Tapping Your Inner Futurist

The Future of Government Services

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In the News
Foresight 101

Demographic + Digital Transformations

Learning More
More or Less Change Ahead?

Last ten years

2006 – 2016

Next ten years

2017-2007
By 2018, all senior residents in the Japanese city of Nara must have wearable devices that connect to the city’s secured data feed used by families and local health & service agencies.
Wearables + Early Warning Signals = Interventions

Innovation Debate = Creepy Line or Compelling Outcomes?
Thank you

for the Creepy Line Debate
Assumption to Explore:
Data-Analytics (+A.I.) will drive local government innovations in community level behavior change & system-level outcomes
In the era of creepy lines + compelling outcomes

How do we...

lead very difficult conversations?
sustain behavior change?
tell our story of bringing value to communities?
integrate data + protect privacy?
brokers partnerships?

Is this dynamic inevitable for...

Local Government
Tapping Your Inner Futurist?
Foresight 101: Cone of Plausibility
Multiple Outcomes, Multiple Time Horizons
Every day I make an effort to move toward what I do not understand.

- Cellist, Yo-Yo Ma
Four Futures Thinking

?  

Continued Growth  
Disciplined - Constrained  
Transformed  
Decline - Collapse

* Jim Dator, University of Hawaii
Four Futures Thinking: Government Services

Continued Growth

Disciplined - Constrained

Transformed

Decline - Collapse

* Jim Dator, University of Hawaii
Foresight: Three Mechanisms of Change

- **Trends** (Continuities)
- **Events** (Discontinuities)
- **Choices** (Discontinuities)

**Plausible Futures**

- Forecasts
- Scenarios
- Visions

**Preferred Future**
Learning More

Demographic + Digital Transformations

In the News
Foresight 101
The *Slow Pace of Fast Change*

*Exploring Social + Technological Transformations*

Demographic Transformations
Equity, Access + Inclusion

Digital Transformations
Data + Outcomes, Cognitive Solutions and Blockchain
Globalization Reshaped by Demographic Transitions

Stage 1 - expanding
Stage 2 - expanding
Stage 3 - stationary
Stage 4 - contracting
Our Demographic Destiny = Aging Boomers + Fading *Demographic Dividend*

Source: populationpyramid.net
Government Services Aligned to Unique Life stage Dynamics

Race, Age and Gender

Figure 3. Hennepin County population by age, race/ethnicity and gender, 2010

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<th>Age</th>
<th>Female</th>
<th>Male</th>
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Population = 826,670

Population = 134,240
Government Services Aligned to Unique Life Stage Dynamics

American Indian and Alaskan Native

Asian and Pacific Islander

Hennepin County 2010 Population, Income and Poverty Fact Sheet
December 2011
Equity + Inclusion
Government Services
Based on Nuanced Understanding of Demographic Transitions
Anticipating Broad Shifts Related to Aging Boomers

Spending

60% wealth

40% consumer spending

Lifestyle Shifts

Regional Dynamics

Design Advantages
Aligning Services + Experiences to Aging Strategy Memes

- Aging-in-Place
  - In-Home Solutions
- Active Aging
  - Tapping Community Assets
- Creative Aging
  - Emphasis on Social Experiences
  - Active Lifestyles
Demographic Transition Model Concepts
(+market-policy formation; +technology adoption)

Garry’s Diigo Tags
diigo.com/user/garrygolden/aging
www.diigo.com/user/garrygolden/millennials
diigo.com/user/garrygolden/demographics

Sites: Census.org; Policymap.com

World Values Survey (University of Michigan)
Demographic Meets Values Systems
Inglehart–Welzel Cultural Map

Foresight + Designing Thinking
Government Solutions aligned to Social Norms + Cultural Interpretations
The Slow Pace of Fast Change

Exploring Social + Technological Transformations

Demographic Transformations
Equity, Access + Inclusion

Digital Transformations
Digital Transformations

Connected Data
+ Outcomes

Cognitive
Solutions

Blockchain
Trusted Transactions
Online Age vs Data + AI Driven Outcomes

What it now means to be innovative with technology?

