



BUREAU OF THE
Fiscal Service
U.S. DEPARTMENT OF THE TREASURY

Design Thinking for Data

Marcel Jemio
12 August 2014

Agenda

- Background on **US Treasury, Bureau of the Fiscal Service** -
Who we are and what we do
- Business Trends and Patterns
 - **Why is the Ideas Economy the *New Normal*?** The causes and business outcomes of unprecedented, open innovation...
- Design Thinking
 - **What does this mean? What has Fiscal Service done? What can your organization do?**
- Final Thoughts and Takeaways – Design Thinking as an **Event Horizon**

Mission

The mission of the Bureau of the Fiscal Service is to promote the financial integrity and operational efficiency of the federal government through exceptional accounting, financing, collections, payments and shared services.

Vision

We will transform the way the government manages its finances and delivers shared services. Our goal is more efficiency, better transparency, and dependable accountability.

- **We have a deep commitment** to serving the interests of the American people and our federal clients.
- **We're driven by a passion** for improving financial management, and the delivery of administrative services, through efficient and effective operations.
- **We never lose focus** on our critical program responsibilities - essential to the operation of the federal government - while using our proven abilities and strengths to make government better.

We are the Bureau of the Fiscal Service

Lead. Transform. Deliver.



Our
Services



Reports &
Publications



Training
& Events

Doing Business with
The Fiscal Service

Background

In FY2013, Fiscal Service:

- Accounted for (to the penny every business day) and reported on all financial activity related to the \$16.7 trillion public debt
- Issued and serviced nearly \$5 trillion in Treasury securities invested by 80 federal agencies in 239 federal government trust and investment accounts, including \$3 trillion in 20 managed trust funds (Social Security, Highway, etc.)
- Loaned \$1.1 trillion in 100 federal government accounts
- Disbursed nearly \$2.4 trillion in federal payments annually including Social Security, veterans' benefits, and income tax refunds to more than 100 million people
- Disbursed more than 1 billion payments (92.5%) through EFT
- Collected \$7.02 billion in delinquent debt (including \$1.86 billion in delinquent child support)
- Collected over \$3.56 trillion in federal revenue
- Processed over 115 million transactions worth nearly \$113 billion through Pay.gov
- Settled nearly \$3.47 trillion (97.3% of total revenue collected) through Electronic Funds Transfer (EFT)
- Processed nearly 138.5 million transactions worth over \$2.38 trillion through the Electronic Federal Tax Payment System (EFTPS)
- Handled over 1.3 million Intra-governmental Payments and Collections transactions totaling \$108 trillion
- Managed a daily cash flow of \$93.6 billion
- Conducted 268 auctions and awarded \$8.01 trillion in Treasury marketable securities
- Issued and serviced \$26.6 billion in savings and marketable issues held by 548,398 investors in the online TreasuryDirect system
- Provided competitively priced reimbursable administrative and information technology services to 86 federal agencies as part of the Treasury Franchise Fund
- Provided human resources services for 17,000 federal employees
- Received 224 cumulative clean financial statement audits for our financial management customers

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"What paralyzes life is lack of faith and lack of audacity. The difficulty lies not in solving problems but identifying them." - *Pierre Teilhard de Chardin*

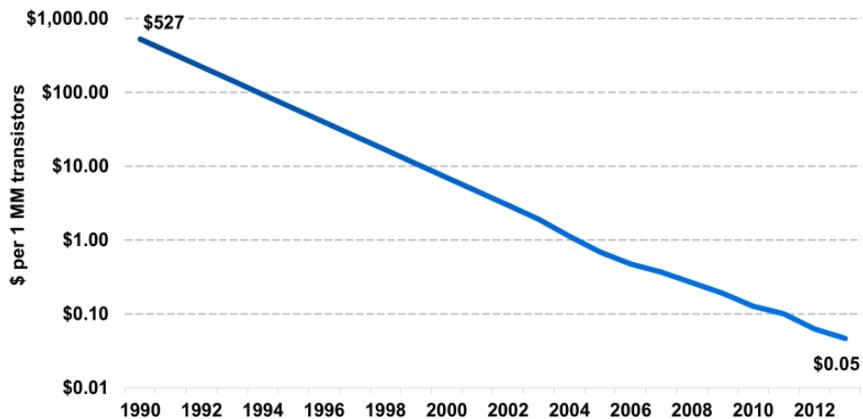
Business Trends and Patterns



Compute Costs Declining = 33% Annually, 1990-2013...

Decreasing cost / performance curve enables computational power @ core of digital infrastructure...

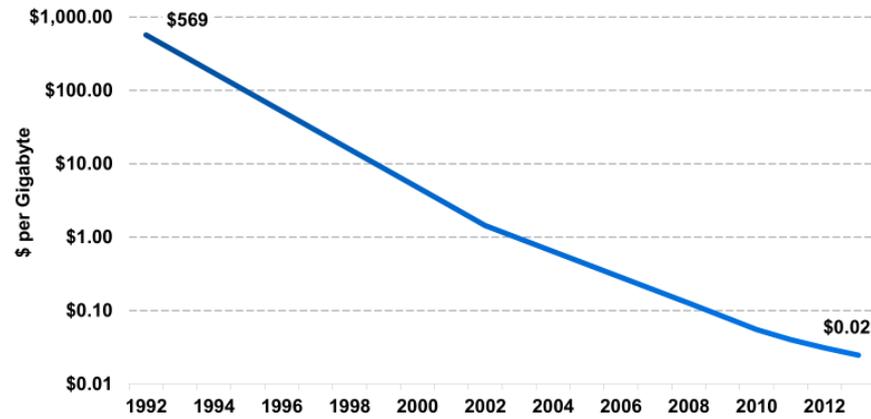
Global Compute Cost Trends



...Storage Costs Declining = 38% Annually, 1992-2013...

Decreasing cost / performance of digital storage enables creation of more / richer digital information...

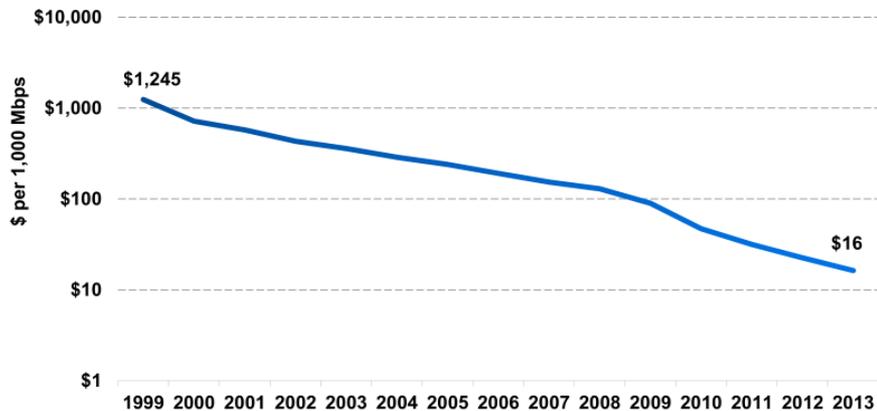
Global Storage Cost Trends



...Bandwidth Costs Declining = 27% Annually, 1999-2013...

Declining cost / performance of bandwidth enables faster collection & transfer of data to facilitate richer connections / interactions...

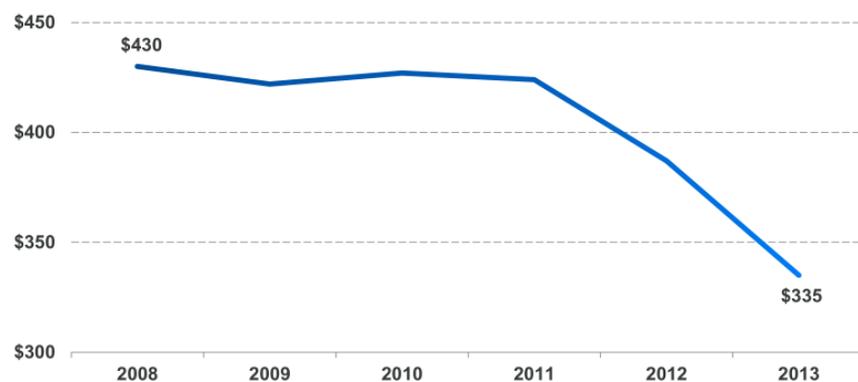
Global Bandwidth Cost Trends



...Smartphone Costs Declining = 5% Annually, 2008-2013

Smartphone prices continue to decline, increasing availability to masses...

