Privacy for Profit?

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Privacy for Profit(?)

Privacy is a great value,

> *but is there a **mass** market product opportunity in providing products that take privacy seriously?*

Is it good business for the provider, the customer, and the investor?

AKA: Searching for the privacy unicorn.

What *is* digital privacy?

Five ideas of digital privacy (idea 1+2):

- Privacy as circumvention: Censorship resistance, geo-blocking circumvention.

- Privacy as seclusion: Digital minimalism, exclusivity & status symbol.

That's **not** what we mean...

What *is* digital privacy?

Five ideas of digital privacy (idea 3-5), what we focus on:

- Prevent data leakage to **third** parties: Data brokers, competitors, creditors, spouses, enemies, intelligence agencies/SIGINT.

- Prevent data usage by **second** parties: Service provider, warrants by police, litigation/subpoenas.

- Privacy as a synonym for security: Prevent hackers/stalkers, local surveillance (hotel Wi-Fi), spouses/children/parents.

Who needs privacy (or claims to want it)?

Market, demand side:

- Activists and journalists: Primary promoters, but inconsistent users...
- High networth individuals.
- Celebrities / Publicly Exposed Persons.
- Medical, Legal, and Religious providers.
- Business (especially if related to economic policy or strategic markets).
- Political opposition (perceived anti-establishment).
- Minorities (LGBTQ+, BDSM, suppressed religions/worldviews).

Who needs privacy (or claims to want it)? (cont.)

- Digital minimalists.
- "Uneasy" users (don't like to be watched).
- Liberated media consumers.
- "Left" opposition to big data.
- Open Source proponents.
- Governments...
- ...and other criminals.

as well as people catering to the above or being in close proximity (family, friends, business partners, customers).

But can they pay?

Revenue = <u>Price per customer</u> x number of customers.

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$\Rightarrow$ Not known for deep pockets...

Are there enough customers?

Revenue = Price per customer x <u>number of customers</u>.

- High networth individuals.
- Celebrities / Publicly Exposed Persons.
- Governments...
- ...and other criminals.

$\Rightarrow$ Very small and hard to capture markets.

The unicorn market

- Medical, Legal, and Religious providers.
- Businesses.
- Digital minimalists.
- "Uneasy" users (don't like to be watched).
- Liberated media consumers.

Is the market proven?

- Apple: 1B iPhones.
- VPNs: ∼21M users (2019).
  - ExpressVPN (sold for >900M USD, used mostly for geo-restriction circumvention)
- Email (∼30M accounts):
  - Protonmail (∼20M accounts, >15M profit, >2M state funding)
  - ...
- Messengers:
  - Threema (∼10M profit, 5M users), Wickr, ...
  - Signal (∼50M users, not commercial)
  - Telegram (∼250M users, anti-censorship)
  - iMessage (Apple, 1.5B users)
- Self-Hosting products, Nextcloud etc. ∼1M profit
- AdBlocking/Anti-Tracking: ∼250M users.

Is the market proven? Second look

- Apple: Privacy is only one feature, dominant sales is status symbol, usability, security. Apple users are highly active exhibitionist social media addicts...
- VPNs: Privacy is secondary feature. Primary features are circumvention and security.

Clear privacy products:

- Email: But, market is captured.
- Messengers: But, market is captured.
- Self-Hosting: Possibly too small.
- Ad-Blocking / Anti-Tracking.

Markets of questionable reputation

- Bitcoin privacy:
    - Mixers ($\sim$10M alleged profit, frequent guests in courtrooms)
    - Wasabi: $\sim$7M
    - Samurai: $\sim$3M

- Deviant Tech (high privacy VPNs, bulletproof hosting, etc. $\rightarrow$ frequent guests in courtrooms. Few exceptions.)

- Crime phones ($\sim$250k devices, multiple $>$20M profit companies $\rightarrow$ almost all shut down)

$\Rightarrow$ Extreme legal risk, limited amount of users.

Privacy as a distinguishing product feature

Do *X*, but with privacy!

Must overcome:

- Privacy provided by law.
- Privacy enforced by state.
- "Nothing to hide" mentality.
- Legal limitations (esp. in finance and communication)
- ...

⇒ Weak differentiator for products.

And the product itself must be competitive in other factors, **but...**

The cost of privacy: Features

Features vs Privacy:

- Digital products thrive on network effects, but with privacy:
    - Discovery is diminished (suggest new contacts, auto-complete).
    - Privacy is exclusive: All nodes must employ privacy products.
- Digital products thrive on efficiency:
    - Privacy prevents enrichment (fusion of multiple data sources).
- Digital products thrive on effectiveness and user centricity:
    - Privacy undermines metrics necessary for optimization.

$\Rightarrow$ Worse products, less sales.

$\Rightarrow$ competition can capture a larger market share.

The cost of privacy: Opportunity costs

Opportunity costs:

- No data to sell to brokers (less profit).
- No data to do external ad-auctions on (less profit).
- On-premise ad-auctions undermine privacy claim.
- User data does not contribute to company value:
    - Less likely exit windfall.
    - Capital injection less likely / more expensive.

$\Rightarrow$ Less profit.

$\Rightarrow$ Competition has accumulative advantage.

Coping strategies

- Local computation, homomorphic/multi-party computation: Expensive, low network effects.

- Differential privacy and "data packaging" (anonymized datasets): Explored by Apple, not executed.

- Target clearly defined customers to create upsale value: Apple.

- Fraud: Prevent users from noticing breaches of privacy (e.g., VPN market).

Conclusion: Privacy products, real opportunities

- Standardized products with privacy differentiator: Cloud storage, Email.
- Focus on security (and deliver privacy): Confidentiality (of content) more important than anonymity (metadata).
- Public funding: Providing a "public value" opens opportunity for government and private charitable funding.
- Trusted computing: Remote processing / storage of secrets with full attestation of hardware & software.
- ⇒ Recover efficiency, network effects, sellable as security.

Apply for grants / donate ⇒ https://cypherpunkguild.org

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$\rightarrow$ Cypherpunk Bitstream Podcast
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Slides: https://frankbraun.org/privacy-for-profit.pdf

Thank you very much for your attention! Questions?