The Baldrige Foundation
Institute for Performance Excellence

Presents:

Unlocking Process Excellence:

Integrating Process Management and AI Technologies

July 17, 2025

BALDRIGE FOUNDATION
Institute for Performance Excellence

Mac Baldrige Society Members

The Baldrige Family
Midge, Molly, & Megan

Adventist Health

Stellar SOLUTIONS
25 YEARS
LEADING THE WAY

Midway USA

ABOUT™

TATA

FREESE AND NICHOLS

Mid·America TRANSPLANT
inspired by life

CORE
Center for Organ Recovery & Education

adani

SANPEC

Southcentral Foundation

ONE MESA™

Mary Greeley
MEDICAL CENTER

Opening Remarks/Agenda

Introduction	**Josh Racette**, President & CEO Baldrige Foundation
Panelist	**Lourdes Gonzalez**, Principal Advisor Lulu Process Design Group
Audience Questions	**Moderator – Josh Racette**
Closing	**Josh Racette Remarks**

Our Journey Today

Optimize your journey towards **process excellence** by unlocking the power of LLMs and learning how to use AI technologies to design and improve your organization’s processes.

01

AI – A Brief Overview

Learn about foundational concepts used by AI-Researchers to create and train the LLMs powering Gen-AI.

02

The M in BPM is for Management

Performance is the lifeblood of process management.

03

Real-World AI Applications

Explore how process practitioners are using Gen-AI technologies in process design & improvement projects.

04

AI Technologies

Learn to create effective prompts and what AI Apps are available for process practitioners.

Let’s play with AI!

AI Fundamentals | a Few Concepts

Big Picture: the core ideas behind LLMs are simple, intuitive, and useful to know

1a **Language Modeling | How do models learn?**
Large Models as a Task

1b **LLMs: Language Models + Statistical Learning**
High-level foundational concepts

1c **Training Models**

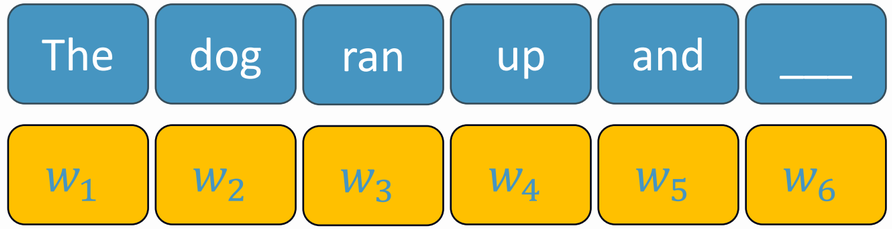
Training Recipe
Pre-Training & Post-Training
Reinforcement Training

1d **AI: LLM Products**

LLMs in the marketplace
Differences between models

The Language Modeling Task

- Input: A sequence of words
- Output: Predict the next word
- Examples:
  - The dog ran up and _____.
  - When the phone on the desk rang, I grabbed it and ____.
- Formalize a bit:
  - Sentence: List of words s= [$w_1, w_2, w_3, \dots, w_n$)
  - Vocabulary: $|V| =$ Number of Words in English
  - Probability: P($w_n = answered | w_1, \dots, w_n$)
- How can we then estimate the probability?



$$P(w_6 = barked | w_1, \dots, w_5) = ?$$

Estimating Probability…lots of Math Involved!

Estimating Probability with Traditional LMs

- Estimate probability from data
- Data: Large corpus of text (web, books…)
  - CommonCrawl: 300GB of web text
- Concept: Check the data for most likely completions
- Example:
  - The dog ran up and barked. -> Most Likely
  - The dog ran up and sat. -> Somewhat Likely
  - The dog ran up and purred. -> Very Unlikely

- Guess= Word with highest probability
  - $P(w_6 = barked|w_1, \dots, w_5)$
  - $P(w_6 = sat|w_1, \dots, w_5)$
  - $P(w_6 = purred|w_1, \dots, w_5)$
- The mathy way (Chain Rule)!
  - $P(w_1, \dots, w_6)$ = Likelihood of word sequence in data
  - $P(w_1, \dots, w_6) = P(w_6|w_1, \dots, w_5) * P(w_1, \dots, w_5)$
  - $P(w_6|w_1, \dots, w_5) * P(w_1, \dots, w_5) = P(w_1, \dots, w_6)$
  - $P(w_6|w_1, \dots, w_5) = \frac{P(w_1,\dots,w_6)}{P(w_1,\dots,w_5)}$

I.E.: Which completion do we see in the data more often?

```
Example:
   The dog ran up and barked. -> Most Likely
   The dog ran up and sat. -> Somewhat Likely
   The dog ran up and purred. -> Very
   Unlikely
```

Statistical Learning from Data (Regression)

- Task: Given sentence, predict either
  - Positive Sentiment
  - Negative Sentiment
  - Score: 5 point scale, 1-5 like Amazon
- Example
  - The movie was terrible -> Negative
  - The food was the best ever -> Positive
- x : Sentence Vector (feature vector)
- a: Per Word Features
- y: Sentiment Score
- y_t: True Sentiment Score
- $ax = y$

Movie	The	terrible	was	best	food	True Score
1	1	1	1	0	0	1
0	2	0	1	1	1	5

This is the feature vector: x

Parameter Weights: a

Movie	The	terrible	was	best	food
?	?	?	?	?	?

