IFRC Strategy 2030 Think Paper - Digital Identification

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University of Michigan, School of Information, August 2018

Agenda

- Purpose
- Area of Focus
- Approach
- Summary
- Interviews
- Questions Studied
- Strategic Questions
- Discussion Q's for IFRC
- Next Steps

Biometric Verification in Uganda
Credit: CGTN Africa
https://africa.cgtn.com/2018/03/04/uganda-launches-biometric-data-verification-of-refugees/

Purpose

- Create a think piece for the International Red Cross & Red Crescent (IFRC) stakeholders on various topics, including provocations to pose to the IFRC network as part of our consultations on the global strategy.

A refugee on the Greek-Macedonia border
Credit: Joe Klamar AFP
https://www.ibtimes.co.uk/refugee-crisis-faces-some-thousands-children-who-have-fled-conflict-zones-1557297

IFRC Topic - Digital identification and aid distribution

Digital and biometric identification is slowly being incorporated by governments throughout the emerging world. But how can the technology change the way vulnerable populations such as refugees live and the way aid is distributed?

This paper will survey changes in digital identification technology with a focus on how private sector companies such as *Symitree* and *uPort* are creating innovative ways to transforms the lives of those who've fled their homes.

Areas of Focus

1. Biometrics
2. Digital Identification Technology
3. Major challenges to aid distribution
4. Private vs. public sector
5. Security and Privacy

Food distribution in Bangladesh
Credit: Kamila Stepien, Oxfam https://views-voices.oxfam.org.uk/aid/2017/11/biometrics-help-us-answer-question

Areas of Focus –
We chose 3 areas for our study

1. Biometrics
2. Digital Identification Technology
3. Major challenges to aid distribution
4. Private vs. public sector
5. Security and Privacy

Our Approach

We did the following:

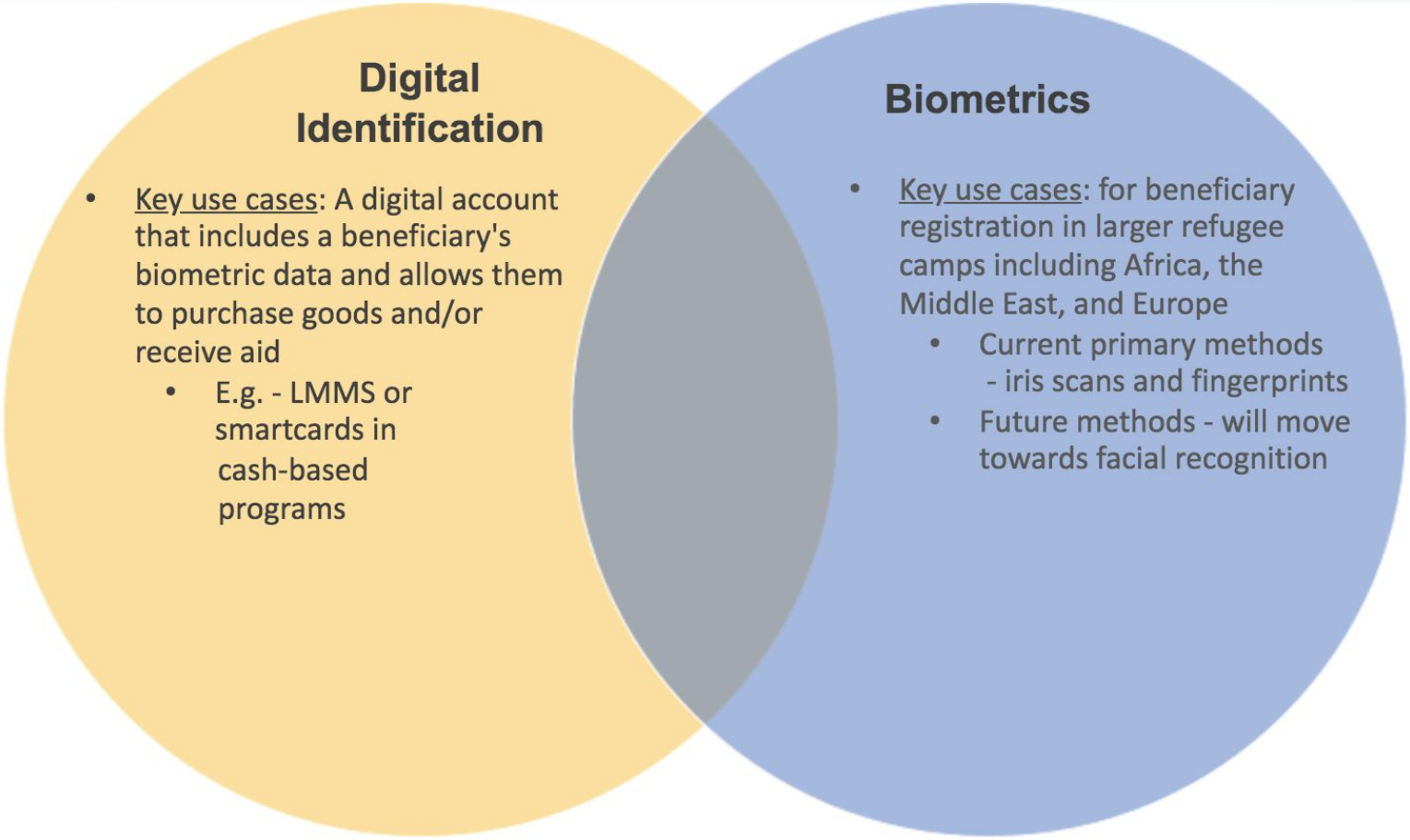
1. Interviewed seven leading individuals/organizations on the forefront of nonprofit registration, biometrics and blockchain
2. Completed a selective literature scan on the topics, including academic and journalistic papers/articles
3. Developed a list of summary themes and selected answers
4. Considered the strategic framework for nonprofit applications of biometric and related emerging technologies
5. Created a list of discussion questions for the IFRC and National Societies to discuss and debate in the context of its Strategy 2030 formation