Average Global Smartphone Pricing Trends



Amazon Web Services (AWS) Leading Cloud Charge...



@KPCB *Note: S3 is AWS' storage product and used as proxy for AWS scale / growth. Source: Company data.

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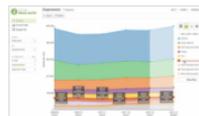
Google Voice Search
Voice Recognition

- Uses neural nets to reduce speech recognition errors by 25%
- Used by 1/6 of Google's U.S. mobile users



OpenGov
Government Financials

- Compiles data of 37K US governments
- Real-time queries across millions of rows of transactions
- Adding new paying government customer every 4 days (& accelerating)



Nest
Energy

- 2B+ Kilowatt hours (kWh) of energy saved since 2011*
- Reduces heating / cooling costs up to 20%...an estimated annual savings of \$173 per thermostat



Automatic
Connected Car

- Collects / analyzes hundreds of millions of data points daily
- Provides personalized feedback to drivers, saving up to 30% in fuel costs
- Discovered driving over 70 MPH saves <5% time, but wastes \$550 gas / year



Zephyr Health
Healthcare & Life Sciences

- Hundreds of millions healthcare data points ingested / organized (+192% Q/Q, Q3:13)
- 3,500+ independent life sciences sources used daily (+159% Q/Q & accelerating), spanning all major disease areas
- +111% Y/Y contracted revenue growth, 2013



Wealthfront
Investment Management

- +4.6% return vs. average mutual fund**
- 200K risk questionnaires completed
- 650K free trades, saving clients \$5MM+
- 10K+ clients
- \$800MM+ AUM, +700% since 1/13



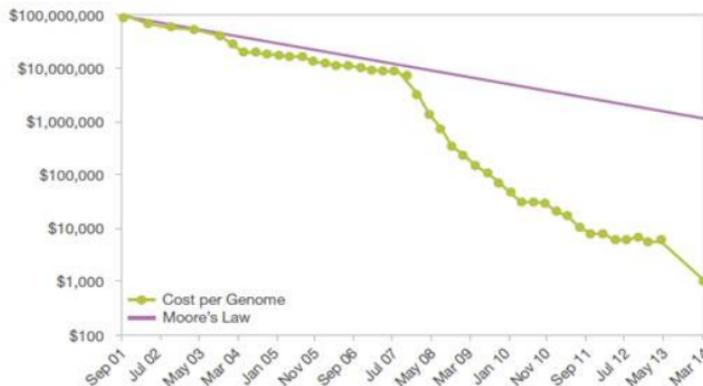
@KPCB *Based on Nest comparison of actual schedules and set points to a hypothetical (holding constant temperature). **Includes fees + underperformance; client savings of \$5MM+ assumes \$8 per trade retail. Source: Company data.

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Cost / Time to Sequence Genome Down to \$1,000 / 24 Hours – Treasure Trove of Patterns Will Rise Rapidly

Accurate diagnosis is foundation for choosing right treatments for patients & clinical lab tests provide critical information health care providers use in ~70% of decisions*

Genetic & genomic testing can be at heart of a new paradigm of [precision] medicine that is evidence-based & rooted in quantitative science**



@KPCB *UK Department of Health. ** American Clinical Laboratory Association / BattelleTechnology Partnership Practice. Image: Illumina. <http://www.kpcb.com/internet-trends>

Global Internet Public Market Leaders = Apple / Google / Facebook / Amazon / Tencent...

Rank	Company	Region	2014 Market Value (\$B)	2013 Revenue (\$MM)
1	Apple	USA	529	173,992
2	Google	USA	377	59,825
3	Facebook	USA	157	7,872
4	Amazon	USA	144	74,452
5	Tencent	China	132	9,983
6	eBay	USA	66	16,047
7	Priceline	USA	63	6,793
8	Baidu	China	59	5,276
9	Yahoo!	USA	35	4,680
10	Salesforce.com	USA	33	4,071
11	JD.com	China	29	11,454
12	Yahoo! Japan	Japan	25	3,641
13	Netflix	USA	24	4,375
14	Naver	Korea	23	2,190
15	LinkedIn	USA	19	1,529
16	Twitter	USA	18	665
17	Rakuten	Japan	16	4,932
18	Liberty Interactive	USA	14	11,252
19	TripAdvisor	USA	13	945
20	Qihoo 360	China	11	671
Total			1,787	404,644

@KPCB Source: CapIQ. 2014 market value data as of 5/23/2014. Colors denote current market value relative to Y/Y market value. Green = higher. Red = lower. Purple = newly public.

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Like the physical universe, the digital universe is large – by 2020 containing nearly as many digital bits as there are stars in the universe. It is **doubling in size every two years**, and by 2020 the digital universe – the data we create and copy annually – will reach 44 zettabytes, or 44 trillion gigabytes.



If the Digital Universe were represented by the memory in a stack of tablets, in 2013 it would have stretched two-thirds the way to the Moon*

By 2020, there would be 6.6 stacks from the Earth to the Moon*



In 2013, **only 22% of the information in the digital universe would be a candidate for analysis**, i.e., useful if it were tagged (more often than not, we know little about the data, unless it is somehow characterized or tagged – a practice that results in metadata); **less than 5% of that was actually analyzed**. By 2020, the useful percentage could grow to more than 35%

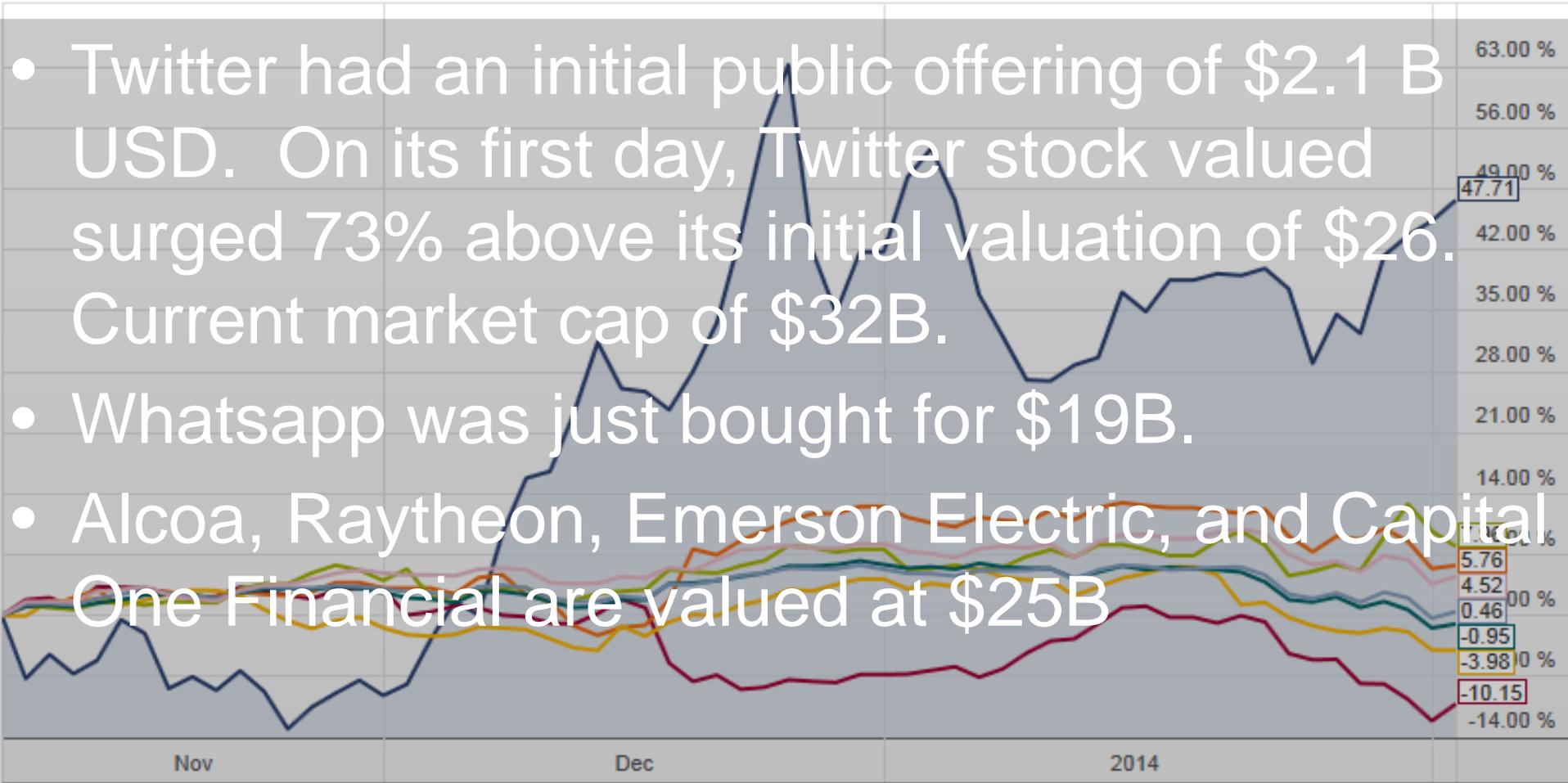
In 2013, less than 20% of the data in the digital universe is “touched” by the cloud, either stored, perhaps temporarily, or processed in some way. **By 2020, that percentage will double to 40%.**