$ax = a_1 * x_1 + a_2 * x_2 + \cdots a_n * x_n = y$= Predicted Score

Making and Improving Predictions

N Rows of Data

Movie	The	terrible	was	best	food	Predicted Score	True Score
1	1	1	1	0	0	2	1
0	2	0	1	1	1	4.2	5
…	…	…	…	…	…	…	…

Parameter Weights: a

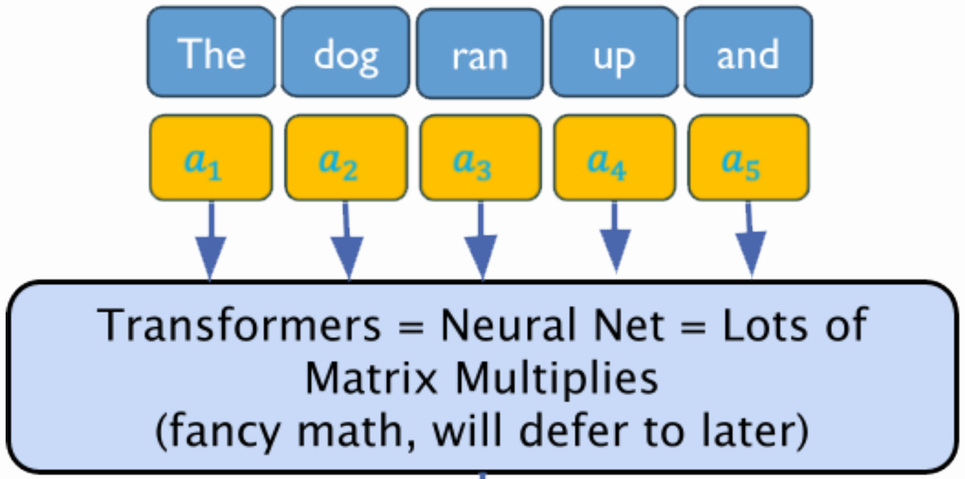
$ax = a_1 * x_1 + a_2 * x_2 + \cdots a_n * x_n = y$= Predicted Score

- Calculating Prediction Error
  - Error = $(y - y_t)^2 = (ax - y_t)^2$= Some non-zero number
  - **Goal**: Change parameters a to minimize Error
  - **Method**: Gradient Descent
    - Too long to explain in this talk
    - Basic idea: Calculate changes to values of a that most reduce error, repeat until error is low.
  - This is why it isn't important to guess parameters a, we can statistically infer good parameter values.
- **Problem**: Words are still 1-D, no relationship -> Let's solve that next.

$a_{new} = a_{old} - \gamma \nabla F(a_{old})$

Large Language Models (LLMs)

LLM= Language Model Task + Statistical Learning + Distributed Representations



Reminder of Vectors

$a_n = [.1, .5, -.5, \dots] =$ Word Vector

1. For every data point:
   a. Compute Prediction Error
   b. Improve parameters
2. Repeat
3. End with a LLM

LLM Training Phases

Pre-Training: Text Corpora -> Learn general natural language

- **Goal of Pre-Training**: Learn general patterns in language
- Corpus:
  - Very large, unstructured text corpora
  - Examples
    - All web text (webpages, reddit, etc)
    - Arxiv text (research papers)
    - All book text (libgen)
  - OSS Corpus: Common Corpus
    - 500 Billion words
  - (Meta) Llama 3 pre-trained on 15 Trillion tokens

Post-Training -> Learn to solve specific tasks

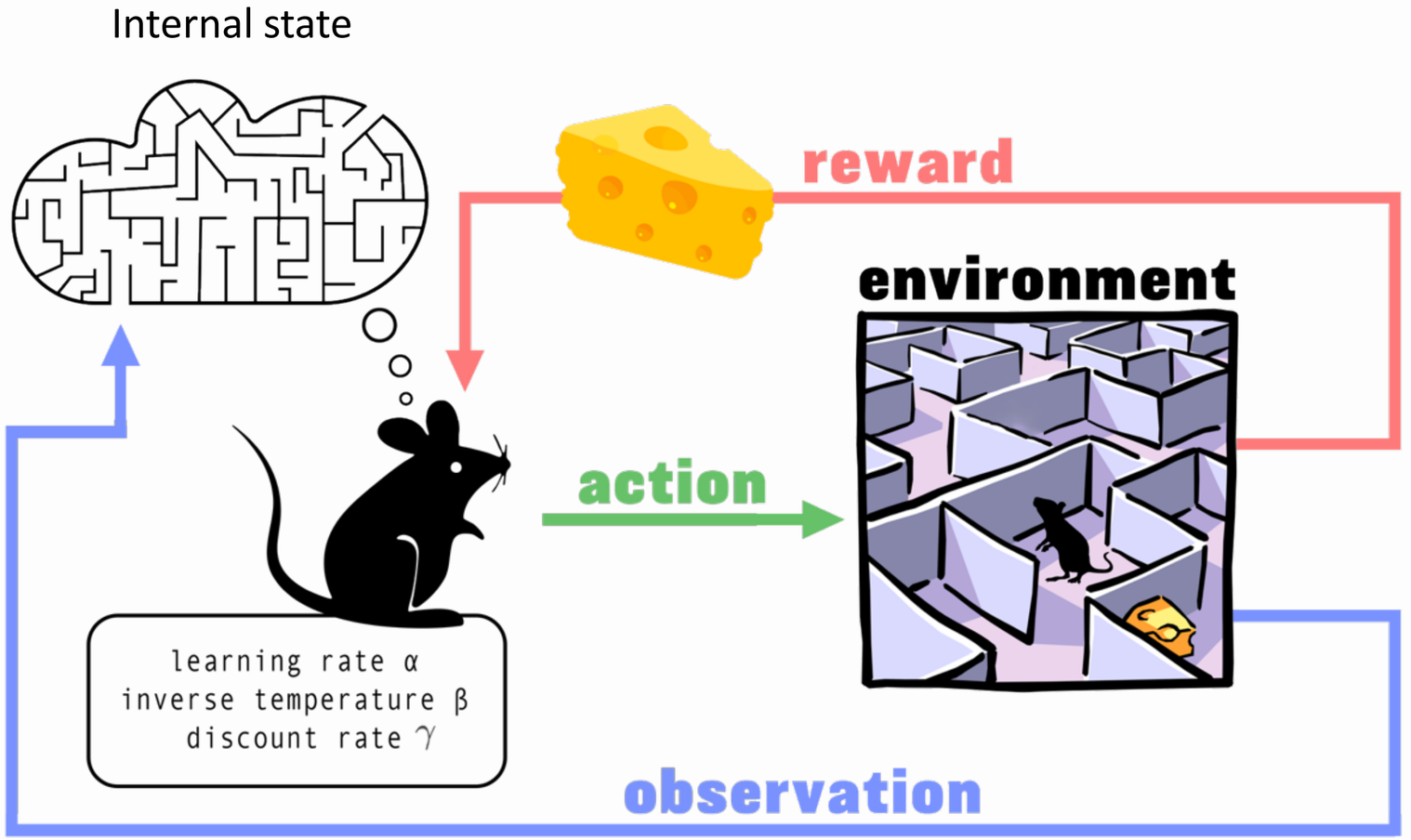
- **Goal of Post-Training:** Achieve better control LLM behavior by eliciting useful behaviors in pre-trained models. Post-training aims to extract and amplify valuable behaviors of pre-trained LLMs.
- Examples of what you can do: Solve specific tasks; Change style of responses; Adapt to different phrasing of tasks; Safety mechanisms (e.g., refuse to answer certain questions)