- Online vs Offline
- Desktop or Mobile
- Web-based or App

- Software-Guided or Not
- Does it improve behavior or Not
- Does it Guide Outcomes or Not
Social Norms for the Anonymous-Access Web

1993

“On the Internet, nobody knows you’re a dog.”
“On Facebook, 273 people know I’m a dog. The rest can only see my limited profile.”

Social Norms & the Social Web

2008
Everyone knows I’m working on some personal growth issues.

How do local government services and our communities evolve around a web that helps drive outcomes & personal behavior change?
Outcomes-based Value Creation

Government Service-Experience Design via Prescriptive Analytics

- **Prescriptive**
  - What should happen..!

- **Predictive**
  - What might happen..

- **Descriptive**
  - What happened..

Complexity of Data and Relationship Management

Competitive Advantage
Descriptive – Predictive - Prescriptive Analytics

Guided Financial Experiences

SIMPLE

SPENDING OUTCOMES
This is your budget for date night

SPENDING FORECAST
This is what we think you will spend this week

SPENDING HISTORY
This is last month’s statement

Competitive Advantage

Complexity of Data and Relationship Management
Descriptive – Predictive - Prescriptive Analytics

Guided Public Utility Experiences

ENERGY USAGE OUTCOMES
These are steps for saving money

ENERGY USAGE FORECAST
This is what we think you will spend this season

ENERGY HISTORY
This is last season’s statement

Complexity of Data and Relationship Management

Competitive Advantage
LEARNING (TRAINING) OUTCOMES
These are books to read, programs to attend

SKILLS FORECAST
These are skillsets and mind sets in demand

DESCRIPTIVE DATA
This is baseline of local economy

Guided Public Library (Workforce) Experiences

Descriptive – Predictive - Prescriptive Analytics
Implications for 2020-25

How we might evolve service design using prescriptive analytics to drive outcomes across our communities?

- Population Health Programs
- Workforce Training
- Permitting Processes
- Civic + Culture Institutions
- Public Safety
- Early Childhood Development
- Caring for Aging Populations

**Guided Government Experience Design**
Connected Data is foundation for outcomes-based community services and government experiences

Tables = Past

Graph Thinking
Tables vs Growing Spectrum of Data

We are moving beyond rows & columns (SQL Tables)
Graph Database = Understanding Relationships + Connections

Adam Edwards
- Lives in: St Paul
- Liked: Actors Meetup
- Wrote: Music Review

Chantel Johnson
- Occupied: match.com
- Started (group): Music Review
- Liked: Ordway

Actor Meetup
- Lives in: St Paul

Music Review
- Subscription member: Ordway

Liked

Node

Relationship
Graph Analytics = Mirror the *Real* World to Reveal Influencer Profiles, Decision Pathways and Recommendations
Graph data strategy to avoid ‘getting lost in system’?
Industries & Innovators are Connecting Dots

- Link Graph
- Interest Graph
- Social Graph
- Economic Graph
- Health Graph
- Learning Graph
- Transportation Graph

Logos of Google, match.com, Pinterest, Facebook, LinkedIn, and Experience API.
Connected Data 2020

Who might know more about our community dynamics than we do?

- What information might be missing?
- Risks of *privatizing* insight generation
- Upsides to new types of data partnerships

LinkedIn Economic Graph
Graph Thinking + Analytics could help to transform:

- Social Services
- Youth ‘Pathway’ Programs
- Education (Learning Culture)
- Library Experiences
- Influencer led Civic Engagement
- Transit Networks

By 2025, what types of questions might we be able to ask about our communities?
Digital Transformations

Connected Data + Outcomes

Cognitive Solutions

Blockchain Trusted Transactions
Cognitive Jobs, Meet Cognitive Software


Employment (Persons, Millions)


Nonroutine Cognitive
Routine Cognitive
Routine Manual
Nonroutine Manual


FEDERAL RESERVE BANK OF ST. LOUIS
Cognitive Solutions

- Natural Interactions
- Support Human Decision-making, Discovery + Creativity
- Adaptive Engagement (UX)
- Always Learning
The Race to Build Enterprise-Grade Intelligent Assistants

“…it is clear that the most powerful technology companies are investing immense resources to make virtual intelligent assistants ubiquitous before the end of the decade”