Business Trends and Patterns

- Ideas economy (+)
 - **"Innovative ideas are more valuable than physical assets or existing cash flow"** - Businessweek.com Larry Popelka
 - **80%** of the developed world's wealth resides in human capital. (World Bank, "Changing Wealth of Nations")
 - **"Companies which are more data driven, are 5% more productive and 6% more profitable"** – MIT, Wharton, McKinsey, HBR.

Business Trends and Patterns

Nov 07, 2013 - Feb 04, 2014 ● TWTR ● F ● ORCL ● IBM ● RTN ● !DJI ● !SPX ● @CCO



- Twitter had an initial public offering of \$2.1 B USD. On its first day, Twitter stock valued surged 73% above its initial valuation of \$26. Current market cap of \$32B.
- Whatsapp was just bought for \$19B.
- Alcoa, Raytheon, Emerson Electric, and Capital One Financial are valued at \$25B

Business Trends and Patterns

- Ideas economy (-)
 - **70% of the companies on the Fortune 1000 list ten years ago have now vanished.** Those companies vanished because they were unable to adapt.
 - **89% of consumers** began doing business with a competitor following a poor customer experience.
 - After a poor customer experience, **26% posted negative complaints** on a social networking site such as Facebook or Twitter
 - **50% of consumers give a brand only one week** to respond to a question before they stop doing business with them.

Agenda

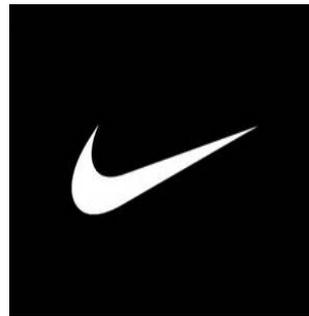
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Design Thinking