- Mechanism
  - Many and varied, highly dynamic area (e.g., DeepSeek)
  - In General:
    - Curate a dataset that represents behaviors to elicit
    - Train model on this dataset after training

More here: https://www.interconnects.ai/p/elicitation-theory-of-post-training

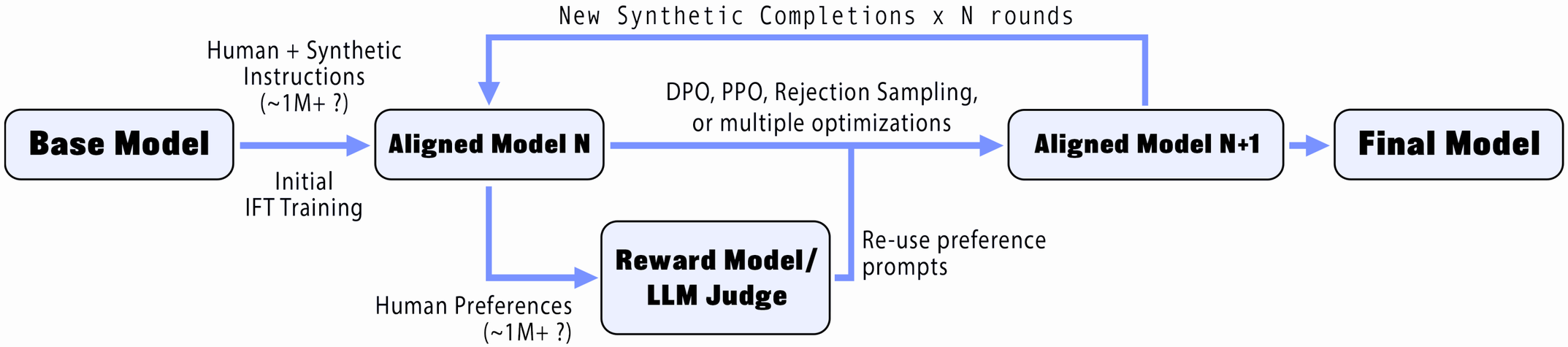
One Approach to Train: Reinforcement Learning

- Learning is driven by:
  - Trial and error
  - Feedback from environment
- Mouse
  - Action: walk distance
  - Reward: cheese?
- At some point, reset the game and repeat.. a lot



Post-Training: Putting it together

Combine all methods, repeat several times in a row



AI Fundamentals Takeaways

1a Language Modeling | How do models learn?
1b LLMs: Language Models + Statistical Learning
1c Training Models

LLMs behavior is entirely learned from data

The data includes:

- Available web corpora
- Written sources such as books
- Increasingly: Images, video, and audio
- Purpose built datasets for post-training

AI Fundamentals | a Few Concepts

Big Picture: the core ideas behind LLMs are simple, intuitive, and useful to know

1a **Language Modeling | How do models learn?**
Large Models as a Task

1b **LLMs: Language Models + Statistical Learning**
High-level fundamental concepts

1c **Training Models**
Training Recipe
Pre-Training & Post-Training
Reinforcement Training

1d **AI: LLM Products**

LLMs in the marketplace
Differences between models
- Primary differences
- Examples

Primary Differences: API vs Open Parameters

- API Only versus Open Parameters versus On Premise
- Open Parameters:
  - Can download the model, run it yourself, fine-tune it
- API Only:
  - Must send input to remote service to get response

Company	Model	API/Open
OpenAI	ChatGPT	API
Meta	Llama Family	Open
Google	Gemini/Bard	API
Anthropic	Claude Family	API
Databricks/Mosaic ML	DBRX	Open
Mistral AI	Mistral	Open and API
Cohere	Command-R	API
Falcon	Falcon LLM	Open

Primary Differences Among Models

Size

- Each model has a different number of parameters
- Generally, more parameters -> better model
- But: more parameters -> slower, more compute intensive
- Typical model sizes range from 1B to 100B

Input / Output

- Input: what can model take as input?
  - Text; Images; Video; Audio; …
- Output: what can the model output?
  - Text; Image; Video; Audio; …

AI Fundamentals Takeaways

1d: AI: LLM Products

General Advice

- Try all the options
- Compare their output
- Use the one that yields the output you like most
- Or has the UI you like most
- They all have different strengths/weaknesses