Summary Chart and Narrative

Digital Identification

- Key use cases: A digital account that includes a beneficiary's biometric data and allows them to purchase goods and/or receive aid
  - E.g. - LMMS or smartcards in cash-based programs

Summary Chart and Narrative



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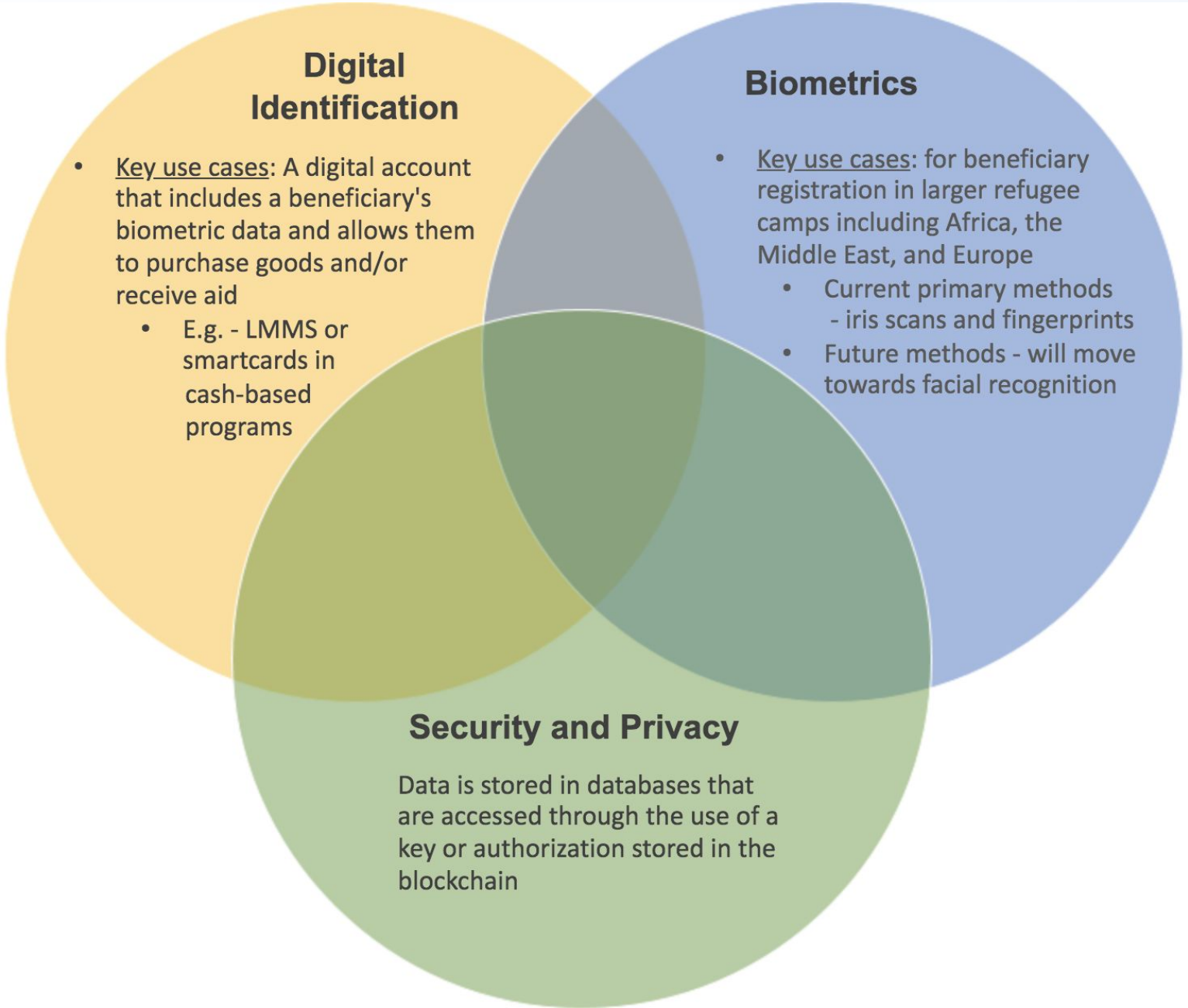