Go Further

Steelcase



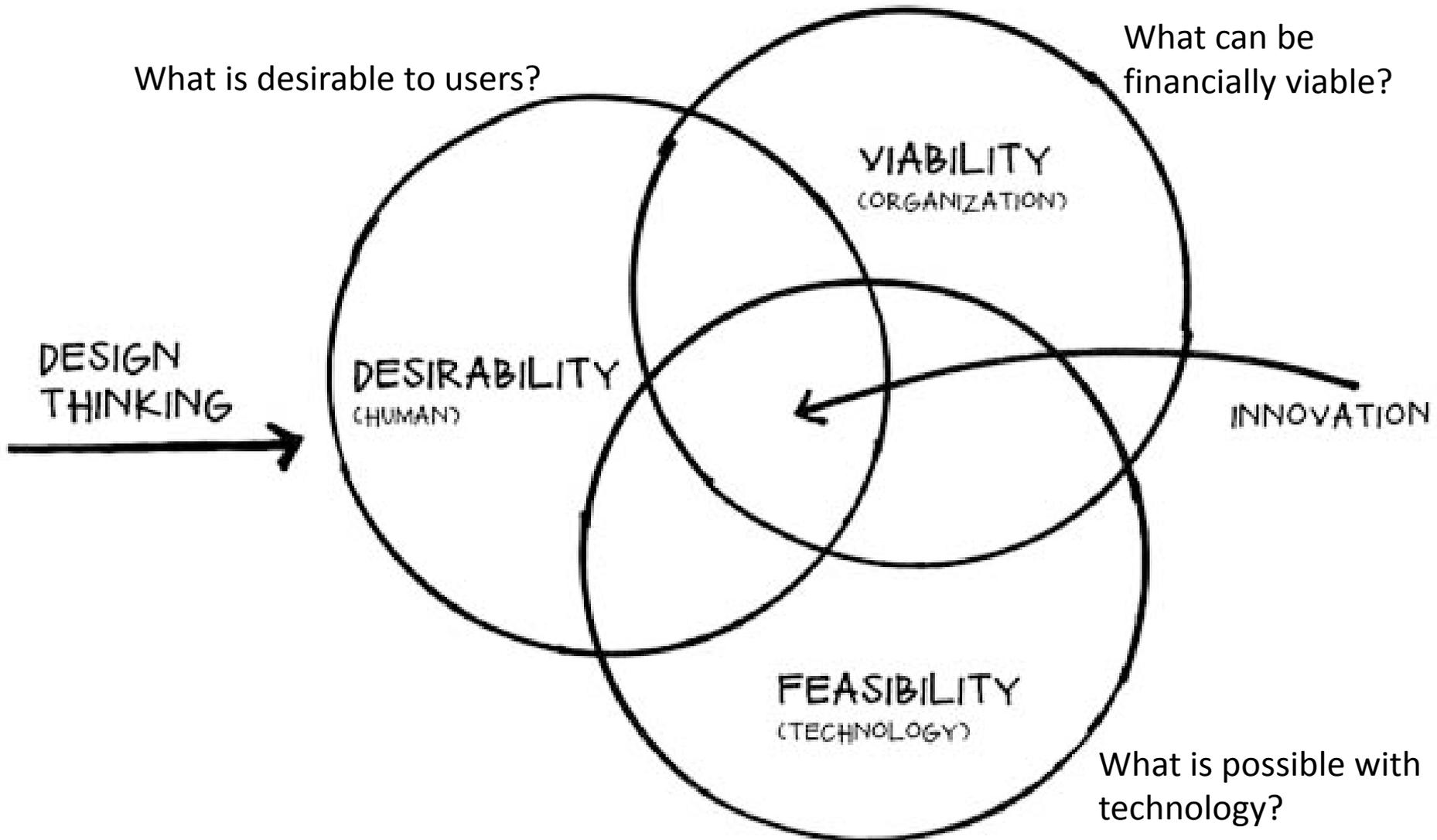
NETFLIX

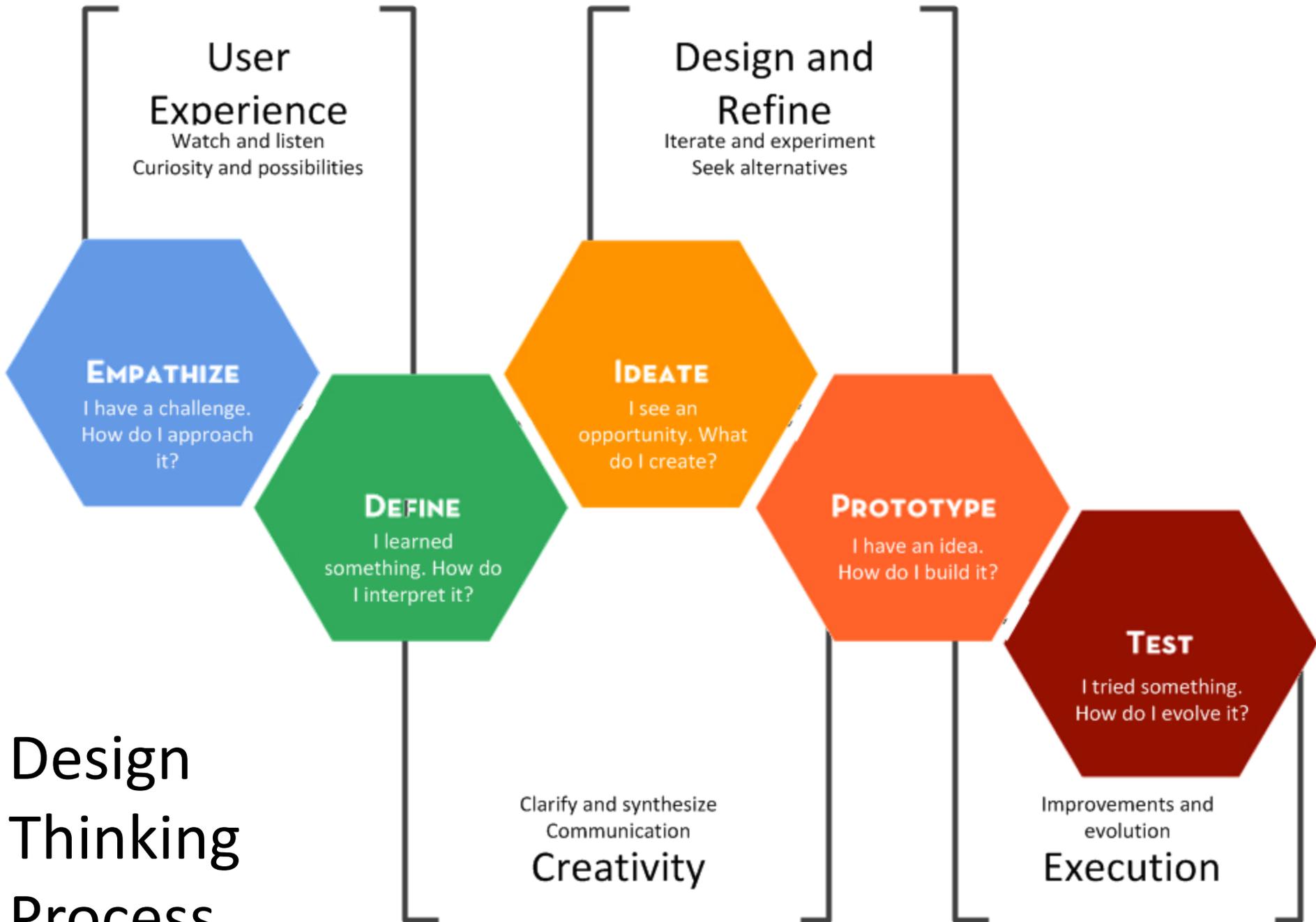


Design Thinking

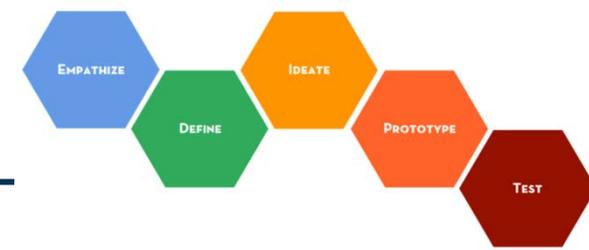
- New kind of business climate that **rewards innovation**
 - Innovation is both art and science
 - Anyone can be creative
 - Innovation is a process

Design Thinking



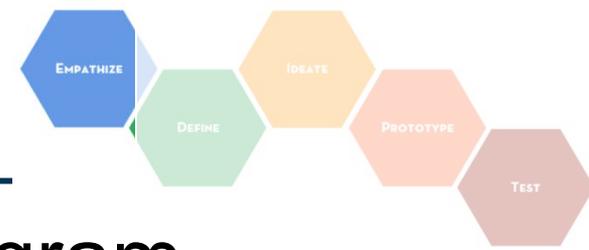


Design Thinking Process



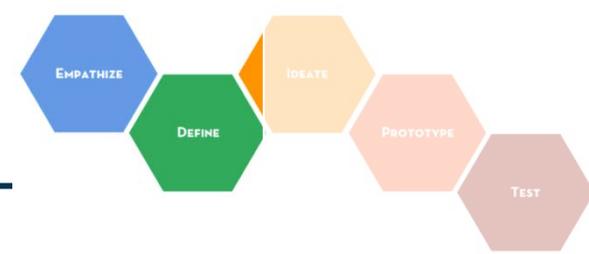
- Empathize and Define
 - Developing a 360-degree understanding of the challenges for all stakeholders, including those who produce and deliver the product or service, in order to creatively question the status quo and reframe the problem
- Ideate
 - Taking a diverse and divergent approach to generating ideas, synthesizing complex issues, and visualizing solutions in order to support better decision-making
- Prototype
 - A thoughtful approach to design thinking (and doing) that includes rapid prototyping, testing, and shorter time to market also makes organizations more effective competitors and reduces risk of failure
- Test
 - By providing a more disciplined approach with proven processes, tools, and exercises, design thinking is making organizations more efficient and consistent innovators.

Design Thinking Example



- Starting a data governance program
 - No “stick”, just “carrot”
 - No budget
 - Mission: build a catalog of data elements
 - Scope: enterprise-wide

Design Thinking Example



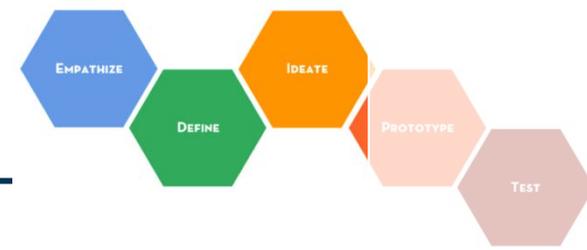
The screenshot displays the Altova XMLSpy interface. The main window shows an XML Schema (XSD) document with the following code:

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:urn="urn:us.gov.treasury" targetNamespace="urn:us.gov.treasury"
  elementFormDefault="qualified" attributeFormDefault="unqualified" version="5.0">
  <xsd:include schemaLocation="..\\core\\Common_ComplexTypes.xsd"/>
  <xsd:element name="Error" type="Error_ComplexType"/>
  <xsd:annotation base="xsd:documentation" target="Error" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">Contains the error metadata fields.</xsd:annotation>
  <xsd:element name="Errors" type="Errors_ComplexType"/>
  <xsd:annotation base="xsd:documentation" target="Errors" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">Container for each Error item.</xsd:annotation>
  <xsd:element name="AccountableDetail" type="AccountableDetail" base="xsd:complexType" substitutionBase="AccountableDetail" />
  <xsd:annotation base="xsd:documentation" target="AccountableDetail" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:Refers to the business line associated to the content of the transaction, r
  </xsd:annotation>
  <xsd:element name="AccountingReportingStatus" type="AccountingReportingStatus" base="xsd:complexType" substitutionBase="AccountingReportingStatus" />
  <xsd:annotation base="xsd:documentation" target="AccountingReportingStatus" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:Represents the metadata associated with GWA reporting status.
  </xsd:annotation>
  <xsd:element name="ACH_Addendum" type="ACH_Addendum" base="xsd:complexType" substitutionBase="ACH_Addendum" />
  <xsd:annotation base="xsd:documentation" target="ACH_Addendum" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container for additional information about entry detail records.
  </xsd:annotation>
  <xsd:element name="DataElement" type="DataElement" base="xsd:complexType" substitutionBase="DataElement" />
  <xsd:annotation base="xsd:documentation" target="DataElement" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container that provides domain specific metadata for the record, iden
  </xsd:annotation>
  <xsd:element name="ACH_Batch" type="ACH_Batch" base="xsd:complexType" substitutionBase="ACH_Batch" />
  <xsd:annotation base="xsd:documentation" target="ACH_Batch" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container for select content related to the ACH Batch record.
  </xsd:annotation>
  <xsd:element name="ACH_BatchReference" type="ACH_BatchReference" base="xsd:complexType" substitutionBase="ACH_BatchReference" />
  <xsd:annotation base="xsd:documentation" target="ACH_BatchReference" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:Contains pertinent information about a set of ACH payments.
  </xsd:annotation>
  <xsd:element name="ACH_Detail" type="ACH_Detail" base="xsd:complexType" substitutionBase="ACH_Detail" />
  <xsd:annotation base="xsd:documentation" target="ACH_Detail" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container for ACH specific content.
  </xsd:annotation>
  <xsd:element name="ACH_EntryDetail" type="ACH_EntryDetail" base="xsd:complexType" substitutionBase="ACH_EntryDetail" />
  <xsd:annotation base="xsd:documentation" target="ACH_EntryDetail" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container for select content related to the ACH Entry Detail record.
  </xsd:annotation>
  <xsd:element name="ACH_EntryReference" type="ACH_EntryReference" base="xsd:complexType" substitutionBase="ACH_EntryReference" />
  <xsd:annotation base="xsd:documentation" target="ACH_EntryReference" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:Identifies the type of ACH transaction
  </xsd:annotation>
  <xsd:element name="ACH_Info" type="ACH_Info" base="xsd:complexType" substitutionBase="ACH_Info" />
  <xsd:annotation base="xsd:documentation" target="ACH_Info" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container for ACH content associated with check conversion.
  </xsd:annotation>
  <xsd:element name="ACH_PayeeBankInfo" type="ACH_PayeeBankInfo" base="xsd:complexType" substitutionBase="ACH_PayeeBankInfo" />
  <xsd:annotation base="xsd:documentation" target="ACH_PayeeBankInfo" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:Contains the payee bank information for ACH.
  </xsd:annotation>
  <xsd:element name="ACH_Payment" type="ACH_Payment" base="xsd:complexType" substitutionBase="ACH_Payment" />