AI Fundamentals | Takeaways

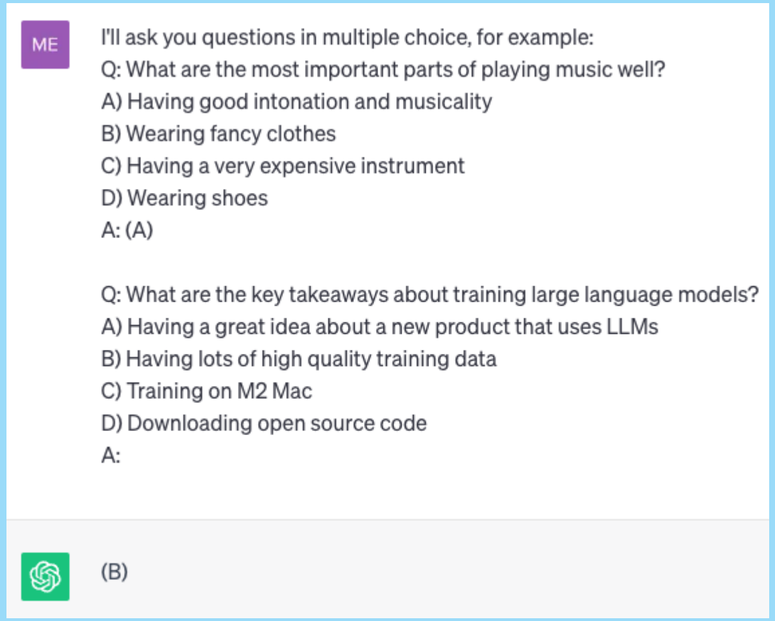
- Only a few foundational ideas underlay LLMs

- Models are trained to minimize prediction error

  - Statistical Inference uses data -> Good Data is crucial for success

  - Task: It is crucial to have a task with well-defined right and wrong answers

  - Data: Need a dataset of example
    - **Inputs:** What should the model use to make predictions
    - **Output:** For each example, what is the correct answer
    - **Error:** How to determine how right/wrong an answer is
    - **Ideal:** As many of these pairs as possible



Our Journey Today

Optimize your journey towards **process excellence** by unlocking the power of LLMs and learning how to use AI technologies to design and improve your organization's processes.

01 AI – A Very Brief Overview

Learn about foundational concepts used by AI-Researchers to create and train the LLMs powering Gen-AI.

02 **The M in BPM is for Management**

Performance is the lifeblood of process management.

03 Real-World AI Applications

- Explore how process practitioners are using Gen-AI technologies in process design & improvement projects.
- AI + BPM CHEAT SHEET!

04 AI Technologies

Learn to create effective prompts and what AI Apps are available for process practitioners.

Let's play with AI!

What is process-based management (BPM)?

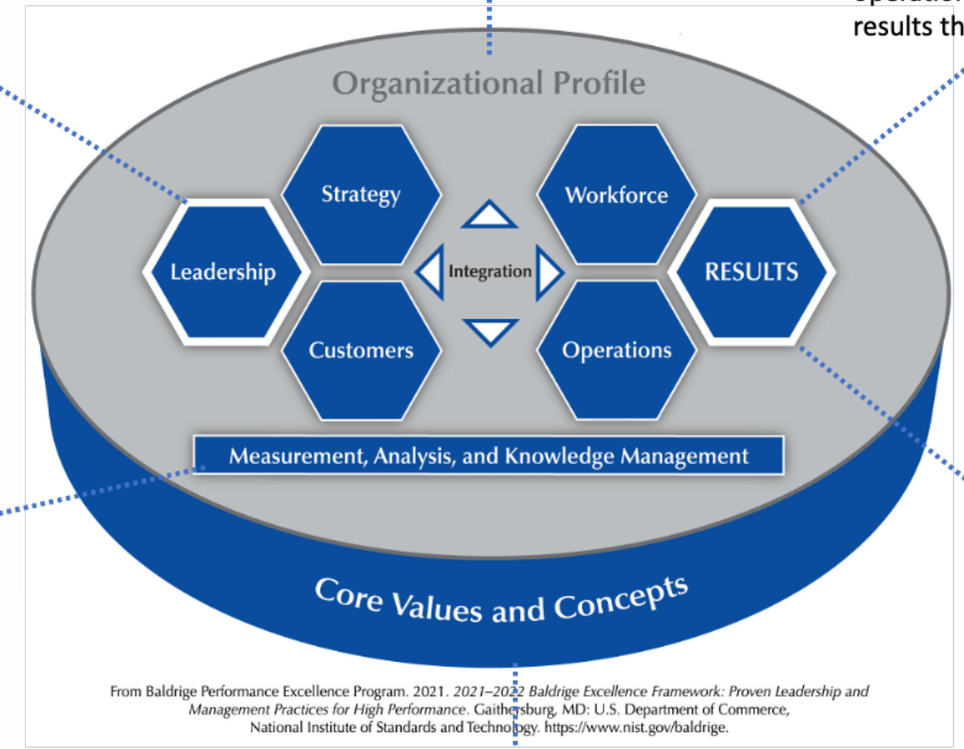
Continuous management of the hierarchy of processes by which value is created, accumulated, and delivered, with the active intention of optimizing process performance through mindful, continuous improvement.

Baldrige Excellence Framework | A System Perspective

The **Organizational Profile** sets the context of the organization. It serves as a background of what they do.

The **leadership** triad emphasizes the importance of a leadership focus on strategy and customers.

The **results** triad includes the organization's workforce-focused processes, its key operational processes, and the performance results they yield.



From Baldrige Performance Excellence Program. 2021. *2021–2022 Baldrige Excellence Framework: Proven Leadership and Management Practices for High Performance*. Gaithersburg, MD: U.S. Department of Commerce, National Institute of Standards and Technology. https://www.nist.gov/baldrige.

The **system foundation** is critical to effective management and to a fact-based, knowledge-driven, agile system for improving performance and competitiveness.

