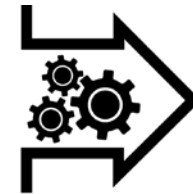


# Government Quality and Improvement



**REENGINE CONSULTING**  
Achieve Breakthrough Performance

***Enabling the Bureau of Information and Telecommunications to Achieve More with Less Effort***

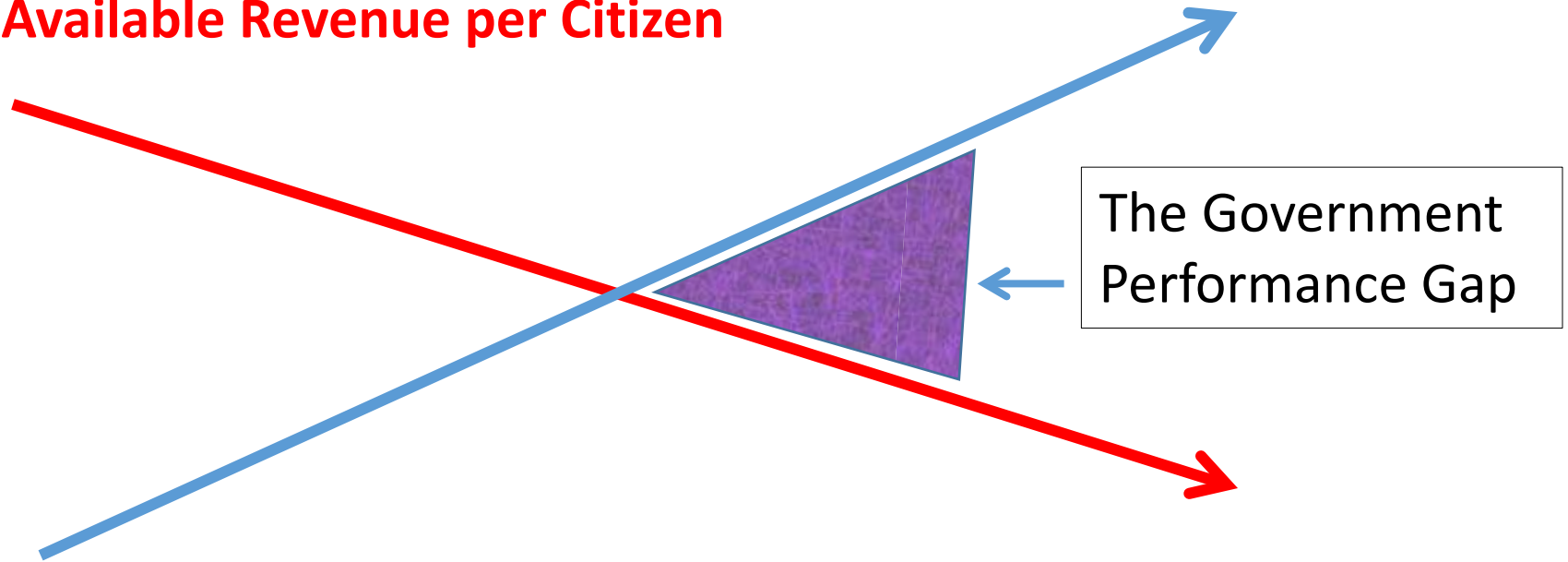
David Johnson and Alfredo Mycue - Reengine Consulting

# ReEngine Staff

- Alfredo Mycue – Director of Strategy, Co-Founder
- David Johnson – Director of Operations, Co-Founder

# A Government-sized Dilemma

**Available Revenue per Citizen**



**Population & Associated Demands**

There will always be more demand for government services than we have resources for. It is the nature of our political system.

## Undesirable Options:

- Increase taxes
- Reduce governmental functions
- Reduce functional quality
- Accept more risk



# The Mandate for Excellence in Government

- **Government should provide goods and services rapidly, effectively, and efficiently.**
- **Taxpayer is the base customer.**
- **ReEngine Mandate:**
  - As public employees, we are entrusted by the taxpayers to use their tax money efficiently and effectively.
  - We must be prepared to question the assumptions of “We’ve always done it that way.”
  - We must work together as a team to eliminate waste, increase our responsiveness, and reduce our costs.
  - Continuous Improvement is just the right thing to do.
  - We owe it to the taxpayer to get the most out of the dollars they entrust us with.



