Chatbots to the Rescue – Artificial Intelligence and RPA to Competitive Advantage to Higher Ed 2.0

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Texas Connection Consortium

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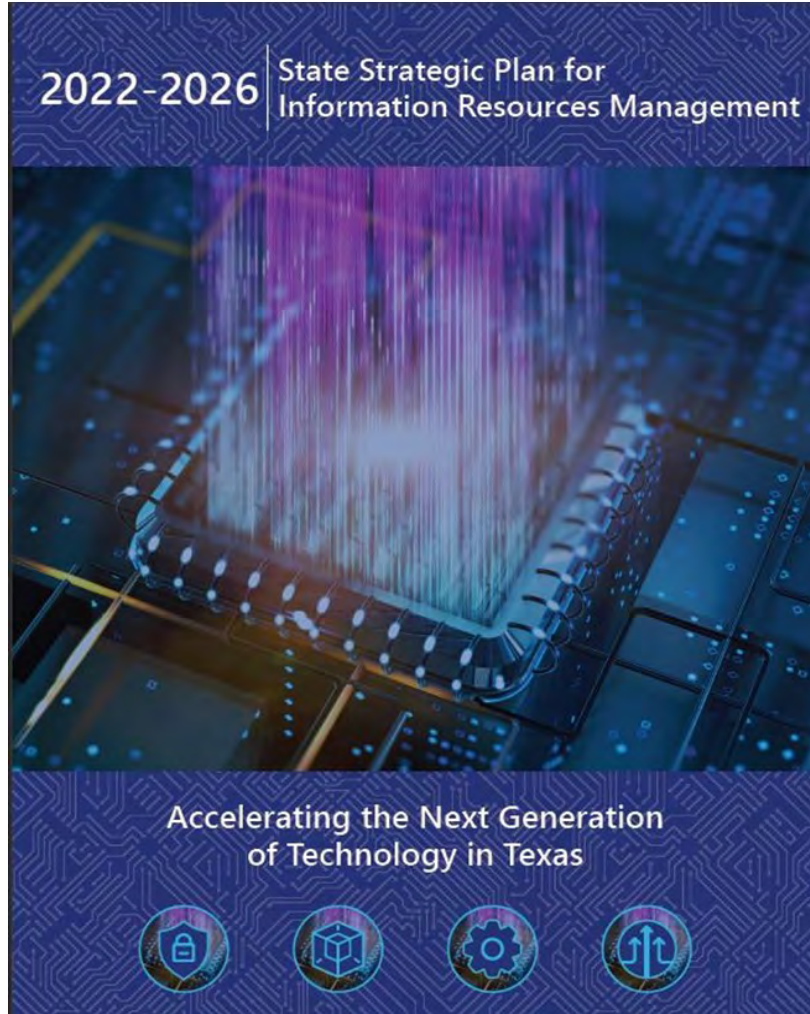Services (AI-RPA/Cloud)

DIR

**Transforming How
Texas Government
Serves Texans**

Texas Department of Information Resources

2022-2026 State Strategic Plan
Accelerating the Next Generation of Technology in Texas

2022-2026 State Strategic Plan for Information Resources Management

Accelerating the Next Generation of Technology in Texas

Goal 1
Secure IT Service Delivery

Goal 2
Advanced Data Management

Goal 3
Strategic Digital Transformation

Goal 4
Proactive Approach to Emerging Technologies

Did You Know?

Did you know that of the 4,130 business applications (identified as part of 2014 study) in use in Texas, over half rely on hardware and software technology that is considered obsolete or inefficient?