All actions lead to **Results -** a composite of product and processes; customer; workforce; leadership and governance; and financial, market, and strategy results.

The basis of the Criteria is a set of **Core Values and Concepts** that are embedded in high-performing organizations.

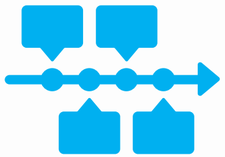
LULU PROCESS DESIGN GROUP

Performance | the purpose of a process is performance

- that it's the lifeblood of process management

FOUNDATION

- Why bother?
- Outcomes focus
- Process of Process
- Enabling



TARGET

- Which process?
- How many?
- Targeting
- Collecting
- Predicting

ASSESS

- Governance
- Whose job?
- POBoK
- Active process management

RESPOND

- Analysis
- Planning
- Change

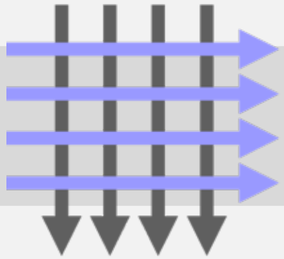
LULU PROCESS DESIGN GROUP

TregearBPM

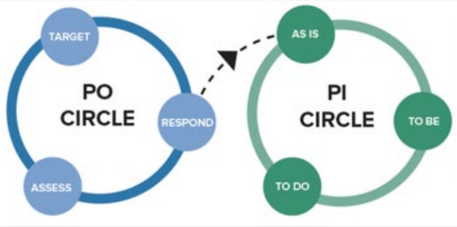
Process-based Management | a Systematic and Effective Approach

ESTABLISHING THE FOUNDATION

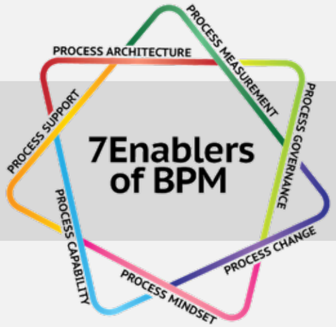
UNDERSTANDING



X-FUNCTIONAL



CONTINUOUS



ENABLE

COMMITMENT

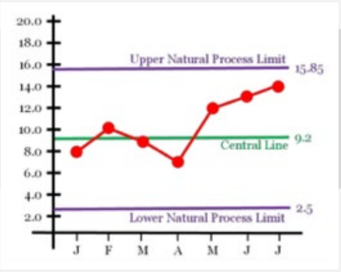
PERFORMANCE TARGETS

WHICH PROCESS?

FOCUS!

What should be?
What is?
What could be?
What will be?

WWGLL



EFFICIENCY

ASSESS

RESPOND

LULU PROCESS DESIGN GROUP

TregearBPM

Our Journey Today

Optimize your journey towards **process excellence** by unlocking the power of LLMs and learning how to use AI technologies to design and improve your organization's processes.

01

AI – A Very Brief Overview

Learn about foundational concepts used by AI-Researchers to create and train the LLMs powering Gen-AI.

02

The M in BPM is for Management

Performance is the lifeblood of process management.

03

Real-World AI Applications

- Explore how process practitioners are using Gen-AI technologies in process design & improvement projects.
- AI + BPM CHEAT SHEET!

04

AI Technologies

Learn to create effective prompts and what AI Apps are available for process practitioners.

Let's play with AI!

Real-World Applications & AI Technologies

Big Picture: use a case study to illustrate how the BPM practitioners can enhance their skills using proven AI tools.

2a **Process Architecture V0**

Developing v0 Process Architecture – AI Tools

2b **Tips for Structuring Chat Prompts**

Learn how to structure them
Ask Ask Ask!