- Daniel Nadler, CEO of Kensho
Phase of Rolling Eyes at *Chatbots*

**Buzzwords to Watch:**
- ChatOps
- Chatbots
- Intelligent Texting
- Messaging Apps
- Conversational Commerce
- Intelligent Assistants

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Microsoft is betting that bots 'are the new apps'

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Facebook launches a bot platform for Messenger

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Google follows Facebook into chatbots

Published: May 19, 2016 8:43 a.m. ET
First Wave of Bots + Apps via Travel + Tourism

Visit Orlando turns to IBM's Watson for new augmented reality app

Posted By Ken Storey on Mon, Aug 29, 2016 at 10:14 am

Photo via Visit Orlando
Internal Bots
Easier Support for... Feedback from Frontline Public Sector Employees
Weak Signal: Orchestration of Home, Work, Play + Government Services
Will the Smart Phone still be our central digital experience?

How the Amazon Echo won me over and became the center of my smart home
Brandt Ranj, Insider Picks  
Jun. 6, 2016, 1:00 PM  
3,504

Amazon's Virtual Assistant Alexa Now Boasts More Than 1,000 Skills
by Leana Rao  
June 3, 2016, 10:03 AM EDT

Why Banks Have an Ear to Amazon's Echo
How do we...?

- Avoid rolling eyes
- Understand chatbot versus Intelligent Assistants
- Imagine Path to Pilots:
  - Parks
  - Libraries
  - Social Services
  - Voting
  - Transit systems
  - Budget Forecasting
  - Event Calendars, et al
Decision-Support in Age of Big Data

Coming to the Cloud (Cognitive-Apps-as-Service)
Don’t Rush… but Pay Attention to Signals

Miami-Dade County taps cognitive computing to handle citizen requests

Working with IBM’s Watson, Miami-Dade County’s water and sewer departments have developed and are rolling out smart chat bots to help citizens on city websites.

By Jake Williams
JULY 22, 2016 2:30 PM

Romania’s government and IBM plan to develop cognitive computing center

By IT | JULY 06, 2016 17:51 | 0 comments
How might cognitive systems transform collaboration, innovation and productivity?

- Data + Algo Strategy
- Hiring Strategy
- Partnership Strategies
- L&D for Age of Augmented Work
- Rethinking the Role of Managers
- Ensuring Data + Privacy Controls
- Simulation + Innovation
- Preserving Pride in Work
- Best Arena for Proof of Concept and Pilot
Make him stop....
Slow Pace of *Fast Change*

**Big Ideas to Explore**

- Demographic Transitions
- Cognitive Solutions + Community Outcomes
- Blockchain
  Automating
  Trust-based Transactions
It Was Hard to Explain the Internet in 1994

All descriptions failed:

- It’s a billboard
- It’s a massive network
- You write to it, like mail
- Great for emergencies
- ‘You don’t need a phone line to operate the Internet?’

1994: "Today Show": "What is the Internet, Anyway?"
By 2025, 10% of of Global GDP will be orchestrated by blockchain applications.
What is going on here....?

Dubai Wants All Government Documents on Blockchain By 2020

Michael del Castillo (@DelRayMan) | Published on October 5, 2016 at 16:40 BST

The Wired World In 2016

How the blockchain will enable self-service government
Evolution of the Web

*Internet of Files (Websites)*

*Internet of Social Networks*

*Internet of Transactions*
Low Cost + High Security in Low-trust Environment

It’s just Decentralized Databases + Process Automation!

Assets get entered onto the ledger

Network Consensus on who did what...

Smart Contracts execute business processes

The Transaction is the Settlement
Assumption to Explore (even if it confusing!)

By 2022 the public sector will use the blockchain for decentralized applications (DApps) and *smart contracts* to:

- Reduce internal operation costs
- Reduce costs of compliance and regulation
- Drive Public Private Partnerships
- Deliver Identity Solutions (and new Challenges)
- Transform peer-to-peer and business led transactions
- Confront cybersecurity issues
- Transform voting system
- Branding: Transparency + Accountability
Early Stages of Application Development Ecosystems

Public Blockchains

- bitcoin
- ethereum
- Hyperledger

Private Blockchains

- eris Industries
- R3 Corda™

*tokens; side-chains
Blockchain Procurement: Supply Chains + Logistics
Distributed Supply Chains for efficiency, low cost, transparency and automation for origin verification, manufacturing logs, OEM assembly, shipping, fulfillment, financing, factoring, taxes and retail payment settlement.