Texas Modernization, Cloud and AI Centers of Excellence

The Four Pillars of Centers of Excellence (CoE)

The centers of excellences are built based on the four pillars identified below. The most significant of all was the opportunity to get quick hands-on experience, rapid prototyping and fast tracking PoC to production journey

Persuade
- Document best practices
- Fund pilots
- Offer a contest
- Share skills

Enforce
- Establish standards
- Choose vendors
- Document instances
- Centralize

Inform
- Share ideas
- Create repositories
- Brainstorm ideas
- Encourage participation

Innovate
- Build a product
- Develop a service
- Measure the impact specifically
- Plan to persist

ce: Gartner

DIR Centers of Excellence (CoE)

Background

- Initiated in spring of 2019 to drive with cloud initiatives.
- Hands-on user experience approach with in-person and virtual training.
- DIR, customers, and vendor community provide training and risk-free environments.
- Currently focused on cloud and artificial intelligence technologies.

Impact

- Over 6,000 training seats for cloud skills development.
- Accelerated response efforts during pandemic period.
- Twenty-nine artificial intelligence proof of concepts with five moving to production.
- Increasing productivity and efficiency while attracting and retaining talent pool.

Recognition

- Artificial Intelligence Center of Excellence won State Scoop's Innovation of the Year award.

What's Next for CoE in 2022

Establish CoE Advisory Council

- The Innovation Center of Excellence Advisory Committee (ICOE-AC) is in an advisory capacity and does not have any formal governance oversight or responsibilities.
- Provide strategic input based on industry trend on emerging technologies.
- Assist in developing priorities from a statewide perspective.
- Assist in implementing programs that support the technology adoption lifecycle framework.
- Advise DIR on how to pivot to new technology.

Artificial Intelligence Center of Excellence

- Educate and evangelize emerging AI technologies to deliver services to Texans faster.

- Leverage DIR services, customer experiences, vendor expertise to drive adoption through "hands on" training.

- Public, private partnership to collaborate, innovate, and implement.

- Open to state agencies, higher education, and local government.

- Focus on all branches of AI including:
  - Robotic Process Automation (RPA) ← Initial
  - Machine Learning (ML)
  - Natural Language Processing (NLP)
  - Computer Vision (CV)

"By the end of 2024, 75% of enterprises will shift from piloting to operationalizing AI, driving 5X increase in streaming data and analytics infrastructures." –Gartner 10/2020

31%
of agencies are interested in AI training

60%
of agencies do not currently "align" to AI Goals in State Strategic Plan

State of Texas Cloud-Smart Strategy and Alignment

According to the 2020 National Digital Survey, **Texas is one of the leading states in terms of fast-tracking cloud adoption** and is backed by strong legislative support, strategic direction and agency alignment.

Government Code Section 2157.007

State agency shall ensure, when making purchases for an automated information system or a major information resources project, that the system or project is capable of being deployed and run on cloud computing services.

State Strategic Plan 2022-2026

As the utilization of cloud services is becoming more prevalent, it is imperative for agencies to consider implementing cloud-based solutions for business continuity and disaster recovery planning.

Agency Strategic Plan and LARs

Once state agencies have developed a cloud strategy and are ready to move forward, DIR has several offerings available. Cloud services are available to state agencies through DIR Cooperative Contracts and Shared Services.

Chatbot Demo

Virtual Assistant

Citizen engagement and self-service - use cases

Virtual agents

24/7/365 presence to respond to calls and questions with human-like virtual agents and IVRs

Intelligent routing

Identify callers' intent and route calls to the correct agent

Information capture

Collect key information to assist agents in resolving questions efficiently

Larry the Chatbot

Ask DASH- Texas

quantiphi

Google Cloud

DESIGN	DEVELOP	REVIEW & TESTING	USER ACCESSIBILITY TESTING	DEPLOYMENT	SUPPORT
Week 1	**Week 1-5**	**Week 2-5**	**Week 5**	**Week 5**	**Week 6-10**
• Brainstorm and synthesize ideas • Formulate a Proof of Concept	• Develop and train Virtual Agent using GCP constituents • Trained on 40 FAQs	• Foolproof the solution through extensive testing	• Perform User accessibility testing	• Deploy the solution in the client environment	• Provide 75 hours of support post one month of deployment