# Continuous Improvement in Government

- A way to give Governmental functions increased velocity:

- Increase effectiveness
- Increase efficiency
- Increase quality
- BETTER, CHEAPER, FASTER

## Integration of:

- Lean – Eliminate waste
- Six Sigma – Eliminate variation and Root Cause Analysis
- Theory of Constraints – Constraints Management focus

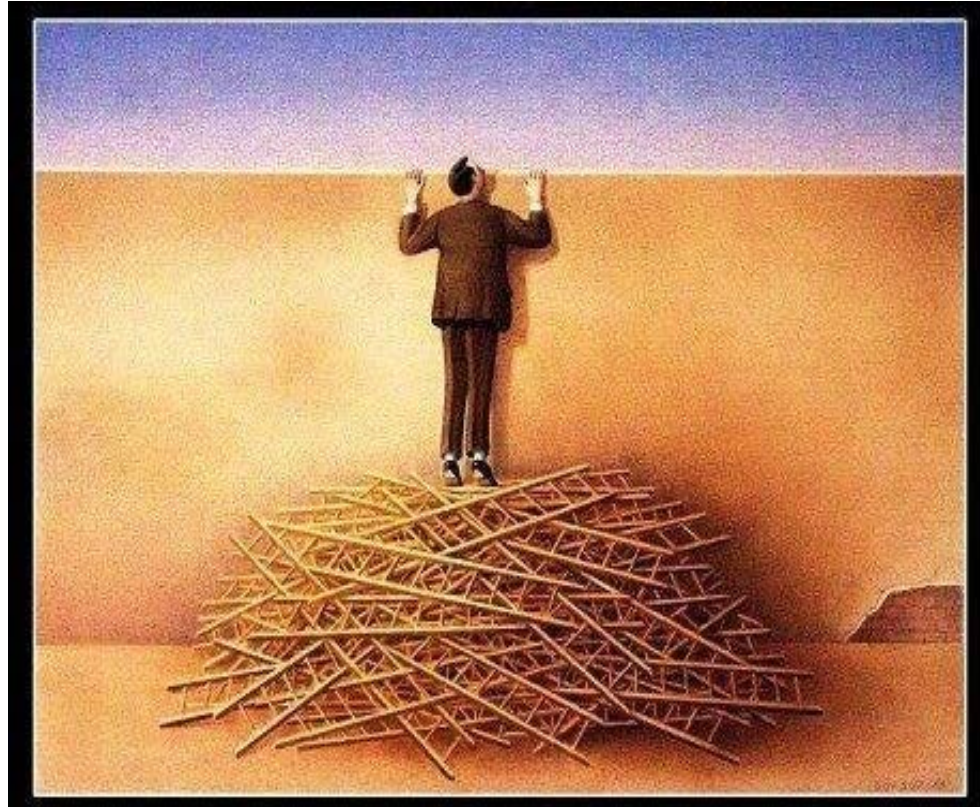
- A methodology to

- Empower “go-to” and creative employees
- Improve organization with *continuous improvement*
- Transition workplace conditions from reactive to proactive



# Resources

It doesn't matter how many resources you have...



If you don't know how to use them,  
it will never be enough.



# ReEngine Core Principles

- Undo our zero-sum mindsets
- Focus improvements at the bottlenecks
- Know our “blue light;” find excess capacity
- Metrics drive our vital behaviors
- Local optima  $\neq$  enterprise optima



# ReEngine Government Quality & Improvement Methodology

- Build the Charter
- Visualize What Good Looks Like (WGLL)
- Map the Current State
- Perform Gap Analysis
- Design the Future State
- Measure Performance

Customer Focus: Get an honest appraisal of how well we accomplish our mission and satisfy our stakeholders





# BIT-Development's / ReEngine's Activities So Far



# Training

- 36-hour intensive training
- 26 BIT-Development staff participated
- Process improvement specifically for government – GQI

# Takt Board

- Focal point of organizational effort to understand:
  - Demand for BIT's Services
  - BIT's Organizational Capacity
  - Does BIT's velocity match demand for it's services?
  - Importance of reducing multi-tasking