  <xsd:annotation base="xsd:documentation" target="ACH_Payment" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:ACH payment detail information.
  </xsd:annotation>
  <xsd:element name="ACH_Record" type="ACH_Record" base="xsd:complexType" substitutionBase="ACH_Record" />
  <xsd:annotation base="xsd:documentation" target="ACH_Record" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:urn="urn:us.gov.treasury">ann:The container for formatted ACH content.
  </xsd:annotation>
</xsd:schema>
```

The interface also shows a list of components and a table of attributes for the selected element.

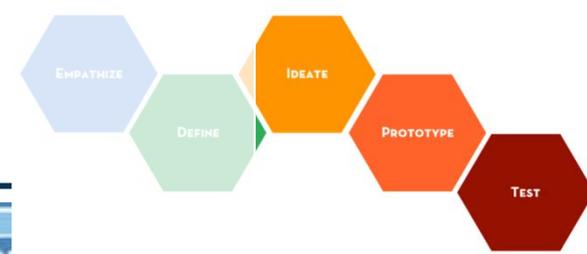
Name	Type	Use	Default	Fixed
InputSystemText	StringLength_0to40_SimpleType	optional		
EOD_Indicator	Boolean_SimpleType	optional		
VersionIdentifier	StringLength_0to80_SimpleType	optional		
AccountableBusinessLineCode	BusinessTransmissionCategory_Simple	optional		
ReportingBusinessLineCode	BusinessTransmissionCategory_Simple	optional		

Design Thinking Questions



- How might you make **sense of your data**?
- How might you improve your **sensemaking capabilities**?
- How might you improve your **decision-making capabilities**?
- How might you **use data to improve your decision-making**?
- How might you use **data visualization** in the context of solving complex organizational challenges?
- How might you build **resilient/adaptive capacity** in your organization?
- How might you incorporate **data visualization** into your adaptive capacity building?
- How might you build an organizational culture that equally values both divergent and convergent thinking?
- How might you make **use of data to help others** solve complex social problems?
- How might you **incorporate sensemaking** into the skilling of a new generation of change-making leaders?

Design Thinking Example



BUSINESS MESSAGE LISTING

AGENCYLOCATIONCODERECORDS

AGENCYLOCATIONCODERECORD [0..UNBOUNDED]

AGENCYADDRESS [0..1]

AGENCYCONTACTINFO [0..1]

ACCOUNTINGREPORTINGSTATUS [0..4]

LIBRARY RESOURCE

DOCUMENTATION

DATA DICTIONARY AND CHANGE LOG

DATA DICTIONARY

ATTRIBUTE DATADICTIONARY

ELEMENT DATADICTIONARY

AGENCYLOCATIONCODERECORD DATA DOCUMENTS

BROWSE THE MIND MAP

DATA LISTING

HELP

BASIC HELP

GENERIC HELP

DOWNLOADS

PUBLISHED RELEASES

CURRENT FMS XML RELEASE

ARCHIVED RELEASES

RELEASE 4.7

RELEASE 4.6

RELEASE 4.5

RELEASE 4.4

RELEASE 4.3

RELEASE 4.2.1

RELEASE 4.2

RELEASE 4.1

RELEASE 4.0

RELEASE 3.0

RELEASE 2.2

RELEASE 2.1

EXPAND ALL

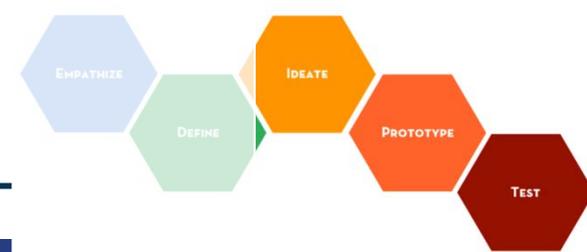
COLLAPSE ALL

ELEMENT INFORMATION

NAME	AgencyLocationCodeRecord
DEFINITION	An Organizational Unit beneath a Bureau representing a given office/location for an Agency, identified for the purpose of Treasury accounting.
NAMESPACE	urn:us:gov:treasury
CARDINALITY	[0..unbounded]
CONTENT MODEL	The <AgencyLocationCodeRecord> element contains 3 children elements and has a sequence content model. The sequence content model means that there is a particular order to the children elements of the parent element - in this case, the <AgencyLocationCodeRecord> element has a particular order of elements that must be followed.

ATTRIBUTE NAME	USE	DATATYPE	DEFINITION
AgencyName	[0..1]	String [0, 80]	Name of the agency.
BureauName	[0..1]	String [0, 100]	The name of the Bureau.
LegislativeBureauCode	[0..1]	[0-9]{2,3}	The Treasury code that identifies a major sub-organization of the agency, sometimes called an administration, service, or agency. (Not all agencies have bureaus.)
LegacyBureauCode	[0..1]	[0-9]{2,3}	This is the Treasury's legacy code that identifies an organizational level of the Federal government falling under an agency, to which agency locations may be assigned. This will be replaced by Legislative Bureau Code
AgencyLocationCode	[1..1]	[0-9]{8}	Identifies the accounting office within an agency that reports disbursements and collections to Treasury.
AgencyIdentifier	[0..1]	[0-9]{3}	Identifies a major department or independent agency of the Federal government. Within the Treasury Account Symbol, this is used in conjunction with the main account code. The Agency Identifier represents the department, agency or establishment of the U.S. Government that is responsible for the Treasury Account Symbol.
			This is Treasury's legacy 2-digit code that identifies a major department or independent agency of the Federal government. Within the Treasury Account Symbol, this is used in conjunction with the main