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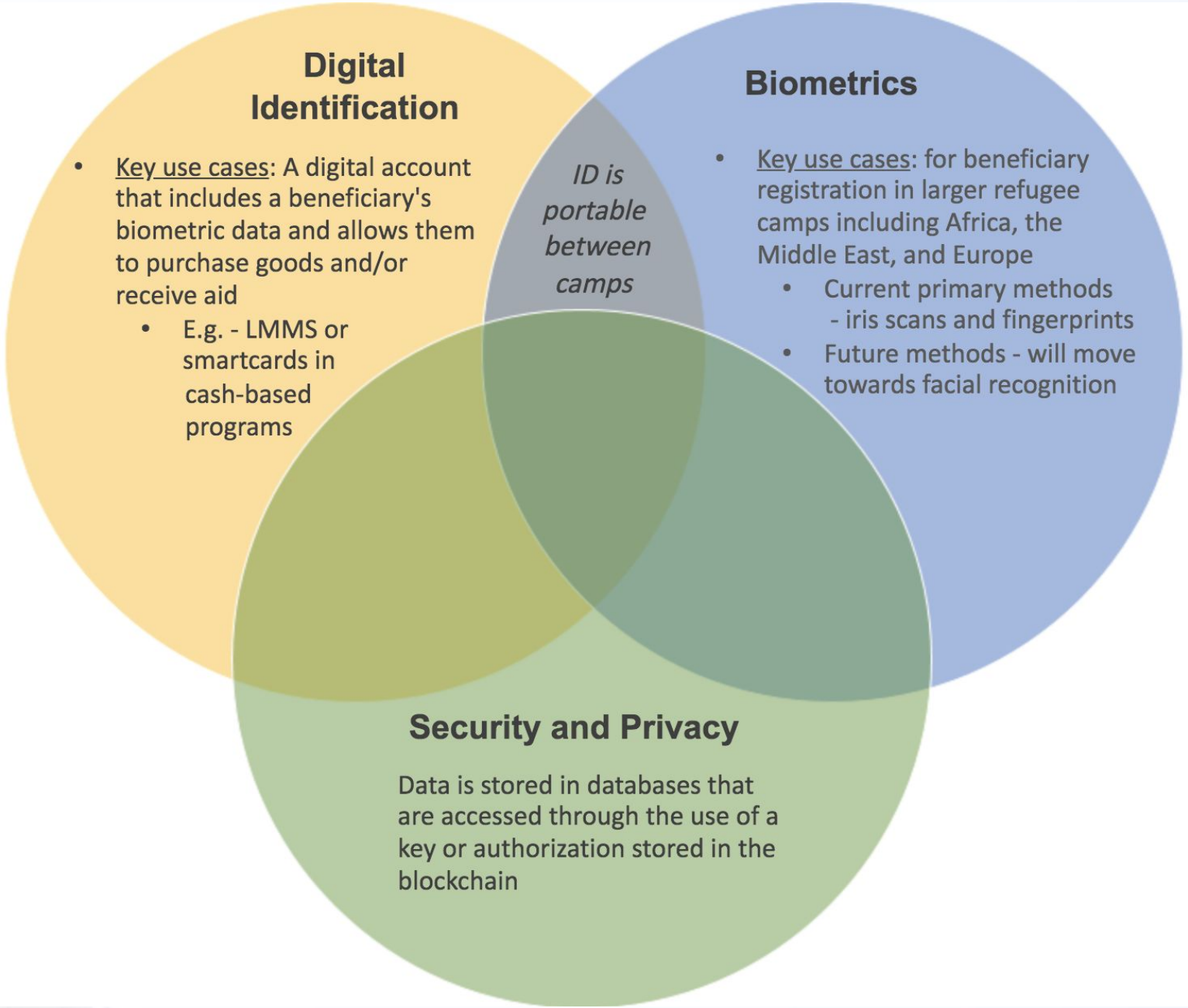

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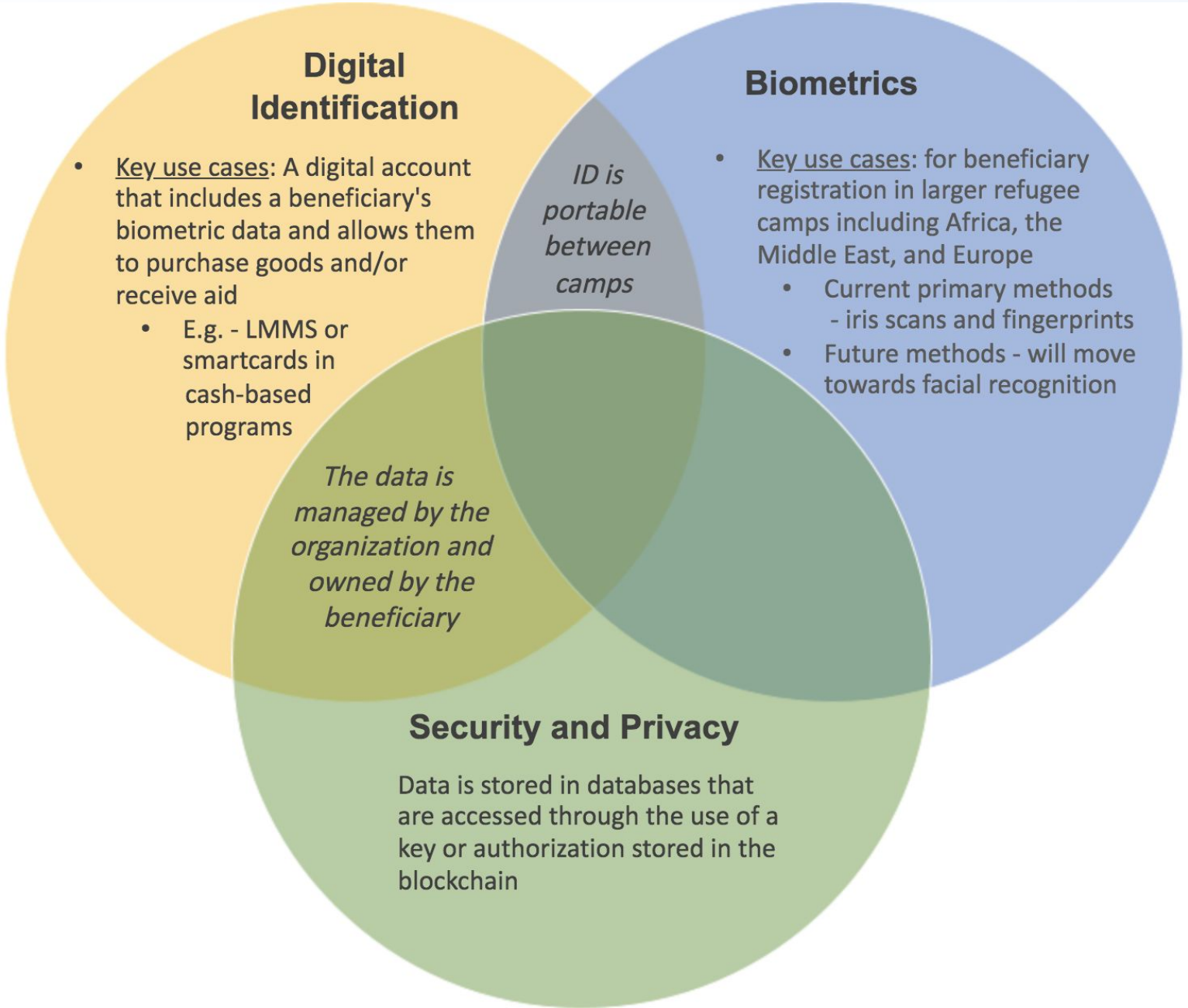

