

Rethinking Crappy Legal Identities to Reduce Fraud

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What's Covered?

- Introduction
- Fraud costs from a crappy legal identity
- Rethinking identity from the ground up
- Legal self-sovereign identity (LSSI)
- Corporate SSI to offer to your customers while governments slowly move towards an LSSI

Who Am I?

- My wife calls me an old fart
- I've led many large complex identity projects including Boeing, Capital One and Government of Alberta's Digital Citizen Identity & Authentication project
- I'm a combination of a visionary, and an implementor, who likes to leave behind a sustainable framework system, long after I'm over the horizon
- I get my teams to view the framework from the governance, business process and technical perspectives, looking for attack vectors

Costs of a Crappy Legal Identity

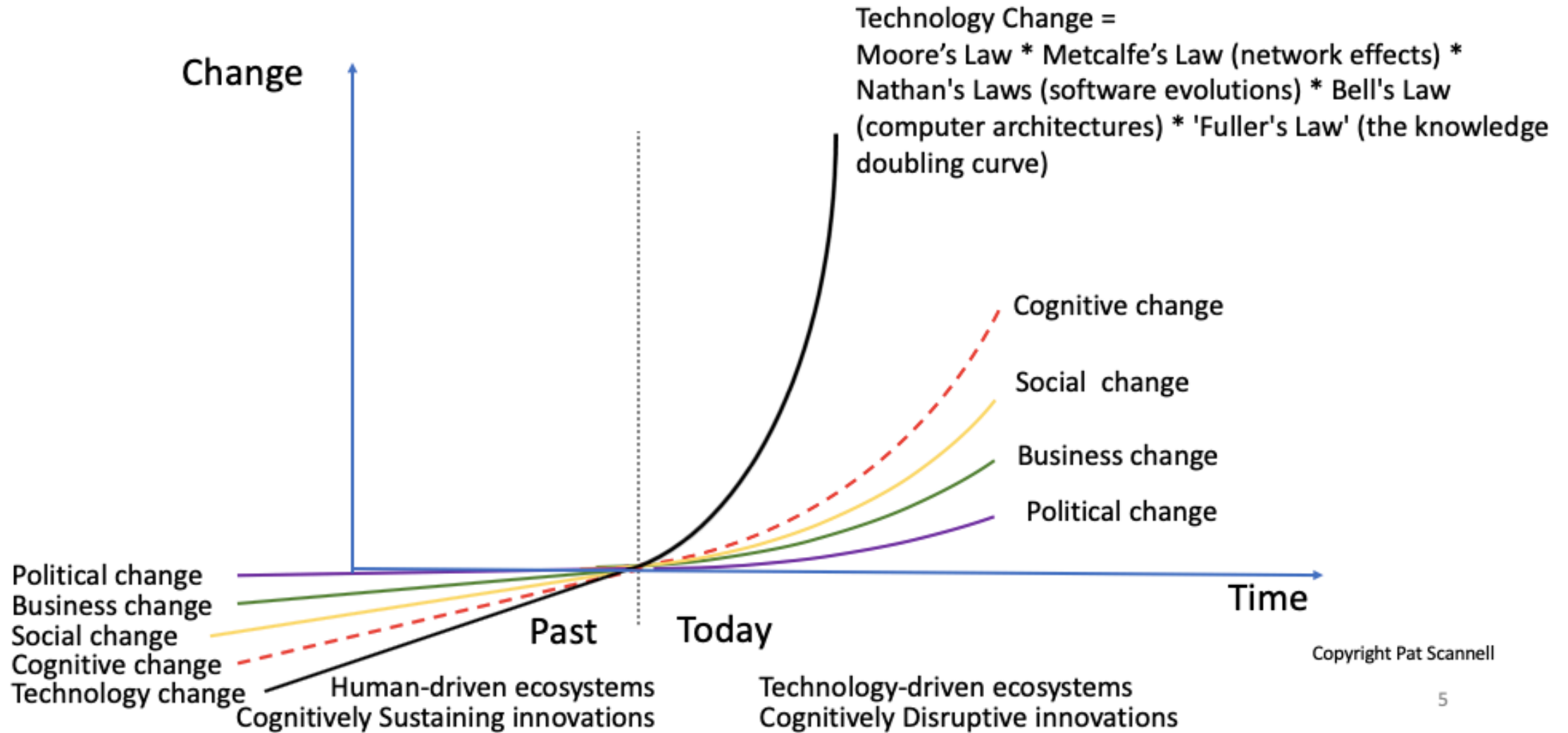
1. **Ad fraud** – Estimated \$42 billion a year
2. **Synthetic identity theft** – Estimated annual US costs of \$6 billion with 1 million child identities stolen and used
3. **Identity theft** – Estimated US costs of \$16.9 billion a year
4. **Medical identity theft** – Estimated US medical identity theft in 2019 of 382 breaches, costing over \$2.45 billion