2c **AI + BPM Cheat Sheet**

Gen AI Apps
Tips for Process Practitioners

2d **My Take on Best AI Apps**

Practical Recommendations

Developing Version 00 of the Process Architecture

LULU PROCESS DESIGN GROUP

Business Process Architecture: 0th version from ChatGPT + BPM Expert

Guiding the Academy

Processes that help plan and govern

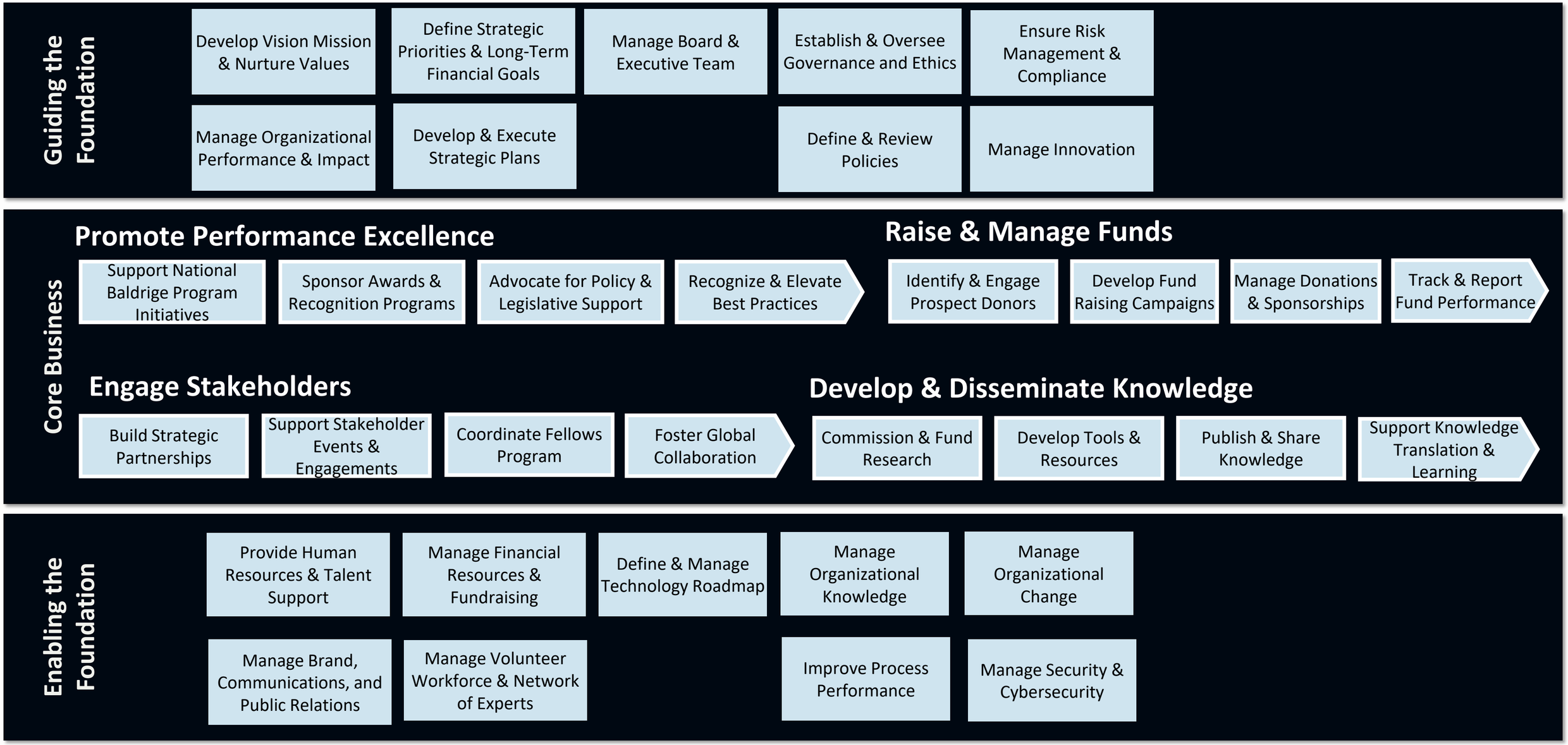
Core Business

Core Processes that provide value to Customers

Enabling the Academy

Processes that provide resources to the core processes

Business Process Architecture: 00th version from ChatGPT + BPM Expert



LULU PROCESS DESIGN GROUP

WARNING: This does NOT substitute the **engagement value** of creating a Business Architecture with the Organization!

Tips for structuring Chat Prompts

Common Sense: the more specific the prompt is, the more accurate the outcome will be

- **RCT:** Role, Context, Format*
- **RTF:** Role, Task, Format*
- **RPCERF:** Role, Purpose, Context, Expectation, Request, Format
- CTF: Context, Task, Format*
- PECRA: Purpose, Expectation, Context, Request, Action
- TREF: Task, Requirement, Expectation, Format*

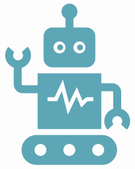
* Format: be concise, use less corporate argon, or be very detailed! Also, I rather use a professional because I'm seeking to brainstorm with a technical "partner".

Gen AI Apps & Tips: Process Architecture Design

WHAT DO I NEED?	AI Products to Use	Tips on Using AI Products	BPM Use Cases
Understand the business	ChatGPT, MS Copilot, Gemini	• Provide context about your role as BPM practitioner • Provide context of the business • Create concise prompts • **Validate** business profile with the executive team	• Gain knowledge about new industry sectors and/or specific businesses • Develop elements of the business profile
Explore version 0 for a process architecture	ChatGPT Plus (BPM Apps), MS Copilot, Gemini	• Provide context about your role and the project. • Provide context of the business. • Create concise prompts. • Explore & compare outcome from multiple Apps. • **Validate** output with an industry expert.	• Explore level 0 processes. • Generate ideas for sub-processes (triggers, activities, roles, etc.). • Use information to model processes using an BPMN modeling application.
Develop process descriptions & documentation	ChatGPT Plus (BPM Apps), other enhanced LLMs	• Ask follow up questions. • **Validate** dataset information with your own expertise.	• Process documentation • Content for modeling processes

LULU PROCESS DESIGN GROUP

Exciting Features of AI-Enabled Process Modeling Software Products



MINDFUL PRODUCTIVITY

- Automated generation of process models
- AI-powered recommendations for process mapping

FIRST VERSION OF DOCUMENTATION

Auto-creation of detailed descriptions

ENABLING EASY ADOPTION

Automatic translation of all process content

IMPROVE QUALITY & EFFICIENCY

AI-generated master data entry

LULU PROCESS DESIGN GROUP

BPM Practitioners & AI Technologies

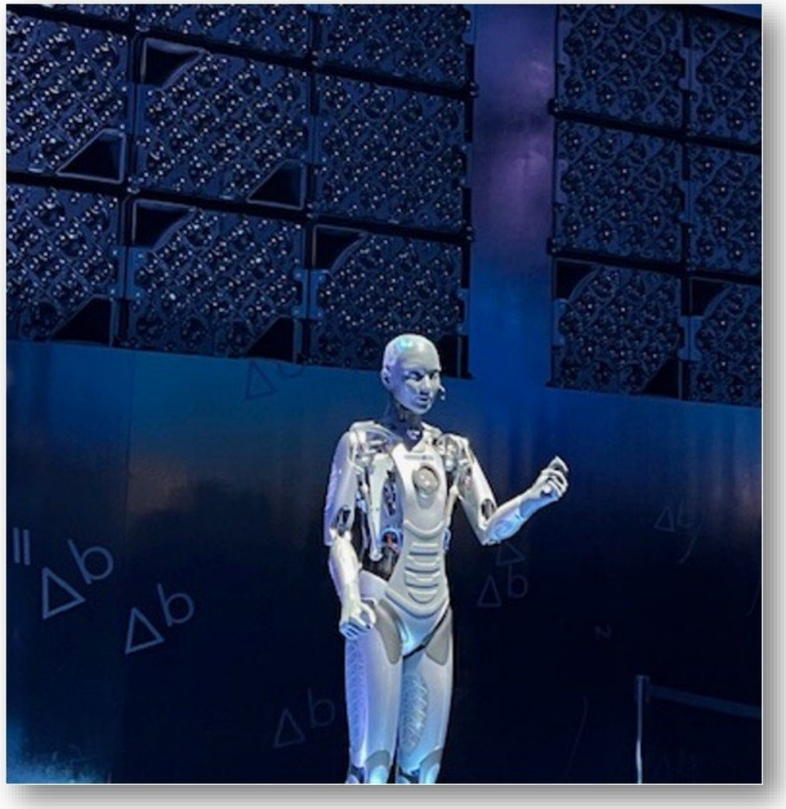
(Cheat Sheet +)