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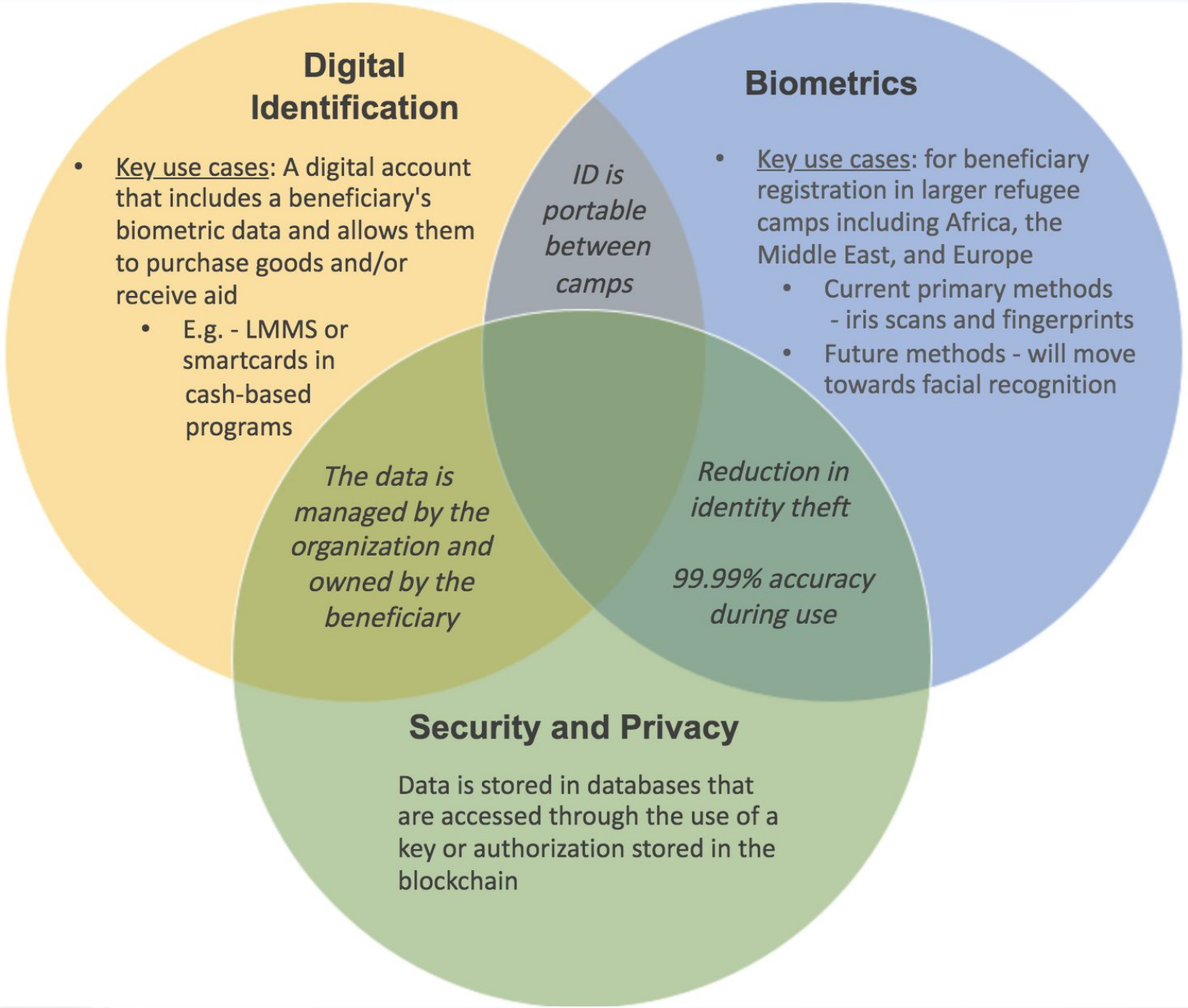