# BIT's Takt Board Efforts

	Parking Lot	Initial Estimates	Backlog	Initiation	Analysis & Design	Development	UAT	Implementation	Completed
1st January Pull	35	48	80	48	48	48	48	48	855
		62	100	42	52	40	32	30	53
		<b>22</b>	<b>161</b>	<b>13</b>	<b>45</b>	<b>78</b>	<b>25</b>	<b>21</b>	<b>53</b>
		5   40	12	12	12	17	18	25	
	48   48	48	48	48	48	48	48		
			4	5	2	1	2		

\*Count in Phase figures are correct – smaller numbers are sample data



# Full-Kit

- Term to represent having everything completed before moving to the next step in the process
- Ensuring full-kit helps prevent re-work and wasted effort

# BIT-Development's Progress So Far

# Evaluative Criteria - 1

Has the organization embraced and implemented professional and industry standards?

or

Does BIT have a valid strategic approach to their work?

# Evaluative Criteria – 1, cont'd

Does BIT have a valid strategic approach to their work?

- Software Development Life Cycle
- Lean Kaizen – Daktronics
  
- Process Improvement Standards
  - Lean
  - Six Sigma
  - Theory of Constraints



# Evaluative Criteria - 2

Has the organization embraced the fundamentals of the needed organizational change?

or

Is the team on board with the basics of GQI and the need for change?

# Evaluative Criteria – 2, cont'd

Is the team on board with the basics of GQI and the need for change?

- Engagement during GQI training week
- Dedication & commitment during project 1
- Energy and method is transferring to team activities

# Evaluative Criteria - 3

Has the organization demonstrated forward momentum, commitment, and evidence of initial, but tangible, achievement?

or

Can BIT determine the status of its work (projects) and their condition?

# Evaluative Criteria – 3, cont'd

Can BIT determine the status of its work (projects) and their condition?

- Substantial changes to data tracking
- Substantial project/data cleanup
- Reduction of active and backlogged projects in ~6 months
  - Feb 2016 – 501
  - July 2016 – 518
  - Jan 2017 – 401, a reduction of over 22%



# Evaluative Criteria - 4

Has the organization established positive and sustained velocity toward achieving objectives? Is the current velocity of project completion sufficient to support all South Dakota agencies?

or

Is the quality of BIT projects increasing and are we moving them through faster (and fast enough)?

# Evaluative Criteria – 4, cont'd

Is the quality of BIT projects increasing and are we moving them through faster (and fast enough)?

- Data is too immature; still early in the process
- Substantial cause for optimism
  - Organizational rhythm
  - Organizational discipline
  - Developing velocity measurement
  - BIT leadership expanding “resource-shifting”



# Evaluative Criteria - 5

Has the organization adopted a culture of learning and continuous improvement? Does that culture extended from the Commissioner to front-line staff?

Or

Are staff satisfied with “that’s the way we’ve always done it?”



# Evaluative Criteria – 5, cont'd

Is BIT satisfied with “that’s the way we’ve always done it?”

- Individuals applying principles of continuous improvement
- Team application of continuous improvement is gaining momentum
- “Wait and see” mindset is being answered with “hey, it works!”





# Unique Aspects of BIT

- Mentally/Organizationally ready for these changes
- Commissioner/Deputy Support
- New Director with institutional knowledge but fresh perspective
- Grassroots support from front-line staff



# Future Efforts



# BIT/ReEngine Future Efforts

- Project 2 – Requirements Gathering Process
  - Transforming customer needs into developer blueprints
  - Bedrock of BIT's work
  - Considerable industry Business Analysis research and Best Practices upon which BIT can build



# BIT/ReEngine Future Efforts

- Project 2 – Requirements Gathering, cont'd
  - Significant Prep Work
  - 3 Day Kaizen Event
  - Post work to implement ideas generated during Kaizen

# BIT/ReEngine Future Efforts

- Project 3 – Still in brainstorming stages
  - Idea: Agency Coordination/Communication Process

# BIT Future Efforts – After ReEngine

- BIT is determining how to incorporate Continuous Improvement into their organizational DNA
  