RPA Demo

RPA – Journey

Straight Through Processing

Increasing complexities & costs

Artificial Intelligence *with deductive analytics*

Machine Learning *with prescriptive analytics & decision engines*

Robotic Process Automation *with digital triggers or self service*

Robotic Desktop Automation *with manual intervention*

Process-driven

Data-driven

Doing

Thinking
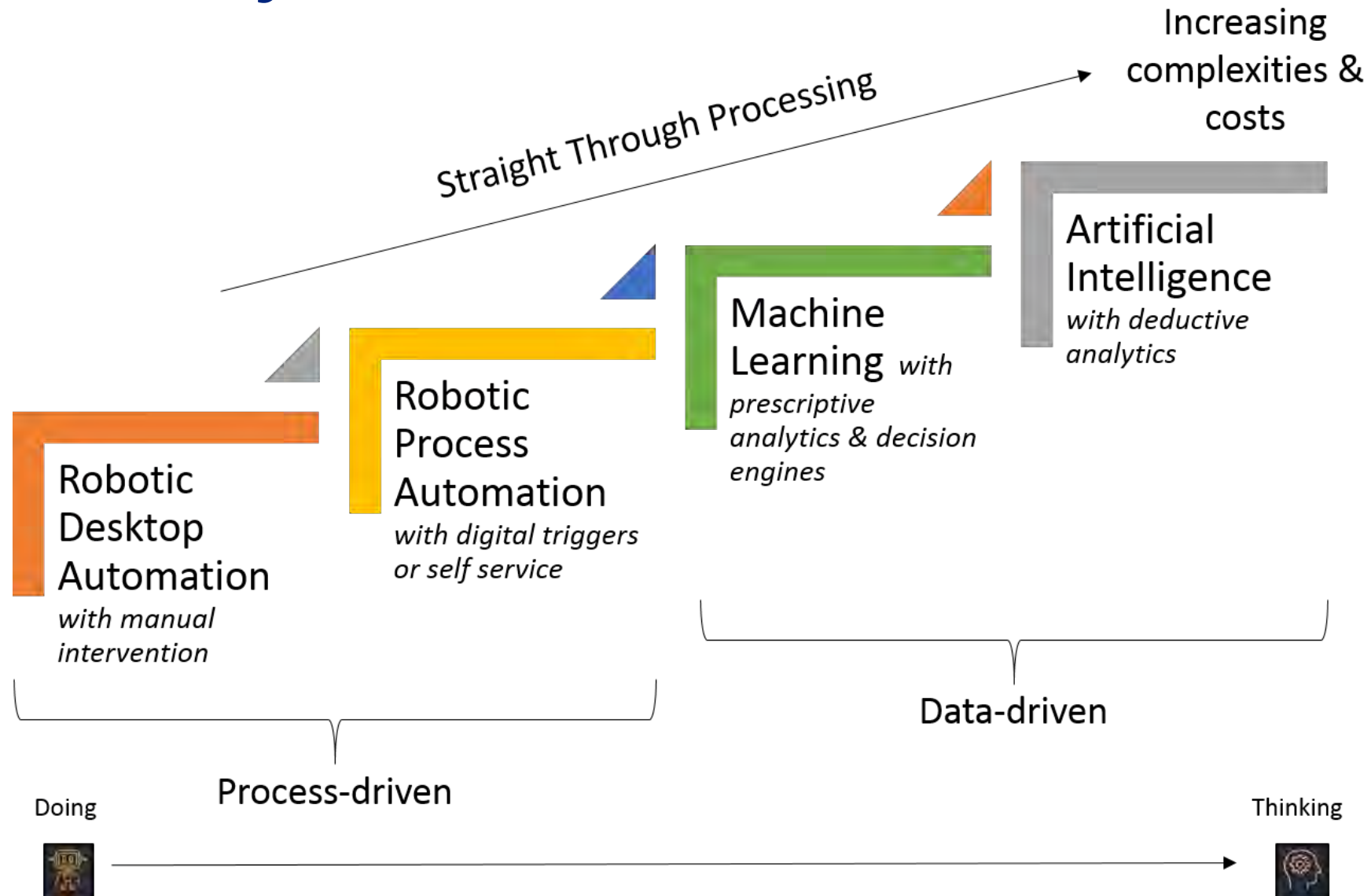
Proof of Concept – Back End Automation

Automated a two-step process that currently requires ~19 hours to complete.