LULU PROCESS DESIGN GROUP

BPM Practitioner | AI Integration

MY BPM Exclusive Activities	AI Collaboration Activities	AI Automation Activities
Work I need to do it myself (Human-Centric)	Work I can do with AI to improve productivity and outputs	Work AI can do completely for me or on my behalf
This category identifies tasks that are best suited for humans due to the complexity of human interaction, emotional intelligence, creativity, ethical judgement, or intricate decision-making.	These are tasks where AI can assist, enhance, or augment human capabilities (speed, accuracy, and analytic depth), making processes more efficient or insightful without fully replacing the human touch.	This category includes tasks that AI can fully automate, where human intervention is minimal or unnecessary, optimizing processes, and reducing the need for human labor in repetitive or predictable tasks.
Exercising judgment to align business strategy with the design of the process architecture	Generate v0 of a business process architecture with GenAI	Automating routine task-level process activities
Leading & facilitating process design sessions	Data analysis: employing AI-enhanced process modeling software to simulate process scenarios and analyze process risks	Compiling process analytics
Project Leadership: resolving team conflicts, negotiating project scope, driving team motivation, overseeing phases of deployment	Data analysis: employing AI-enhanced process modeling software to simulate process scenarios	Generating meeting summaries and action items
Managing resistance to change	Create change management plans with GenAI	Managing process performance
Managing stakeholder relationships	Analyze process adoption after implementation.	Generate improvement insights based on process performance
Fostering cross-functional collaboration	Streamlining data collection systems	Predict process performance and risks
Coaching and mentoring process owners and practitioners	Developing process documentation	Conducting quality audits on process documentation

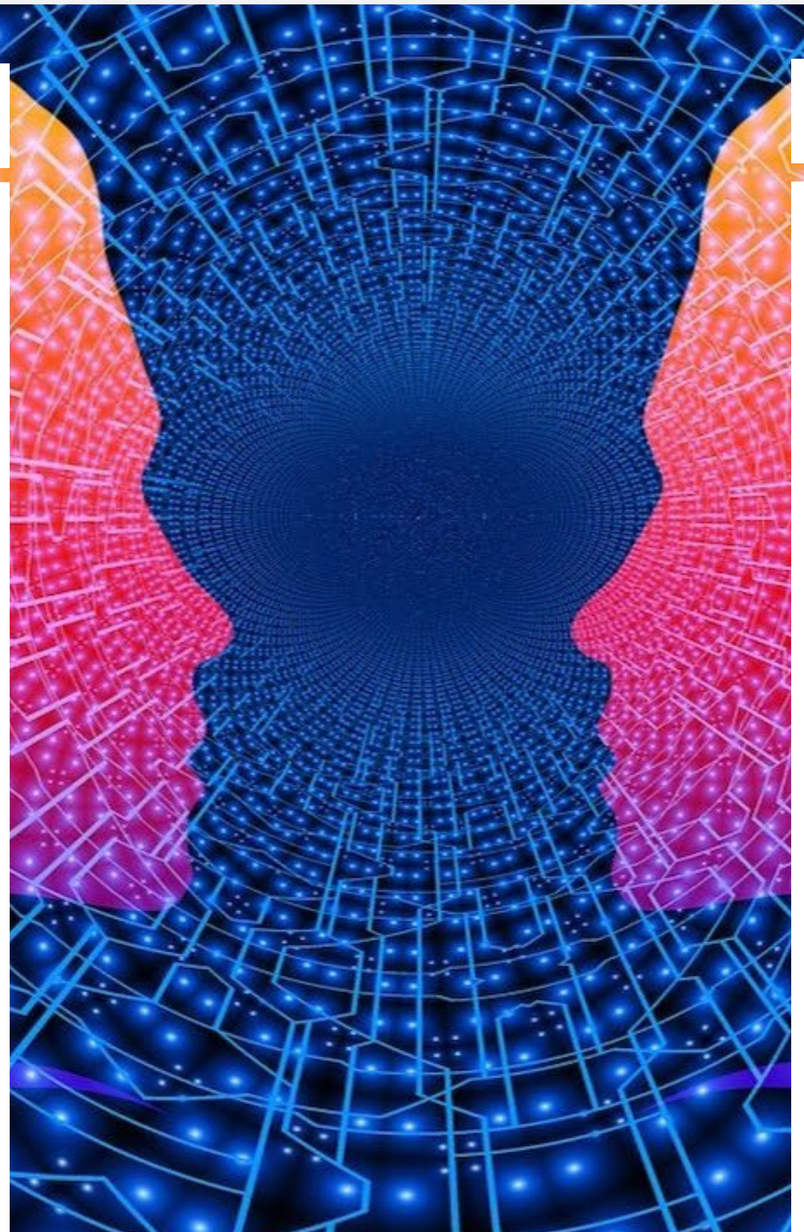
GenAI + BPM -
“Cheat Sheet” 2025



Key Takeaways from Our Journey Today

Process Excellence

- Human-centric management skills are critical to achieve business excellence!
- Actively manage your processes and use AI as a tool to assist you.
- **AI technologies** are revolutionizing the way we do process design and improvement, augmenting our capacity to innovate in processes. **Play & learn with AI!**
- **Start small, engage your people**, learn together and celebrate the wins…AI is welcome to stay!