In "Costs of a Crappy Legal Identity" (https://www.linkedin.com/pulse/costs-crappy-legal-identity-guy-huntington?trk=portfolio_article-card_title) I provide links to references for the above

Our Legal Identity System is Broke

- My premise:
 - It's based on an ancient civil registration vital statistics (CRVS) system
 - Which uses old technology, i.e. paper
 - That doesn't tie the person holding the piece of paper to the person
 - With no data standards
 - And no ability to query all CRVS systems around the planet to confirm an identity
- This has resulted in creation of unique identification numbers like SSN/SIN's et al, which the previous slide shows are easy to maliciously obtain and use
- Then there's the future rushing at us...

How Fast Will Disruption Happen?



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The Future is Now

- **Emerging virtual selves requiring legal identities**

- <https://hvl.net/pdf/Digital%20TwinsVirtualSelvesIdentitySecurityDeathFeb142020.pdf>

- **AI Systems**

- As these systems emerge, they're now able to legally run a company, write like us, patents are being applied on their behalf, running conversations with 650 million people, misinformation caused by bots, etc. How is their legal identity going to be determined?
- <https://hvl.net/pdf/ArtificialIntelligenceLegalIdentificationMarch2020.pdf>

- **Death & Digital Identities**

- How are banks et al going to be notified when a physical person dies, and their digital entities keep existing, thinking and acting?
- https://www.linkedin.com/pulse/death-digital-identities-guy-huntington?trk=portfolio_article-card_title
- https://www.linkedin.com/pulse/im-dying-know-guy-huntington?trk=portfolio_article-card_title

YIKES!!!!!!!

- It requires a fundamental rethink in both human and AI System/Bot legal identities

Rethink Legal Identity

I'm working on two fronts:

- Governments rethinking legal human and AI system/Bot legal identity
- Corporations, i.e. banks/credit card companies, creating their own identity system for their customers to use
 - i.e. Pat Scannell's curve shows the rate of political change is slow

Governments

- Together with Michael Kleeman, we co-wrote two proposals:
- Rethinking Human Legal Identity
 - <https://hvl.net/pdf/ProposalsPaperDec42019Final.pdf>
- AI System/Bot Legal Identities
 - <https://hvl.net/pdf/BotsIdentificationJan22020Final.pdf>
- Note: Read the appendix slide on biometrics, since biometrics weren't included in the human proposal

100,000 Foot View

- At birth, obtain a person's fingerprints and iris scan, and write these to a new CRVS system which is to global standards
- Write an anonymous entry into a TODA like system, with a hash being written to a NFC enabled physical identity card, to global standards
- Write legal identity information to the physical card and sync it with a legal digital NFC enabled app, to global standards
- Write an anonymous attestation to the same, indicating the person is a human, and either above or below age of consent
- Obtain a face image and write this to the physical/digital device
- Create a legal self-sovereign identity (LSSI) the person now controls

Enable CRVS's to be Globally Queried

- The proposal establishes global standards for CRVS's both in terms of data as well as queries
- This enables a person presenting themselves to a CRVS for a CRVS event, like name/gender change, marriage, divorce and death, to have their biometrics securely obtained, and then queried globally to confirm their identity
- From birth on, a person would have the highest level of identity assurance