Hard Benefits:

- Reduces Invoice Consolidation Process from 14-16 hours to 1-2 minutes per month.
- Reduces Salesforce entry from 2-3 hours to 1-2 minutes per month • Reduces errors to 0.

Soft Benefits

- Greatly improves employee satisfaction, reduces mundane work
- Increases employees' skills through training on next generation technology
- Redirects work from manual data manipulation to higher order activities.
- Enables succession planning and contingency by documenting processes and workflows.

Virtual Assistant Demo

Meet and Greet -- Kelly

Amari | Julien | Camila

Carina | Isla

Rua | Anele | Tanaka

Introducing an AI powered Digital Person concierge with an integrated chat interface powered by IBM Watson and Soul Machines.

The digital concierge is autonomously animated and provides answers with a cheerful smile. It reads multiple points on a customer's face to interpret emotional sentiment and respond accordingly.

The power of Watson AI engine coupled with Soul Machines Digital DNA Studio, provides a rich set of capabilities that includes - multilingual support, rendering rich content and integration with multiple external systems, creating a state-of-the-art digital experience

Thank You

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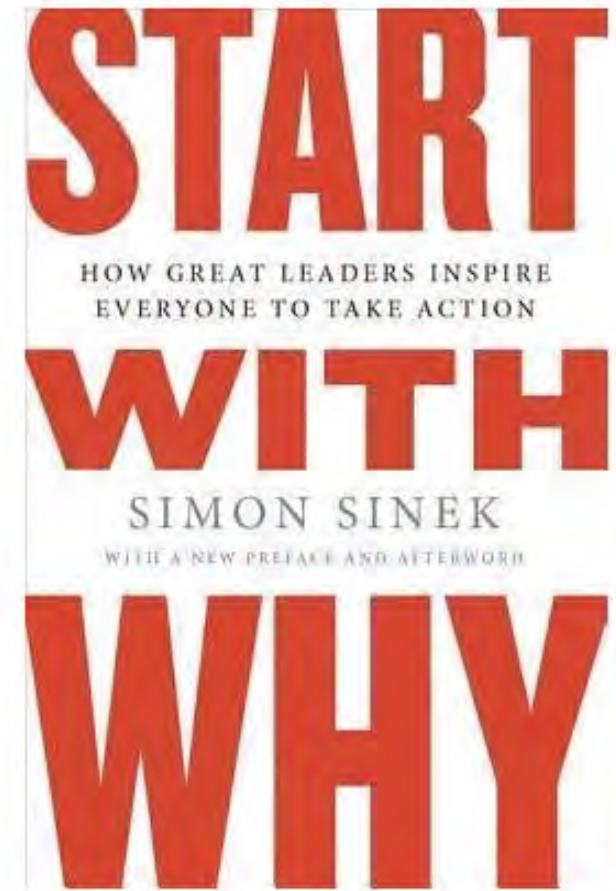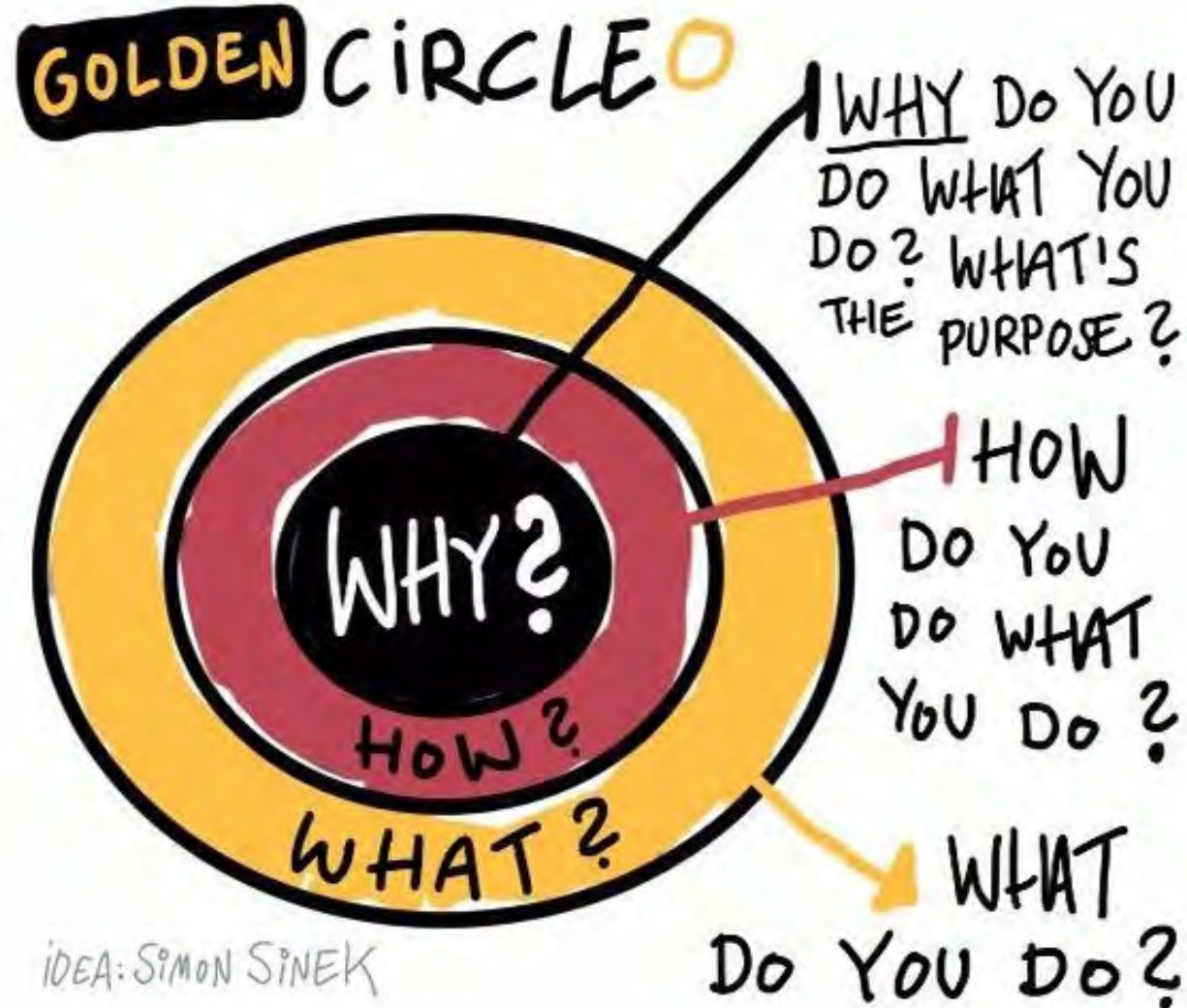
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Appendix

Machine learning is going mainstream in the government sector

Emergency management
Emergency management, emergency response

Finance and administration
Tax, revenue, regulatory/compliance, fraud, budget, purchasing/procurement

Health and benefits
Local hospitals and clinics, public health, child welfare, homelessness, seniors/youth, health/food, environmental

Assessments and permitting
Planning and zoning, assessment, land admin/recorder of deeds, mapping, watershed, housing

Economic development
Grants and benefits administration, workforce development, corporate relations, land clearance/redevelopment

Constituent engagement
Contact center, website, mobile

Enforcement
Police, jails, courts, animal control

Elections
Registration, voter management, polling, voting management, candidate management

Utilities
Electric/gas/water/sewer, waste management, generation/distribution

Education and library
K–12 and early childhood, adult education, library

Transportation
Traffic, mass transit, parking, airports, ports

aws

The Golden Circle Approach to Accelerate Adoption

Azure – QnA Bot