AI Technologies

- **Core ideas behind LLMs are surprisingly intuitive.**
- **AI (mostly) isn't magic**, it depends on good/relevant data + clear tasks.
- **AI** is finding applications, but AI researchers often have limited perspective and benefit from collaboration.
- We (business leaders, process practitioners, etc.) must engage on providing quality data to researchers.
- Use Gen-AI to enhance your "chat prompt" skills…practice with these tools.

Thank You!

Lourdes Gonzalez
Lulu Process Design Group

+208-602-0513 || lourdes@lulupdg.com || www.luluprocessdesign.com

Panelist Questions and Discussion

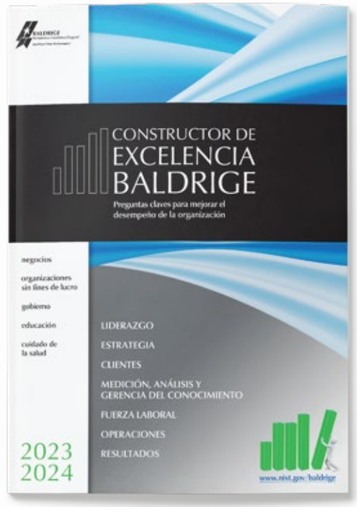
Lourdes Gonzalez
Principal Advisor
Lulu Process Design Group

Josh Racette
President & CEO
Baldrige Foundation
(Moderator)

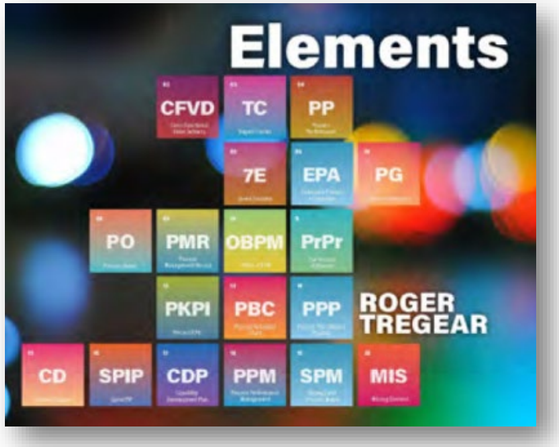
Free Materials!

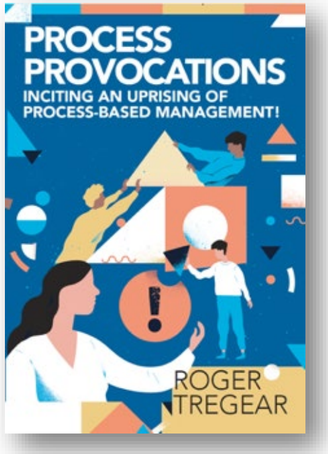
Focused on AI

Focused on Baldrige



Focused on BPM





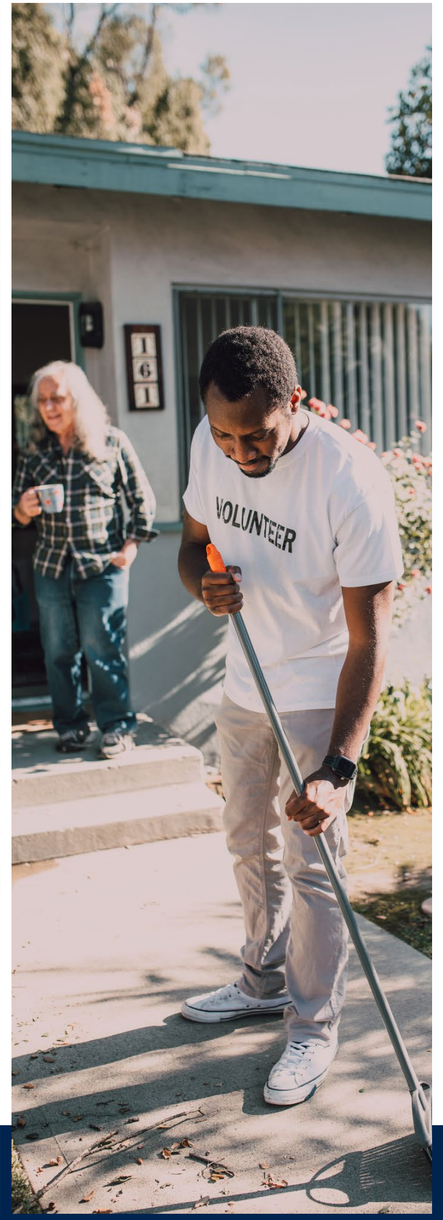
Contact me:
lourdes@lulupdg.com

LULU PROCESS DESIGN GROUP

Training & Professional Development

The Baldrige Foundation Institute for Performance Excellence supports individuals and organizations around the world by providing 400+ quality educational programs. Enroll today in some of our healthcare courses, such as:

- Artificial Intelligence for Marketing Professionals
- Leadership for Women in Business



To learn more, visit:
www.baldrigefoundation.org/education

BALDRIGE FOUNDATION
Institute for Performance Excellence

Mac Baldrige Society Members

The Baldrige Family
Midge, Molly, & Megan

Adventist Health

Stellar SOLUTIONS
25 YEARS
LEADING THE WAY

Midway USA

ABOUT™

TATA

FREESE AND NICHOLS

Mid·America TRANSPLANT
inspired by life

CORE
Center for Organ Recovery & Education

adani

SANPEC

Southcentral Foundation

ONE MESA™

Mary Greeley
MEDICAL CENTER