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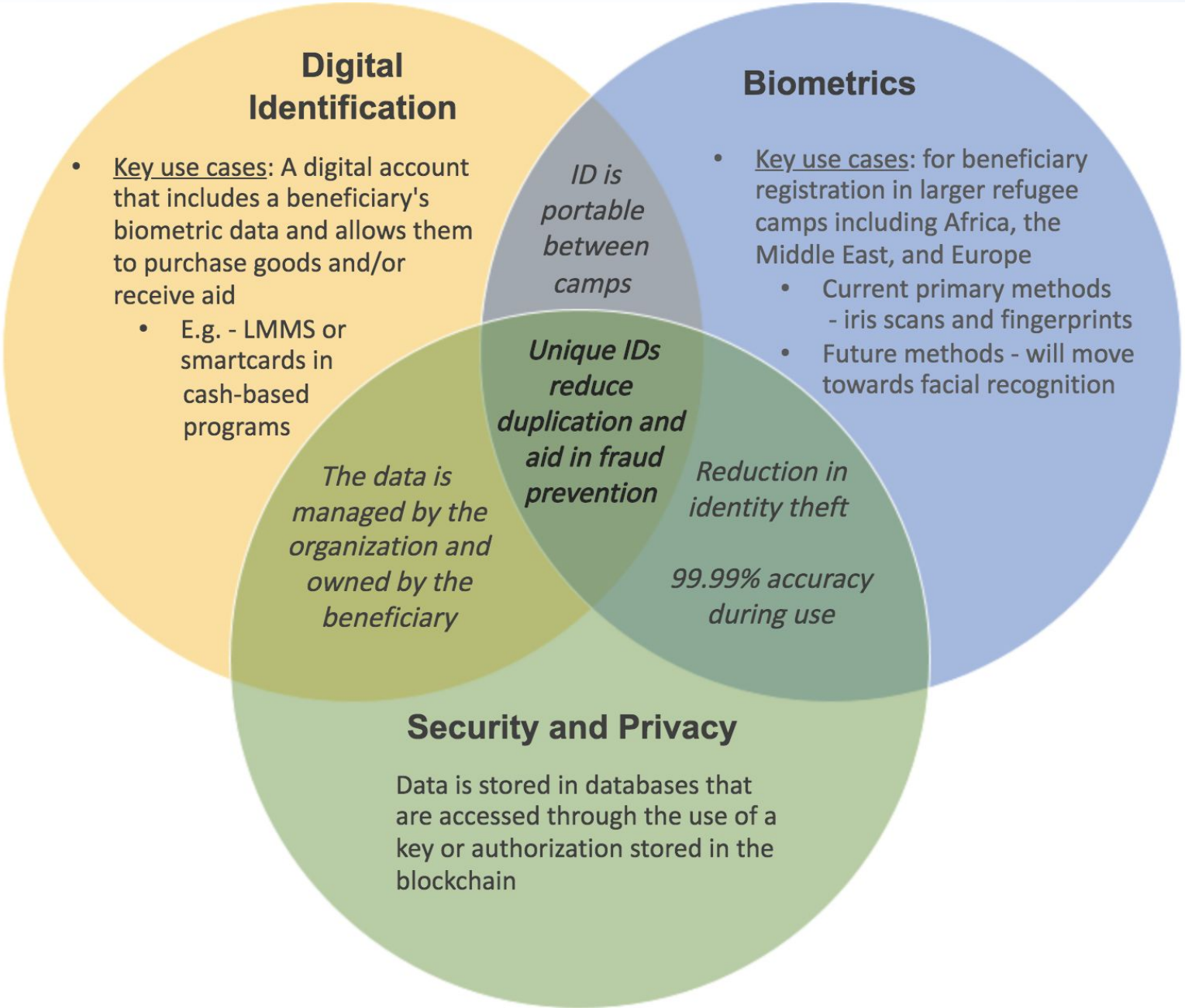


People/Organizations Interviewed

Note: Interviewees were chosen due to their expertise in a certain topic. They are either contacts or individuals that executives of large nonprofits connected us with due to their expertise within an org.

Sharon Burns - CEO Critical Blink, former CIO at MacArthur Foundation

Edward Chin - UNHCR Deputy Director (Department of Information System & Telecommunication)

Amos Doornbos - World Vision International (WVI) - Disaster Management Strategy and Systems Director

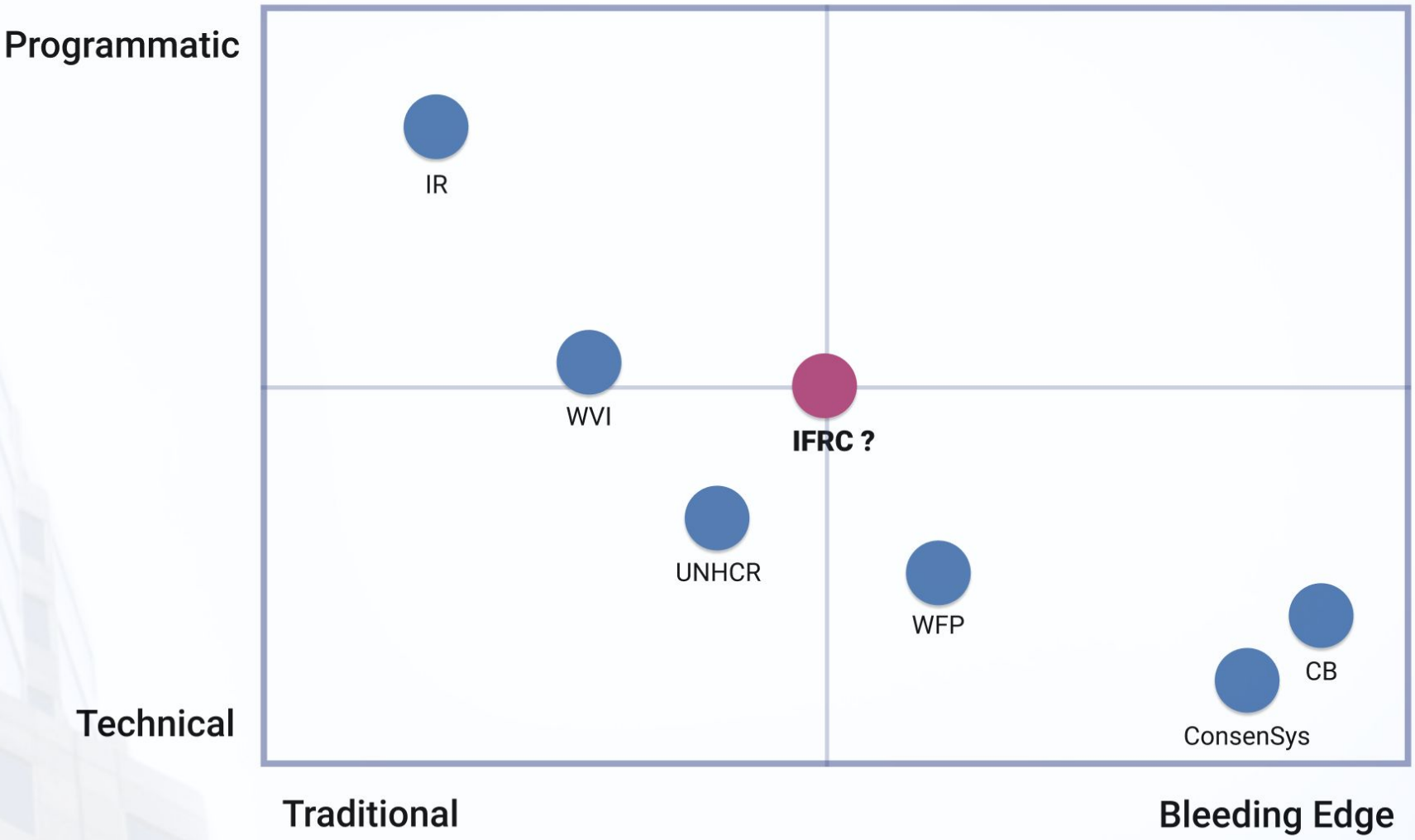
Simon Eccleshall - former IFRC - Director of Crisis and Disaster Management; now Programs & Institutional Relations at Islamic Relief Aus