- Allocate gained capacity to continuous improvement

# Questions? Ideas? Follow-ups?

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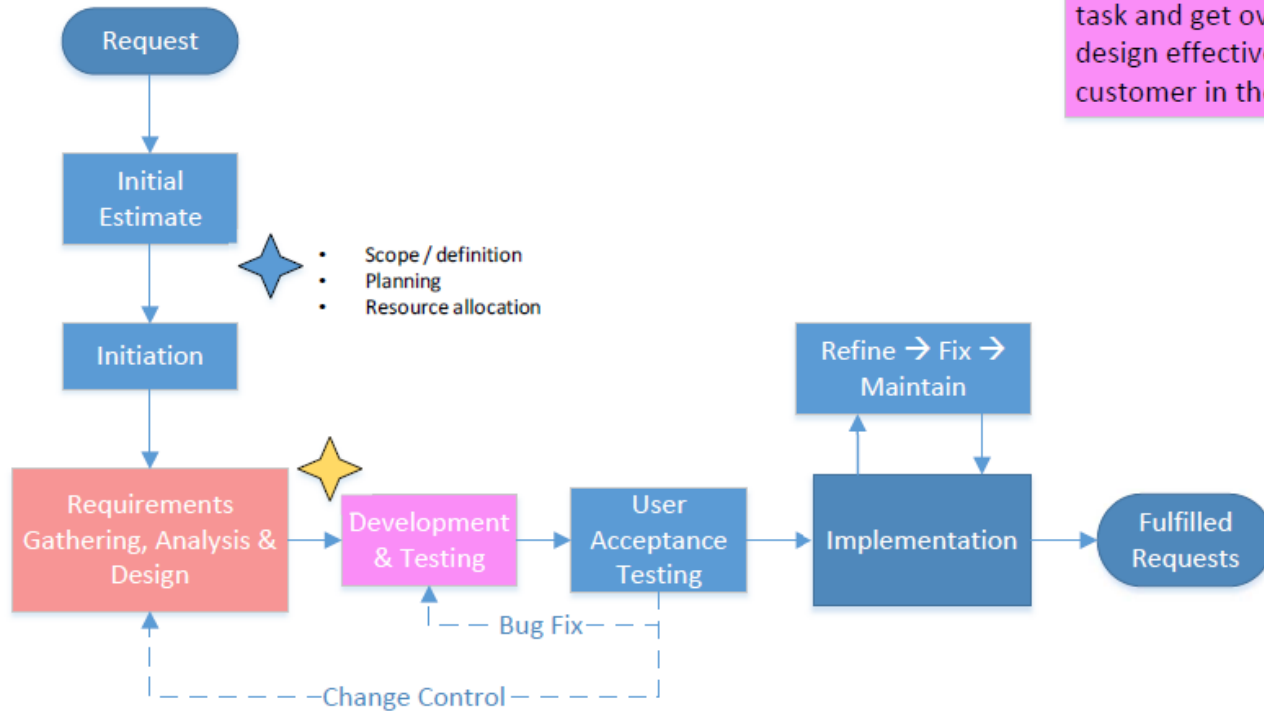
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**Goal of BIT Development:** Create usable software that meets business needs. Write software in a timely manner within reasonable cost estimates and budget.  
**Objective Statement:** The communication between the customer, analyst, developer is more and more effective & focused enough to ensure that business needs are met in our customers eyes.



**Feeding Control Point:** WBS created and charter approved. Resource types are identified. Initial estimate (hours) completed. Customer agency identifies project as a “resource-able” priority project. Full kit for *requirements gathering* is established.

**Feeding Development (Drum/Heartbeat):** There is always work available for the developers. Work released upstream does not cause developers to multi-task and get overwhelmed. The requirements and design effectively capture the business needs of the customer in their eyes.

**Enterprise Measures:**

- Cycle Time (start at Initiation – end with user acceptance)
- Throughput: Completed Projects
- Quality - Internal (w/in process)
- Quality - External (after UAT)
- Customer satisfaction (clients & enterprise)
- Measure pace of *Development* (Takt time – blue light)
- Project wait time
- Schedule slippage
- Cost slippage (&QT/OE)
- WIP (Department and per-employee)

**Levers:**

- Use Takt board and dashboard to meter in work and track progress. (choke & release)
- Establish full kit at the end of each phase before advancing to next.
- Strive to achieve focus by reducing interruption and multitasking.

**Control Point (WGLL):** We have a consistent flow of project requests. Requirements are clear, concise & testable. Requirements directly solve the user’s business needs. We have sufficient information to complete design and set developers up for success (by providing full-kit for design and development). Together all requirements depict the project and we can visualize the finish-line.

**After Control Point:** Projects flow according to the schedule more and more because resources are assigned timely (JIT: “just in time”) - No long waits. BIT’s “warranty period” is honored; refinement and issues after that period enter process as new requests.