Enhance Trust. Access Capital.

Should government support conditions of blockchain driven trade?
Blockchain Marketplaces
Decentralized exchanges to disrupt* the third-party while opening up service stack for new value driven services. *Low fees may still apply.

* iTunes without iTunes
Smart Contracts disperse payments

* ebay without ebay
Distributed Marketplace

Should government encourage creation of community marketplaces?
Blockchain for P2P + Sharing Economy
Decentralized exchanges to disrupt* the third-party while opening up service stack for new value driven services. *Low fees may still apply.

Uber without Uber
Distributed Ridesharing Network

Peer-to-Peer
Energy Trading Network

Should government support evolution of P2P culture?
Blockchain for Healthcare + Wellness

Improve efficiencies, reduce fraud, and use smart contracts for programmable compliance and reward systems to scale behavior change.

Could blockchain transform population health management?
Government departments to reduce the cost and complexity of tasks:

- Data Collection + Authentication
- Taxation
- Procurement
- Identity (Passports; Birth certificates)
- Asset Registries (including land)
- Voting
- Access Control to Documents
- Permitting Processes (Soft costs)
- Community Crypto Currencies (Financial inclusion)
- Cyber Security
- DAOs (Autonomous Govt Structures)
Embrace the Jargon! Blockchain-as-a-Service (BaaS)

Public services to be put on blockchain in UK

28 April 2016 Hits: 568

Skyscape Cloud Services Ltd partners Credits to put the British public sector on blockchain, providing central and local governments, as well as health, defence and other industries with BaaS tools.
How Blockchains Bring Full Accountability To Government

from MayorsChain 11 months ago  |  more

HOW IT WORKS

1) The government puts, say, £18 billion into its 2016 budgetary account
2) It creates a crypto-asset consisting of 18 billion digital tokens
3) It sends budgetary tokens to each dept, district, team, project, etc.
4) Departments spend funds by spending tokens
5) Every time a token is used, anyone can see it happen on the blockchain
6) If any party needs GBP, tokens are redeemable for funds in the account
   (Technical note: to redeem GBP, parties will in fact provably destroy tokens in order
   for the total number of tokens to precisely match the amount of GBP in the account.
   Similarly, if funds are added to the budget, new tokens will be created.)
7) If money is paid from the account without trace on the blockchain, everyone knows an illicit act has taken place.
Focus on Analogs! What can you learn from loyalty + rewards?
Images Removed
Urgency to Get Culture Aligned Around Anticipation

On the Plateau
‘Managing the Decline’

• Incumbent mindset
• Incremental Improvement
• Fear, Uncertainty, Doubt & Denial

Big Bets, Small Steps

• Entrepreneurial mindset
• Prototyping
  Transformative Change
• Failing Forward
Practice Telling Stories + Taking Mental Leaps:

Scenarios from Trend Card Poker

Fictional Future Events:

- New Laws + Regulations
- New Competitors
- New Internal Rules
- New Leadership
- Disruptive Wildcards
Survey the Community on Emerging Trends + Opportunities

Readiness
- Ready
- Somewhat Ready
- Not Ready

Urgency
- Not Urgent
- Important
- Urgent – Critical

Urgency
Follow Ten People Outside the World of Local Government
Learn from people who are navigating creepy-compelling lines

Experience Design

‘The Blockchain’

Neuro Science

ATA
Association of Teaching Artists

Who We Are...

Teaching Artists

Data Scientists

Community Members
Give Structure to Innovative Thinking!

**Use ‘Killer Questions’ to Brainstorm Ideas**

Following the success of HP’s Chief Innovation Officer Phil McKinney, generate a weekly ‘Killer Question’ email message or ‘Twitter’ conversation that spurs conversation about the future of local government.

*What is a government department that does not exist today but will be our most innovative citizen lever of change in five years?*

*Which popular consumer brand today could make one of our government departments irrelevant in five years?*
Thank you!

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Learn More...
garrygolden.com/Oct19