Robby Greenfield IV - ConsenSys - Global Social Impact Technical Lead

Michael Weickert - World Vision International (WVI) - Director Global Rapid Response Team

Edgardo Yu - World Food Programme (WFP) - Chief, Beneficiary IT Solutions Service

Alignment among peers in the technology sector



Top Themes from Interviews

- *Biometrics*
  - "The measurement and analysis of unique physical or behavioral characteristics...especially as a means of verifying personal identity"[1]. For our purposes, they consist of iris scans, fingerprints, facial recognition. Due to the sensitive nature of the data, *some orgs are strongly for or against this technology*.
- *Digital Identification*
  - "Information on an entity used by computer systems to represent an external agent" (e.g. LMMS or smart cards in cash-based programs used for aid).[2] Accelerates aid distribution & registration by 50%.
- *Blockchain*
  - Is a digital, decentralized, public ledger, or database, used for cryptocurrency, data storage, and smart contracts.[3] Fairly complex and not governed/monitored like other methods of security - unregulated. However, some believe it may provide greater protection than current means.

1. Merriman-Webster: https://www.merriam-webster.com/dictionary/biometrics
2. Wikipedia: https://en.wikipedia.org/wiki/Digital_identity
3. Investopedia: https://www.investopedia.com/terms/b/blockchain.asp

Questions that framed the study

1. Why digital registration and ID management?
2. What are the old vs. new tech options?
3. Why/why not use biometrics?
4. Why/how protect and secure identities?
5. Current protection solutions?
6. Benefits/obstacles for blockchain in nonprofits?
7. Why not partner with a company already doing new tech?

Digital Registration & Identity Management

Cash assistance in Nepal
Credit: Crislyn Felisilda - World Vision International
https://www.wvi.org/disaster-management/blogpost/cash-first-not-always

- Digital registries **easier to hand off** - considering rotations in humanitarian projects
- **Faster distribution of aid** and its reporting (faster than paper means)
- **Forecasting beneficiary demand** - helps determine future aid needs
- **Promotes dignity** of the beneficiary; gives control of their identity and privacy

Old vs. New Tech Options

- **Old**:
  - Paper registration & ledgers
  - Fingerprints on forms for goods/aid
- **New**:
  - Digital ID comprised of biometrics and personal identifiable information
  - Cash cards for goods/aid
  - Mobile/laptop forms

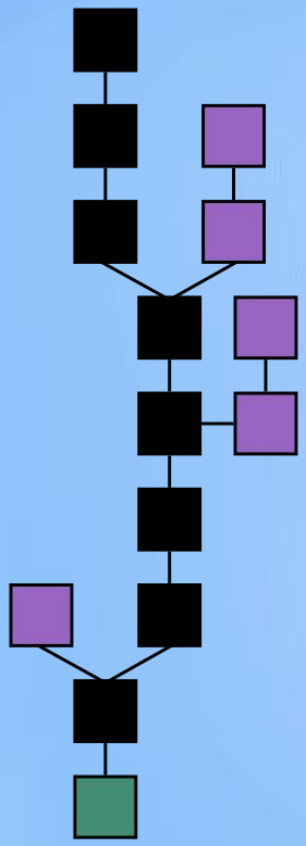
Going digital
Credit: UNCHR James Sprankle http://www.unhcr.org/blogs/two-flyers-one-message-unhcr-digital-identity/

Arguments for and against Biometrics

- **Benefits (for NGOs)**:
  - Speed and efficiency - means more beneficiaries served
  - Fraud prevention
  - Accuracy (avoid duplication)
- **Drawbacks (for NGOs)**:
  - Data highly sensitive & vulnerable if not protected right
  - No opt out - poses risk for indiv. who need to be anonymous
  - High associated cost: hardware, software, training, maintenance

Iris scans for biometric data
Credit: UNHCR http://www.unhcr.org/blogs/opportunities-in-the-new-digital-age/

What is Blockchain?

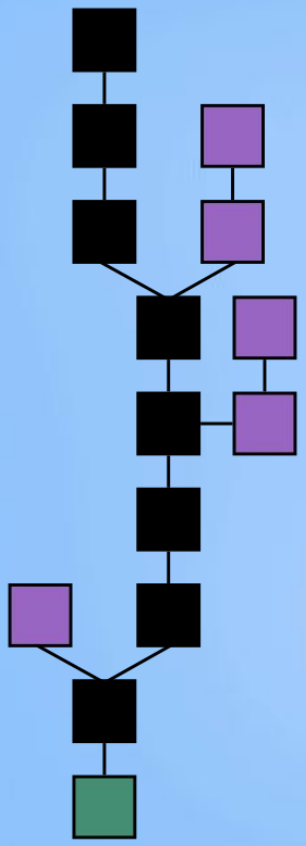


Blockchain formation
Credit: Blockchain Wikipedia
https://en.wikipedia.org/wiki/Blockchain

- Blockchain is a digital, decentralized, public ledger used for cryptocurrency, data storage, and smart contracts.[1]
- Commonly associated with cryptocurrency, Blockchain is not the cryptocurrency itself (e.g. Bitcoin, Ethereum). Blockchain is the distributed/shared ledger that keeps track of all transactions for cryptocurrency across a peer-to-peer network.
- Blockchain is permanent and unalterable.