LSSI Can Be Used in Many Different Ways

- Read this proposal I sent to the Canadian government showing them how to leverage a LSSI for Covid, et al
 - <https://hvl.net/pdf/CdnLSSICovidBusinessGovernmentPresenttionMay282020GH.pdf>
- Read this post “Do You Know Your Customers?” to see how it envisions leveraging LSSI to change the ad fraud game
 - https://www.linkedin.com/pulse/advertising-fraud-identity-future-guy-huntington?trk=portfolio_article-card_title
- Read this post “Digital Health Records & Legal Identity” to see how LSSI can change health fraud
 - https://www.linkedin.com/pulse/digital-health-record-legal-identity-guy-huntington?trk=portfolio_article-card_title
- Read this post “Covid, Sex & Identities” to see how it protects children
 - https://www.linkedin.com/pulse/covid-sex-identities-guy-huntington?trk=portfolio_article-card_title

Tie Digital Legal Identities To Physical LSSI

- Premise:
 - Where the risk warrants it, create legal digital identities which are tied in the new age CRVS to the underlying physical identity
- Read “Digital and Physical Identities - All That Glitters Is Not Gold” where I discuss Fraud 4.0, digital identities, et al
 - https://www.linkedin.com/pulse/digital-physical-identities-all-glitters-gold-guy-huntington?trk=portfolio_article-card_title
- Note:
 - **Digital entities are rapidly becoming “smarter” than us, and will increasingly be able to “think” and “act” on our behalf**
 - **They also live on long after we’re dead**

Create a Corporate SSI For Bank/Credit Card Customers

- Create a similar system we've proposed for governments, which banks/credit card companies can offer to their customers, reducing fraud risk, and increasing revenues
- Which, for this presentation, I'll call it a CCSSI (i.e. a corporate customer self-sovereign identity)

100,000 Foot Level

- Offer a new service to your customers
- Register them and their children, by obtaining their fingerprints and iris scan
- Write an anonymous entry into a TODA like system, obtain the hash, and write it to the NFC enabled credit card/digital app (all to global standards)
- Write identity information to the physical card and digital app
- Take their face image and write this to the physical/digital devices
- Now the customer has their own corporate issued personal identity card they can choose how to release portions of their identity to

It Depends on Risk Using Their CCSSI

- **Jane Doe can anonymously click on an ad, using her CCSSI**
 - For which the advertiser would pay the bank/credit card company a very small fee
- **She can choose to release increasing portions of her identity**
 - The more she releases, the more the bank/credit card company is paid
- **For low to medium risk the CCSSI card/app will likely suffice**
 - i.e. Jane has in her possession the card/app, plus she authenticates to them using a 4 digit pin (or see the appendix slide using a biometric), her face and a liveness test must match, plus the hash must be verified
- **For high risk**
 - Jane will be required to go to a bank, present her biometrics in a secure manner, which will be checked globally, to verify it's Jane
 - The bank/credit card company will then be paid more to attest it's Jane Doe

Leverage The CCSSI For Digital Entity Identities

If Jane Doe wants to create a virtual self, and use it to interact commercially with retailers, etc. she would do so by:

- Going to a bank
- Presenting her biometrics to have her identity verified
- Have the system write a unique identifier to a piece of code within the digital self (using new global standards to be created)
- Her legal digital virtual self identity is then tied to her CCSSI

Mesh the CCSSI with the LSSI When It Emerges

- Design the CCSSI such that it can rely upon both the LSSI and its own underlying biometric database, if and when the LSSI emerges
- One potential hypothetical advantage of a new LSSI is the ability for the bank/credit card company to be automatically notified when a person physically dies

Become More Central to Your Customers' Lives

- The emergence of e-currencies, et al means the traditional relationship between a bank/credit card company with your customers is changing
- Creating a CCSSI, it places the bank/credit card company in a central position in their physical/digital lives, since they use it almost everywhere to prove their identity
- At the same time, it reduces fraud risk, increases revenue, and creates a relationship with the customer from their birth on

Price CCSSI Services Based on Risk

- The bank/credit card company can be potentially liable when attesting Jane Doe is Jane Doe
- Therefore, price the model based on risk
- High risk requires larger pricing to offset risk of liability

