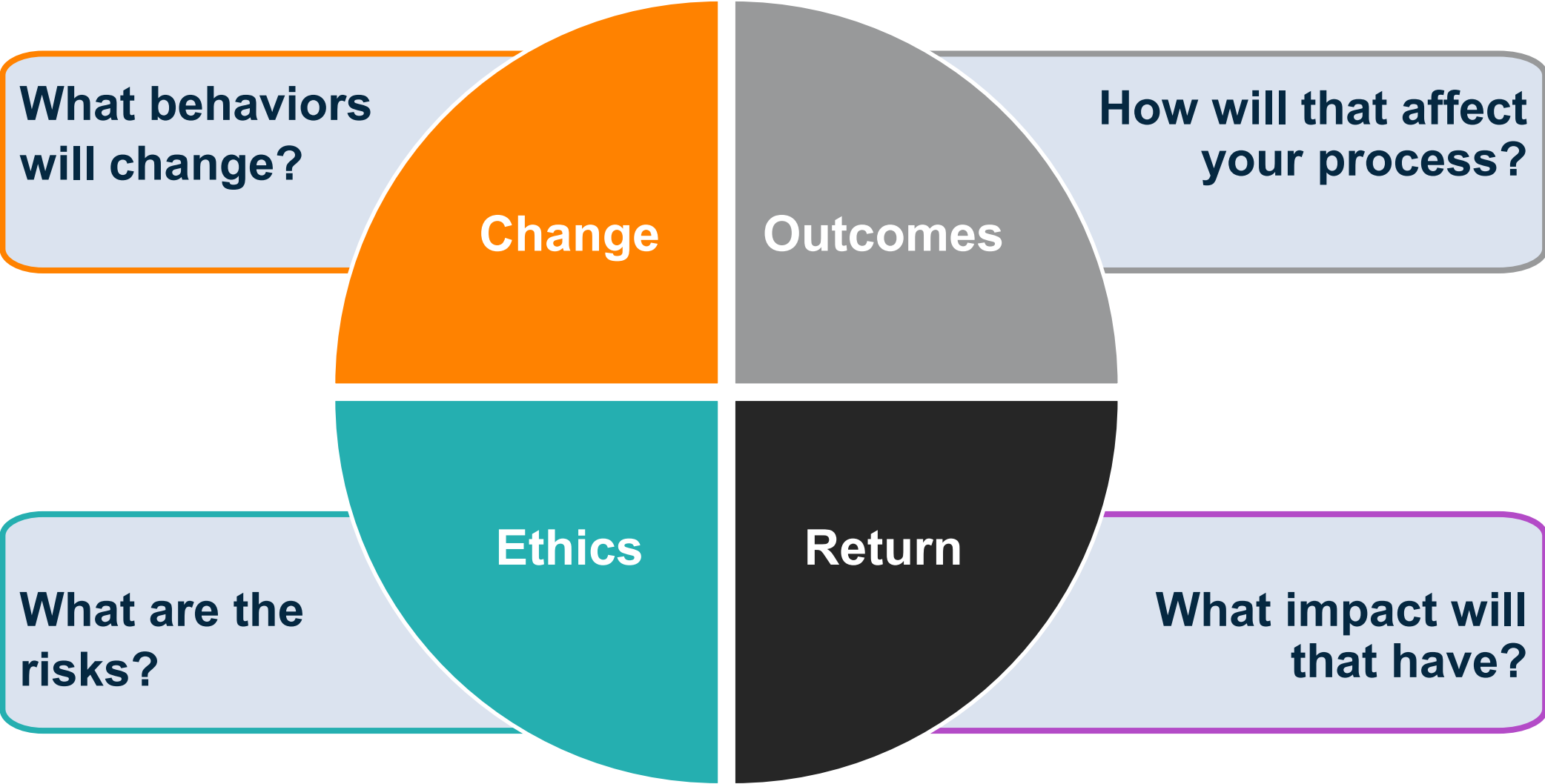
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Alignment



Technology has helped *and* disrupted

Obsolete Jobs - Apply Now | CareerBuilder

<https://www.careerbuilder.com/jobs-obsolete> ▼

Search **CareerBuilder** for **Obsolete Jobs** and browse our platform. Apply now for jobs that are hiring near you.