1. Investopedia: https://www.investopedia.com/terms/b/blockchain.asp
2. PWC:https://www.pwc.com/us/en/industries/financial-services/fintech/bitcoin-blockchain-cryptocurrency.html

Arguments for and against Blockchain



Blockchain formation
Credit: Blockchain Wikipedia
https://en.wikipedia.org/wiki/Blockchain

- **Benefits (for NGOs)**:
  - May better protect identity - no central database to hack
  - Built-in encryption
  - Possible cost reduction
  - Enables self-sovereign IDs
- **Obstacles (for NGOs)**:
  - Currently unregulated
  - Limited tech knowledge avail
  - Can be highly complex - possibly too complex

Why/why not Private Sector Partnering

Considerations:

- Customer base - size and type
- The financial sustainability of the company
- Is the tech co. current on it's filings?
- Who are the tech co's partners?
- What's the business model for the tech co.? How will they cover their costs and grow?

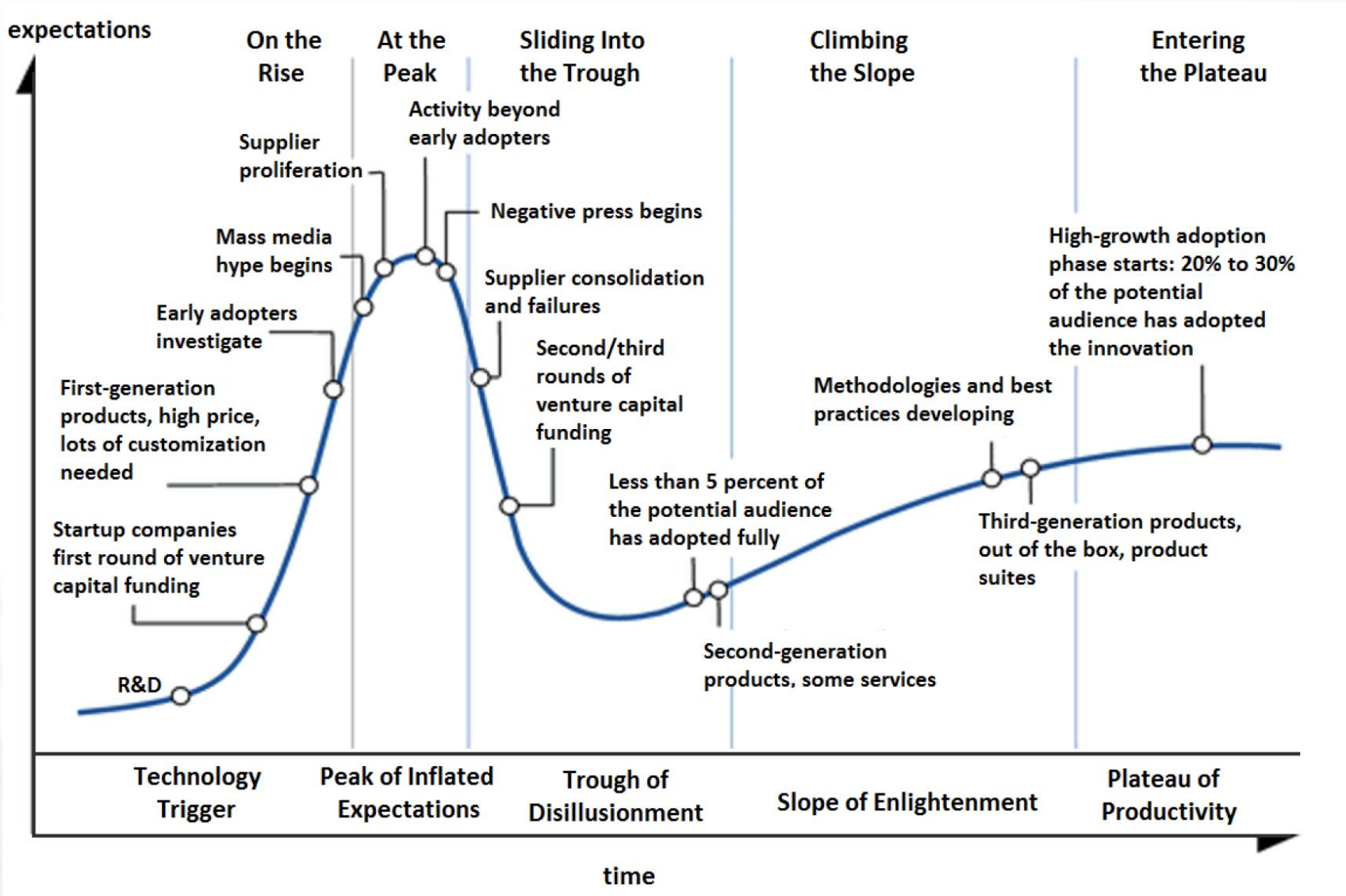
Example companies:

- ***Traditional***: IBM, Microsoft, Google
- ***Startups***: Symmitree, uPort, BanQu, Civic