Summary

- In a recent post I used Bob Dylan's song "[The times they are a changin'](#)" to close
- As technology price points drop, and sophistication leveraging AI increases, the world changes
- Businesses can't look backwards to judge what's coming at them
- Increasingly, this no longer works
- We live on a small planet, which requires the ability for a person to legally identify themselves physically and digitally
- Opportunity knocks for those who can see the waves of change coming

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- I live in West Vancouver, BC, Canada

- I do consulting with C-suites and Boards on LSSI

Appendix Slides

Keeping CCSSI Up With the Curve

- Suggest that credit card/banks expand their existing security services, by creating a continuous threat assessment centre for identity assurance for the CCSSI
- It would monitor everything from the governance, business process and technological infrastructure, producing threat assessments
- Banks and customers would be required to change their cards, apps, services et al, based on the threat risk
- This addresses Pat Scannell's technology change curve, by always ensuring the entire identity ecosystem is secure

Identity Architecture for a Corporation

- I created this deck “Rethinking Corporate Human & AI/Bot Identities” which I suggest you folks read
 - <https://hvl.net/pdf/RethinkingCorporateHumanAIBotIdentities.pdf>
- It lays out a new age identity architecture for companies
- Within the deck, you’ll see me saying the age of LDAP is over, as well as the diminishing requirement for traditional GUIDS within an enterprise

Creating a Personal IAM

- In my papers and posts, I call out for development of a personal IAM system
 - Read page 12 on of this paper
<https://hvl.net/pdf/IAMTsunamiFutureMay2019.pdf>
- I know of at least one company that's coding for this
- I have thought that banks/credit card companies, telcos and the giants like Google et al, would be the entities who'd want to create this, to establish themselves closest to their customers

Anonymous Biometric Identifiers

- Rud Bolle's innovative paper "Anonymous Biometric Identifiers – Revisited"
 - Written in 2015, he proposes creating anonymous, revocable biometrics used for authentication
 - <https://hvl.net/pdf/BolleAnonymousBiometricIdentifiersRevisited2015.pdf>
- I can see companies adopting this as a form of authentication for their customers

Biometrics for a CRVS/CCSSI

- In the incremental legal identity paper I cowrote with Michael Kleeman, we didn't propose use of biometrics, writing a note in the appendix suggesting this would be a good idea
- In these two papers I did recommend use of biometrics pointing out some of the problems associated with biometrics and secure storage of them:
- “Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet
 - <https://hvl.net/pdf/Where%20Shit%20Happens%20March%202019.pdf>
- Human Migration, Physical & Digital Legal Identity
 - <https://hvl.net/pdf/HumanMigrationPhysicalDigitalLegalIdentityMar2020.pdf>

Human Cloning

We've come a long ways from Dolly the Sheep in 1996:

- In China, Boyalife, currently clones 100,000 cows a year working towards 1 million
 - <https://www.boyalifegroup.com/our-business/genomics/>
- In 2015, their CEO publicly stated they could clone humans but weren't
 - <https://www.businessinsider.com/afp-china-clone-factory-scientist-eyes-human-replication-2015-12>
- In effect, the cloning genie is out of the bottle
- Governments and businesses will have to address how they're going to legally differentiate Jane Doe 1,2,3, 4, etc.

Rapid Rate of Change

- I recently wrote “You Can’t Hide” letting people know the rapid pace of change is going to affect their lives
 - https://www.linkedin.com/pulse/you-cant-hide-guy-huntington?trk=portfolio_article-card_title

Schools and Change

- I'm a passionate person about learning
- If you read this post "Bots in the Classroom" you'll see my vision on how to rethink schools leveraging LSSI, digital learning twin, bots in the classroom, et al
 - <https://www.linkedin.com/pulse/bots-classroom-guy-huntington?trk=portfolio> article-card title
- Read this post to see my recommendations on how to start out creating a digital learning twin:
 - <https://www.linkedin.com/pulse/using-a-digital-learning-twins-assessment-education-guy-huntington?trk=portfolio> article-card title