Design Thinking Example

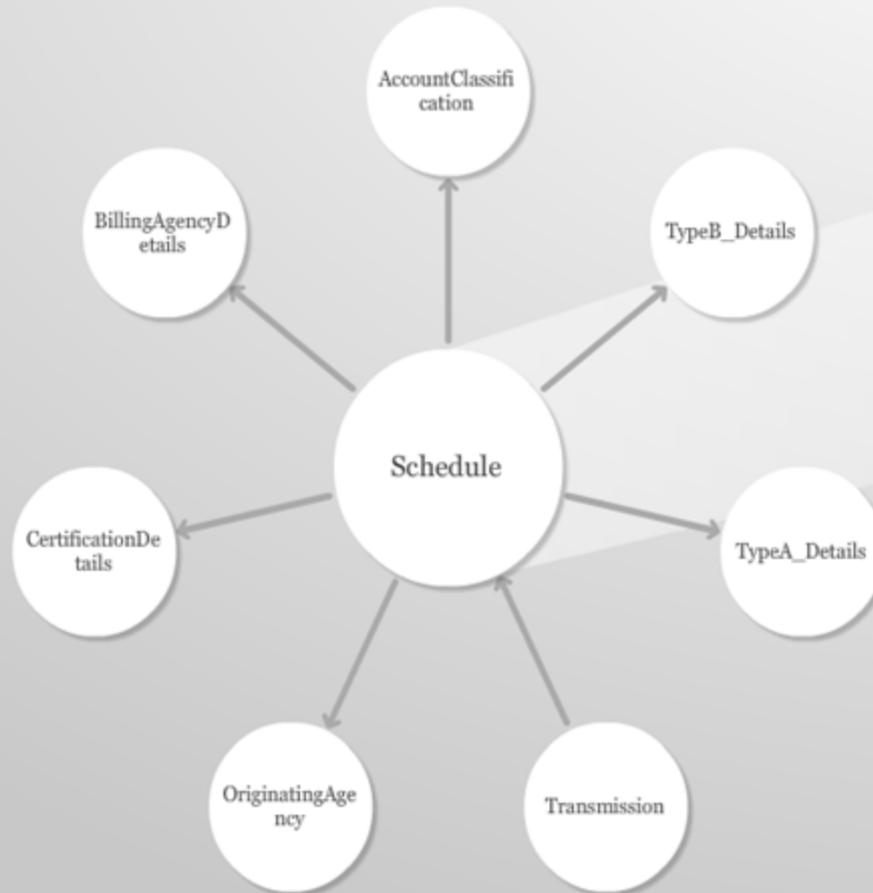
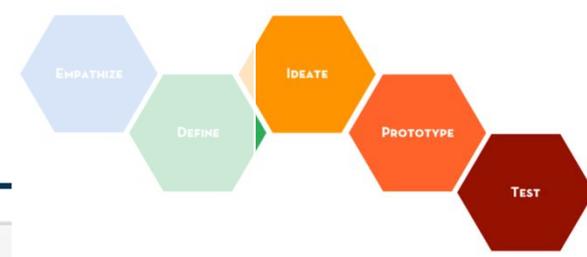


HOME GO BACK

Please note that some of the metadata columns might not appear within the browser window - so please use the scroll bar to navigate horizontally. Depending on the filtering/sort criteria, you may experience a noticeable processing delay, please be patient.

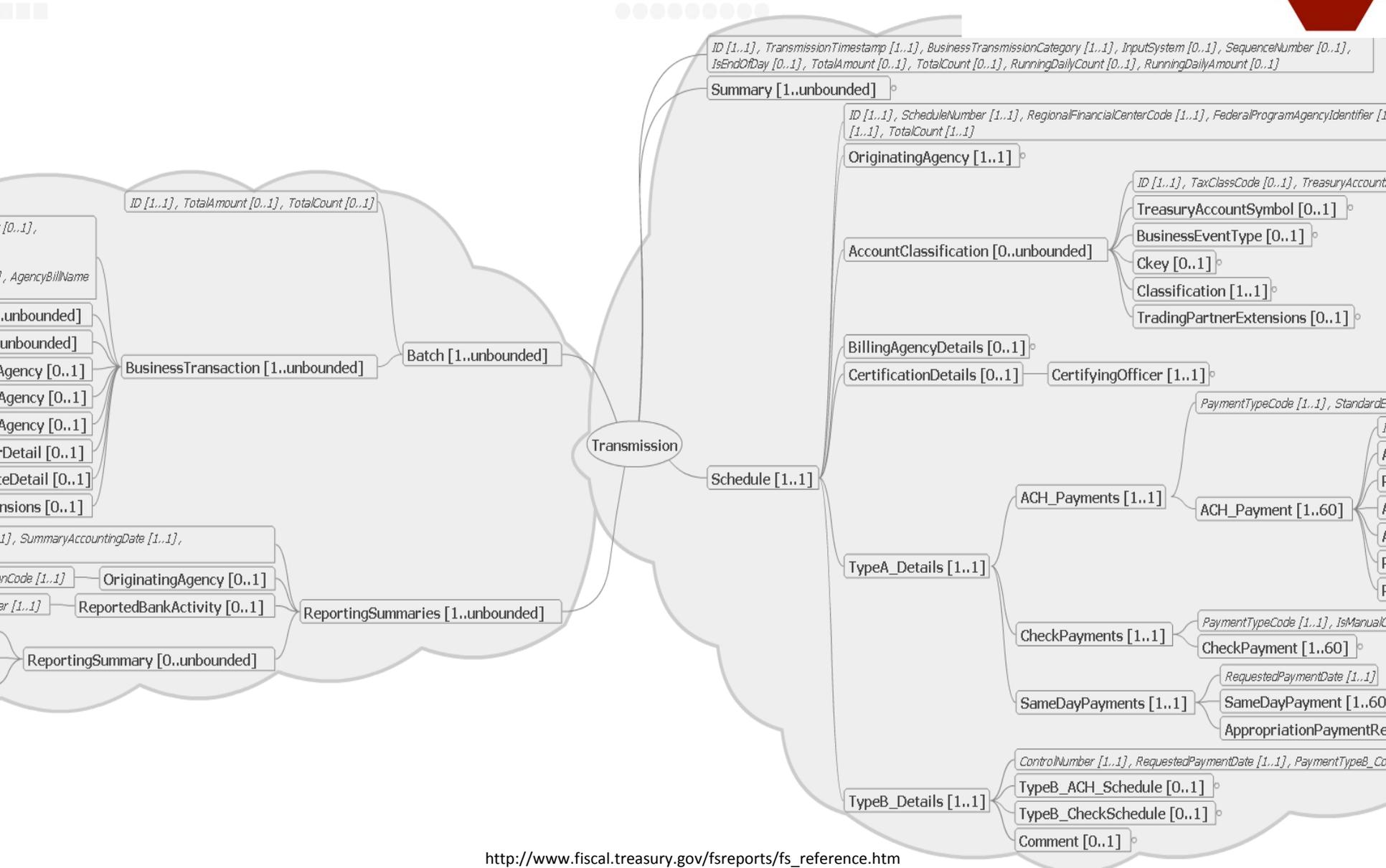
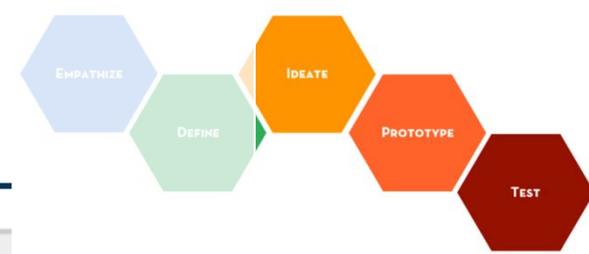
STATUS	NAME	DEFINITION	PRIOR DEFINITION	CHILD ELEMENT LIST	PRIOR CHILD ELEMENT LIST	ATTRIBUTE LIST
No Change	AccountableDetail	Refers to the business line associated to the content of the transaction, rather than the business line associated with the processing of the transaction.	Refers to the business line associated to the content of the transaction, rather than the business line associated with the processing of the transaction.			BusinessTransmissionCategory[1..1]
No Change	AccountClassification	Identifies the Treasury Account information, for example, this would contain the TAS/BETC or Ckey Name/Value.	Identifies the Treasury Account information, for example, this would contain the TAS/BETC or Ckey Name/Value.	TreasuryAccountSymbol [0..1], BusinessEventType [0..1], Ckey [0..1], Classification [1..1], TradingPartnerExtensions [0..1]	TreasuryAccountSymbol [0..1], BusinessEventType [0..1], Ckey [0..1], Classification [1..1], TradingPartnerExtensions [0..1]	ID[1..1], TaxClassCode[0..1], TreasuryAccountSymbolText[0..1], IsCredit[0..1]
No Change	ACH_Detail	Contains ACH specific content.	Contains ACH specific content.	NACHA_Batch [0..1], NACHA_Detail [0..1], Addenda [0..unbounded]	NACHA_Batch [0..1], NACHA_Detail [0..1], Addenda [0..unbounded]	ACH_Type[0..1], StandardEntryClassCode[0..1], EffectiveEntryDate[0..1], CompanyEntryDescrip [0..1], ServiceClassCode[0..1], TransactionCod [0..1], TraceNumber[0..1], OriginalTraceNumber [0..1], IsRecurring[0..1]
No Change	ACH_Info	Contains a subset of ACH content from check conversion.	Contains a subset of ACH content from check conversion.			ACH_Type[0..1], StandardEntryClassCode[0..1], EffectiveEntryDate[0..1], CompanyEntryDescrip [0..1], ServiceClassCode[0..1], TransactionCod [0..1], TraceNumber[0..1], OriginalTraceNumber [0..1], IsRecurring[0..1]
No Change	ACH_PayeeAddress	The address information related to an ACH payment.	The address information related to an ACH payment.	PayeeAddressLine [0..2]	PayeeAddressLine [0..2]	IsNonDomestic[0..1], CityName[0..1], StateName [0..1], StateCodeText[0..1], PostalCode[0..1], PostalCodeExtension[0..1], CountryCodeText[0..1]
No Change	ACH_PayeeBankInfo	Contains the payee bank information for ACH.	Contains the payee bank information for ACH.			RoutingNumber[1..1], AccountNumber[1..1], BankAccountType[1..1]
No Change	ACH_Payment	ACH payment detail information.	ACH payment detail information.	AccountClassification [0..100], Payment [1..1], ACH_PayeeBankInfo [1..1], ACH_PayeeAddress [0..1], PaymentAddendum [0..unbounded], ProcurementDetail [0..1]	AccountClassification [0..100], Payment [1..1], ACH_PayeeBankInfo [1..1], ACH_PayeeAddress [0..1], PaymentAddendum [0..unbounded], ProcurementDetail [0..1]	ID[0..1], PayeeIdentifier[1..1], IsTOP_Offset[1..1], PartyName[1..1], IsSalaryAllotment[0..1]
No Change	ACH_Payments	Container for ACH payment detail information	Container for ACH payment detail information	ACH_Payment [1..60]	ACH_Payment [1..60]	PaymentTypeCode[1..1], StandardEntryClassCode [1..1], GarnishmentIndicator[0..1]
No Change	Addenda	Container for addendum records.	Container for addendum records.	Addendum [1..unbounded]	Addendum [1..unbounded]	TotalCount[0..1]
No Change	Addendum	These records will be used to supply additional information about entry detail records.	These records will be used to supply additional information about entry detail records.	NACHA_Record [0..1], DataElement [0..unbounded]	NACHA_Record [0..1], DataElement [0..unbounded]	SequenceNumber[0..1], EntryDetailSequenceNumber[0..1], TypeCode [0..1], PaymentRelatedInformation[0..1]

Design Thinking Example



Name	Schedule
Description	ID [1..1], ScheduleNumber [1..1], RegionalFinancialCenterCode [1..1], FederalProgramAgencyIdentifier [1..1], TotalAmount [1..1], TotalCount [1..1]