Strategic questions to consider

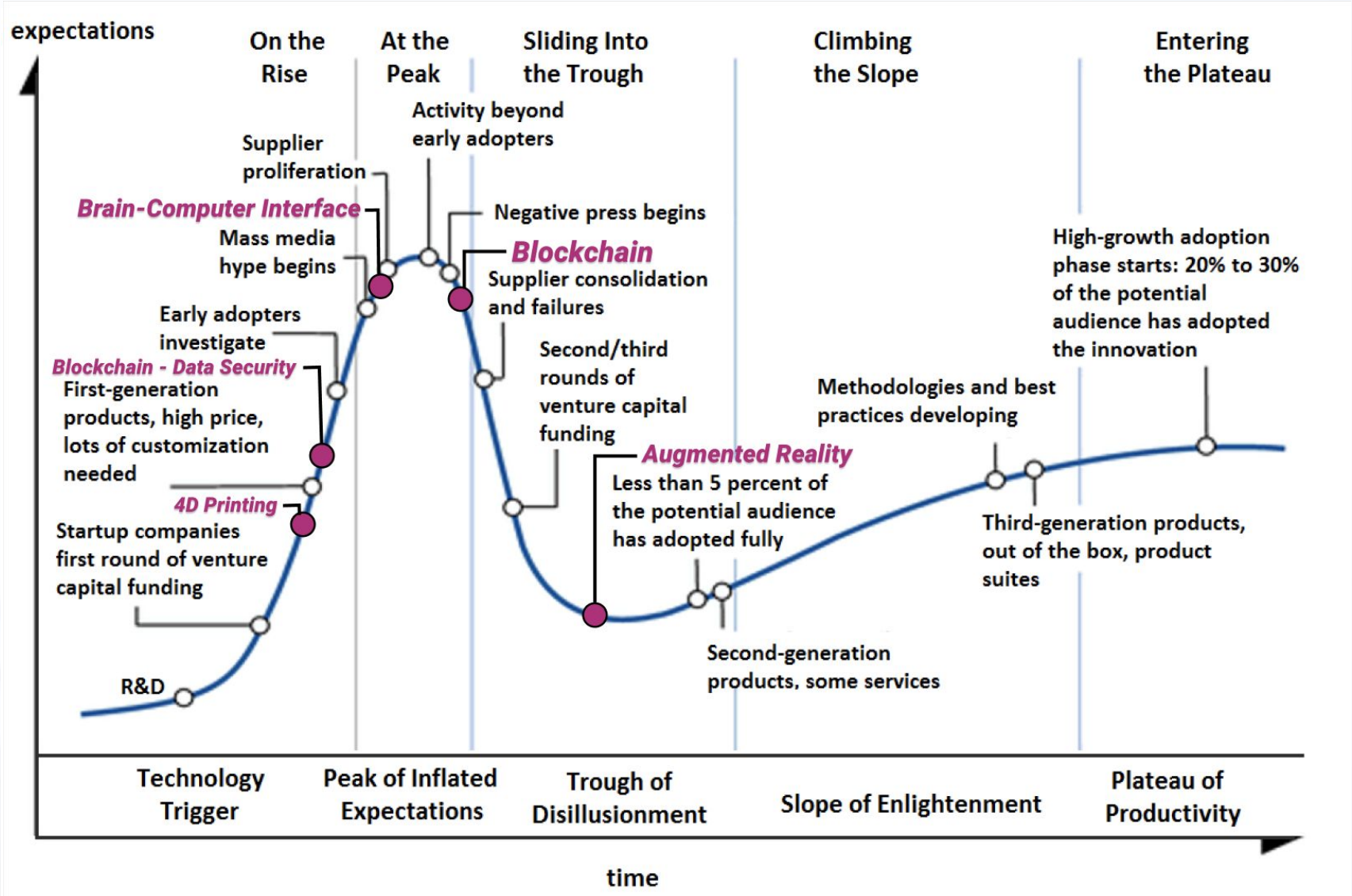
- Where on the Hype Cycle do non-profits jump in?
- What are the risks of waiting?
- Should nonprofits clarify problems they face rather than fall victim to technologies in search of problems?
- What can we compare to examples of orgs that waited too long?
- What trends across sectors show us where on the Hype Cycle we are?
- What is the organization's tolerance for risk - how experimental are they?

Where/When should NGOs jump In?



Credit: Gartner Hype Cycle - Wikipedia https://en.wikipedia.org/wiki/Hype_cycle

Where/When should NGOs jump In?



Credit: Gartner Hype Cycle - Wikipedia https://en.wikipedia.org/wiki/Hype_cycle,
https://www.gartner.com/smarterwithgartner/5-trends-emerge-in-gartner-hype-cycle-for-emerging-technologies-2018/

Questions for IFRC to Discuss

What questions should IFRC be asking about digital identity as it moves forward with its strategy 2030 work?

- What is the problem IFRC is seeking to solve? Is this innovation for the sake of innovation?
- What type of technologies should the IFRC consider?
  - Are biometrics the right choice?
  - What should be included in a digital identification?
  - Is blockchain the right fit for nonprofits?
- Regarding technologies, do benefits outweigh risks for cost, security/privacy, complexity, lessons learned (e.g. Aadhaar)?
- Where does IFRC see itself compared to peers: more technical or programmatic, more traditional or bleeding edge?
- What type of approach would best fit: traditional, wait-and-see, mutual fund, small diversified investment?
  - Solo or partnership?

Our Recommendation

1. What would need to be true for us to recommend Biometrics for an INGO?
   a. Data protection (access & anonymity) is consistent across programs and countries, and security is strong
   b. Citizen-participants have the ability to opt out
   c. Costs for hardware, software, training, and maintenance come down below costs of manual processes
   d. The technology is further along the hype cycle (to plateau phase)
2. What would need to be true for us to recommend blockchain for an INGO?
   a. Same as for biometrics… plus:
   b. Post government regulation phase and in-compliance
   c. Use cases and benefits proven in other org's (e.g., for-profits)
   d. More tech help availability

Bottom line: as Oxfam has done, WAIT!

Next Steps (for UM)

- Present work to stakeholders
- Hold discussions with colleagues for feedback
- Present to related organizations on campus:

  Blockchain at Michigan, Wolverine Blockchain
- Create a paper with findings for publication

Questions/Feedback?

Credit: Save the Children https://www.unicef.org/wash/schools/files/SC_SWW_Presentation.pdf

Thank you

The bibliography for the study is available on request, as are the (anonymized) transcripts from the interviews.

Credit: IFRC http://www.ifrc.org/en/who-we-are/vision-and-mission/