Design Thinking Example



ACH_Addendum Profile



Administrative Metadata

NAME	ACH_Addendum		DATA SECURITY CODE	Public
LONG NAME	Automated Clearing House Addendum		EFFECTIVE DATE	2012-03-15
BUSINESS DEFINITION	These records will be used to supply additional information about entry detail records.		PUBLISHED DATE	2012-06-28
BUSINESS CONTEXT	Treasury / Fiscal Service			
REGISTRATION STATUS	Standard	ADMINISTRATIVE STATUS CODE	Approved/Standard	

Stewardship Metadata

RESPONSIBLE BUSINESS LINE	Revenue Collections Management	DATA STEWARD CONTACT PERSON	Shannon Koppers
BUSINESS OWNER	Financial Management Service	DATA STEWARD CONTACT EMAIL	shannon.koppers@fms.treas.gov

Representation Metadata

DATATYPE	Class	REPRESENTATION CLASS	Text
CHARACTER TEXT CODE	None	CHARACTER CASE CODE	None
MAY CONTAIN PUNCTUATION	No	MAY CONTAIN SPECIAL CHARACTERS	No
MAY CONTAIN WHITE SPACES	No		

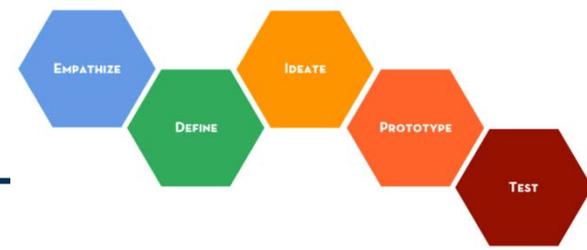
Business Rules Metadata

BUSINESS RULES	DESCRIPTION
No records.	

Situational Metadata

DATA EXCHANGE VERSION	DOCUMENT LINK	REPEATABILITY	PERSONALLY IDENTIFIABLE INFORMATION
TRS inbound 4.8	http://fms.treas.gov/data/FMSv48/TRXv10/Transmission/Batch/BusinessTransaction/FinancialTransaction/ACH_Detail/Addenda/ACH_Addendum	[1..unbounded]	No
TRS inbound 4.8	http://fms.treas.gov/data/FMSv48/TRXv10/Transmission/Summary/Batch/BusinessTransaction/FinancialTransaction/ACH_Detail/Addenda/ACH_Addendum	[1..unbounded]	No

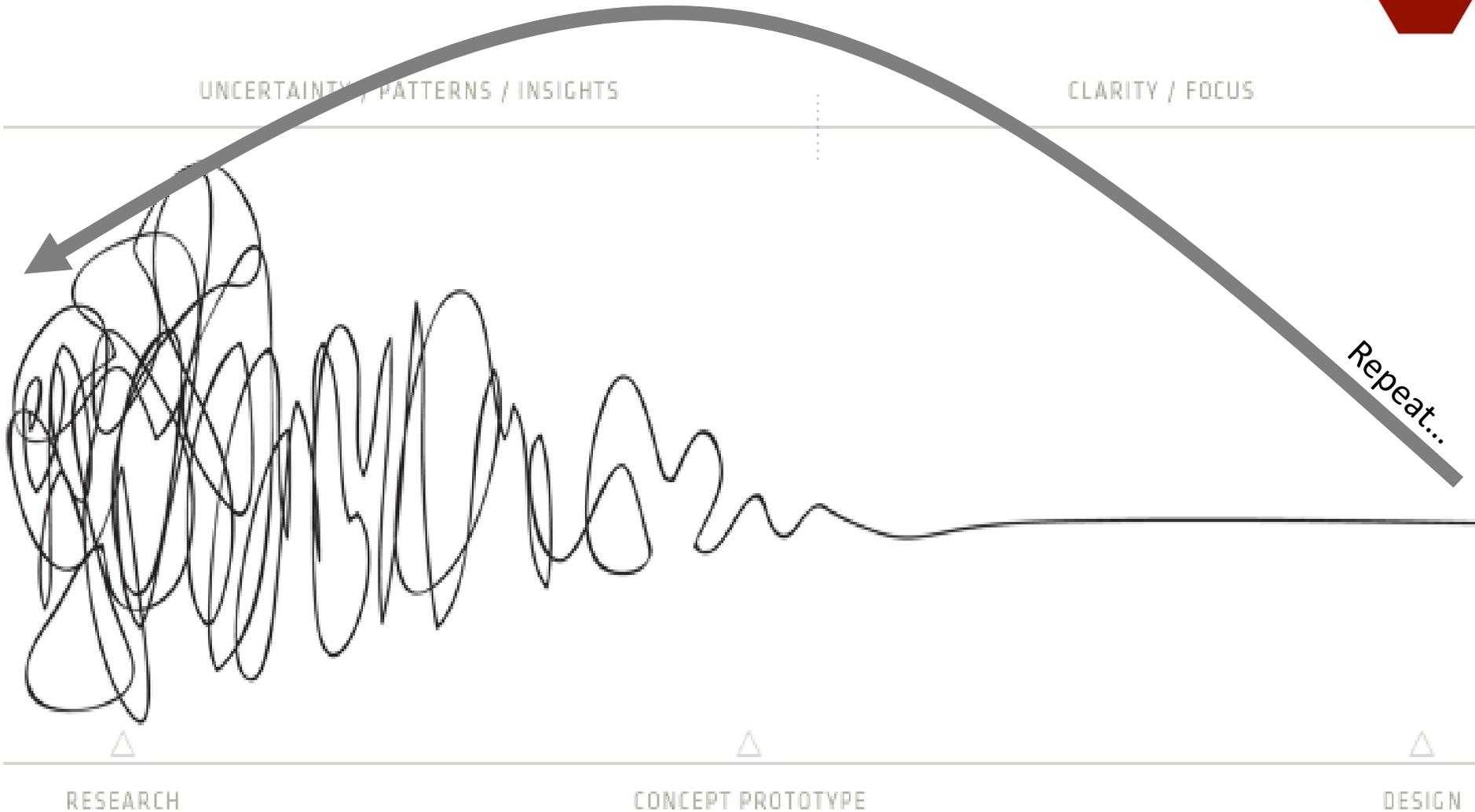
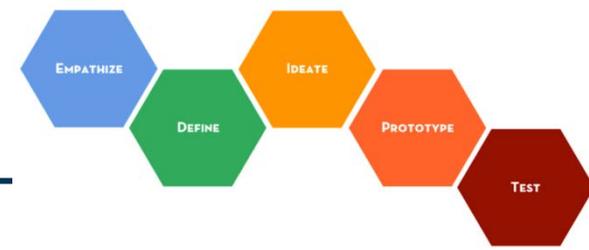
Example Takeaways



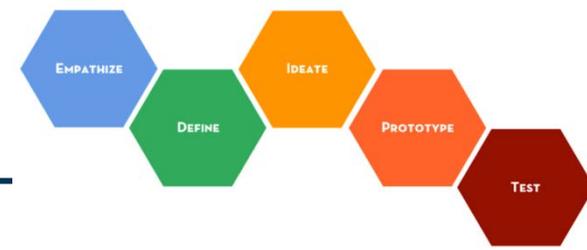
- About the process
 - Be **curious** about solving problems – understand customer pain points, ask questions, and listen
 - Be lightweight and **adapt**
 - **Experimentation is key** (and doesn't end at first release or last release) – get feedback from customers and **take action**

- About the customers
 - Appreciated being **part of the solution**, not part of the problem!
 - Got used to “**fail fast**” – no big failures, iterative updates
 - Arrived at steady state with buy-in from customers

Example Takeaways



Example Takeaways



- About the workload
 - **Received clearer direction on desired capabilities** because customers were engaged
 - Anticipated problems because we were **embedded with customers**
- About the outcome
 - Data needs to be ***governed*** (holistic)
 - Data needs to be in ***context*** – **the metadata must be managed** (data is a *means* to an end, not an *end*)
 - Data needs to be built for ***multi-purpose use***
 - Can't reuse if not understood
 - Won't be usable if not accessible
 - **Value of data is in use of data**

Agenda

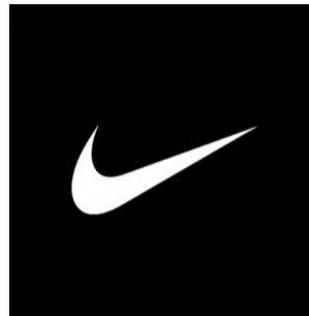
- Background on **US Treasury, Bureau of the Fiscal Service** - Who we are and what we do
- Business Trends and Patterns
 - **Why is the Ideas Economy the *New Normal*?** The causes and business outcomes of unprecedented, open innovation...
- Design Thinking
 - **What does this mean? What has Fiscal Service done? What can your organization do?**
- Final Thoughts and Takeaways – Design Thinking as an **Event Horizon**

Final Thoughts and Takeaways



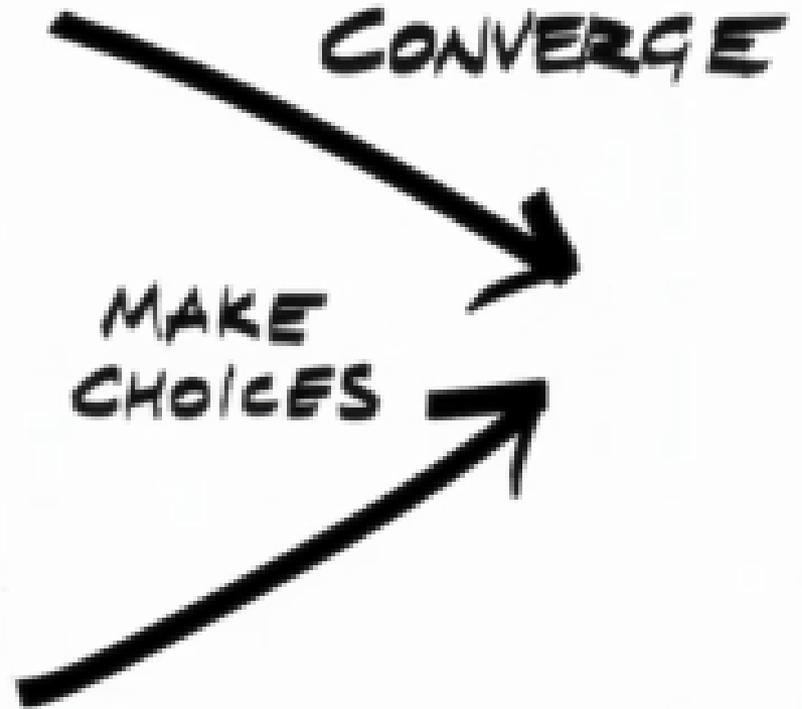
Go Further

Steelcase

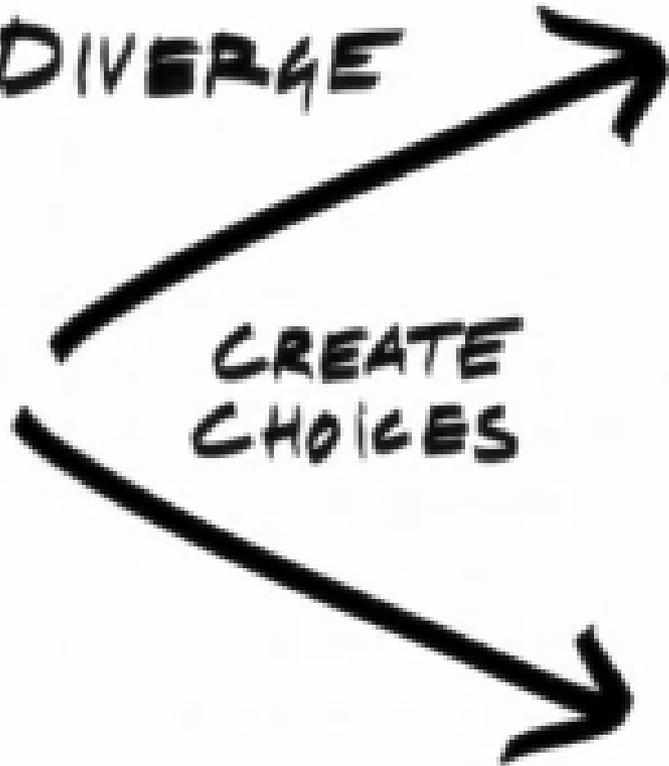


NETFLIX



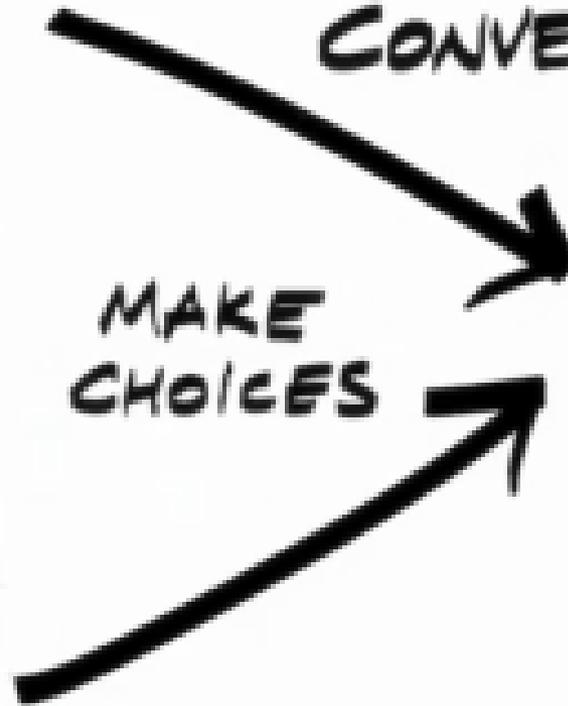


DIVERGE



**CREATE
CHOICES**

CONVERGE

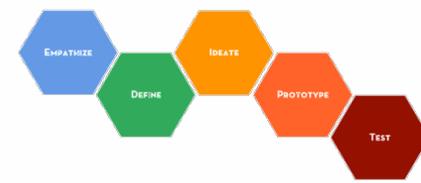


**MAKE
CHOICES**

Final Thoughts and Takeaways

- **Value of Design Thinking**
 - **Innovation is a process; democratizes creativity**
 - Not just a destination or a journey but both
- **Ideas economy**
 - Design-driven companies over the last 10 years have outperformed the S&P 500 by 228%
 - **Outside-in** and **Inside-out**
- **Meaningful information is the new currency of business**
 - An **ability to adapt**
 - Information-centric and **evidence-based decision making**
 - Value of data is in **use** of data
 - **Know your customer** (gaps, causes, weaknesses, links, issues)

Final Thoughts and Takeaways



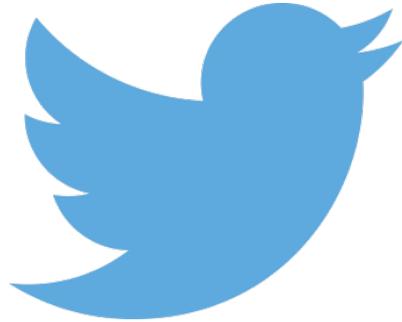
IF YOU WANT SOMETHING

YOU'VE NEVER HAD

DO SOMETHING YOU'VE

NEVER DONE

Final Thoughts and Takeaways



Please keep the
#DesignThinking
conversation going
@FiscalService

Thank you for your time. For more information, contact Marcel Jemio at ***marcel.jemio@fiscal.treasury.gov***