

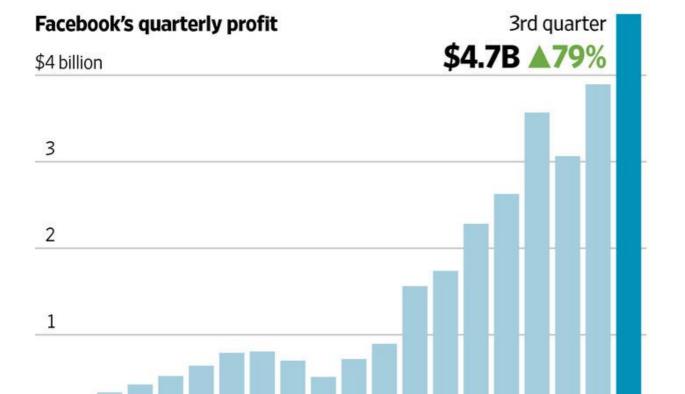
Data (& Identity) Portability

Joshua Gans



データ(&アイデンティティ) ポータビリティ





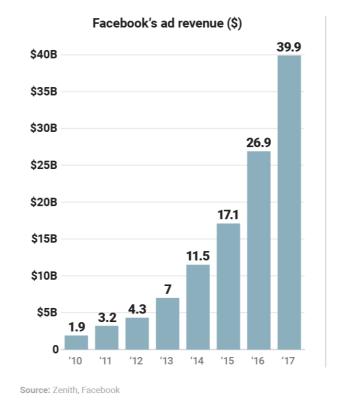
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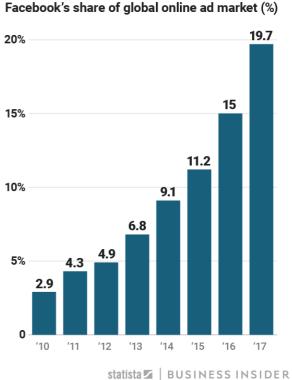
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THE WALL STREET JOURNAL.

#### Facebook's share of global online advertising revenue



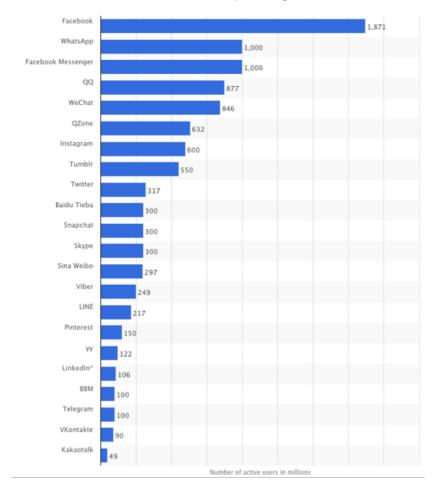


Social network sites worldwide ranked by number of active users (in millions, as of January 2017,)

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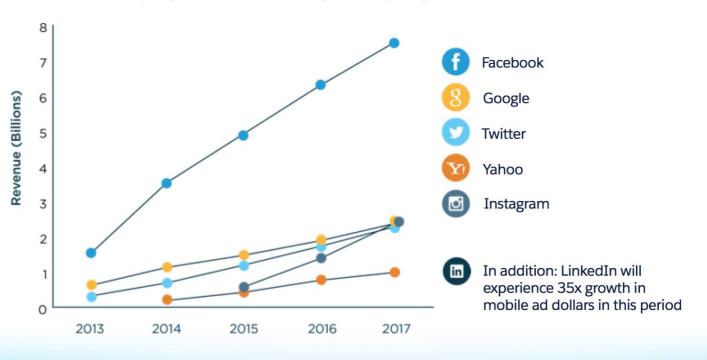
2013

Source: the company



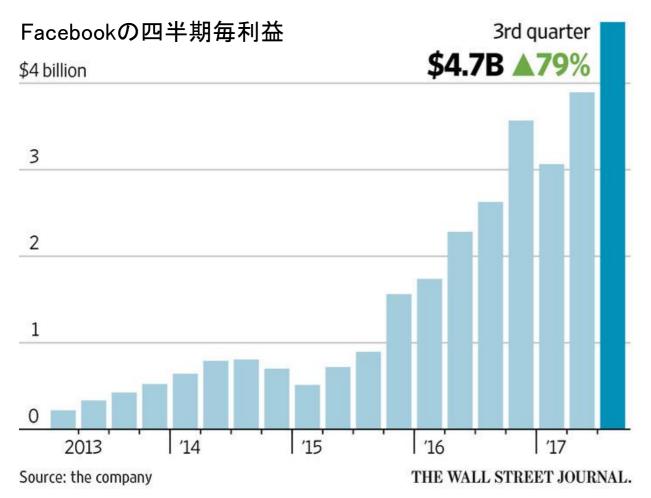
## Facebook & Twitter Dominate Mobile Ad Spend

US Net Mobile Display Ad Revenue by Company (2013-2017)

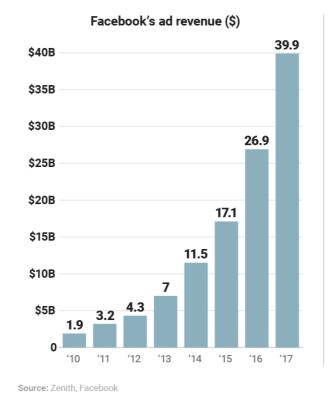


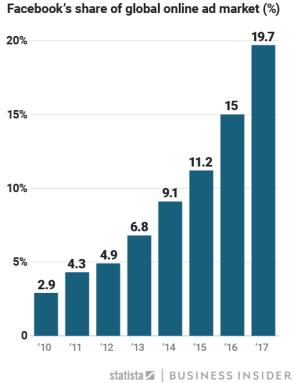




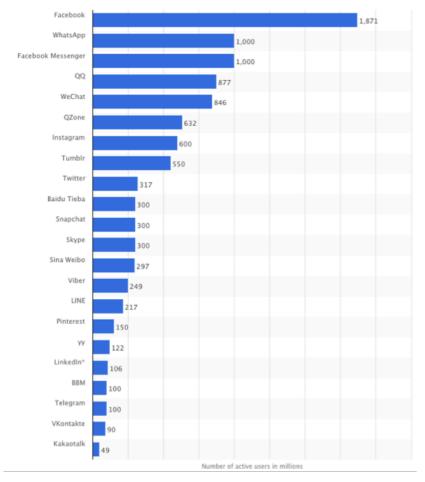


### 全世界のオンライン広告収入におけるFacebookのシェア



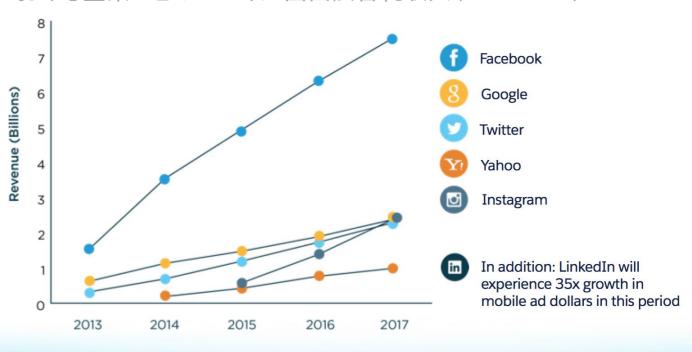


世界のSNSについてのアクティブユーザー数順位 (百万人, 2017年1月時点)

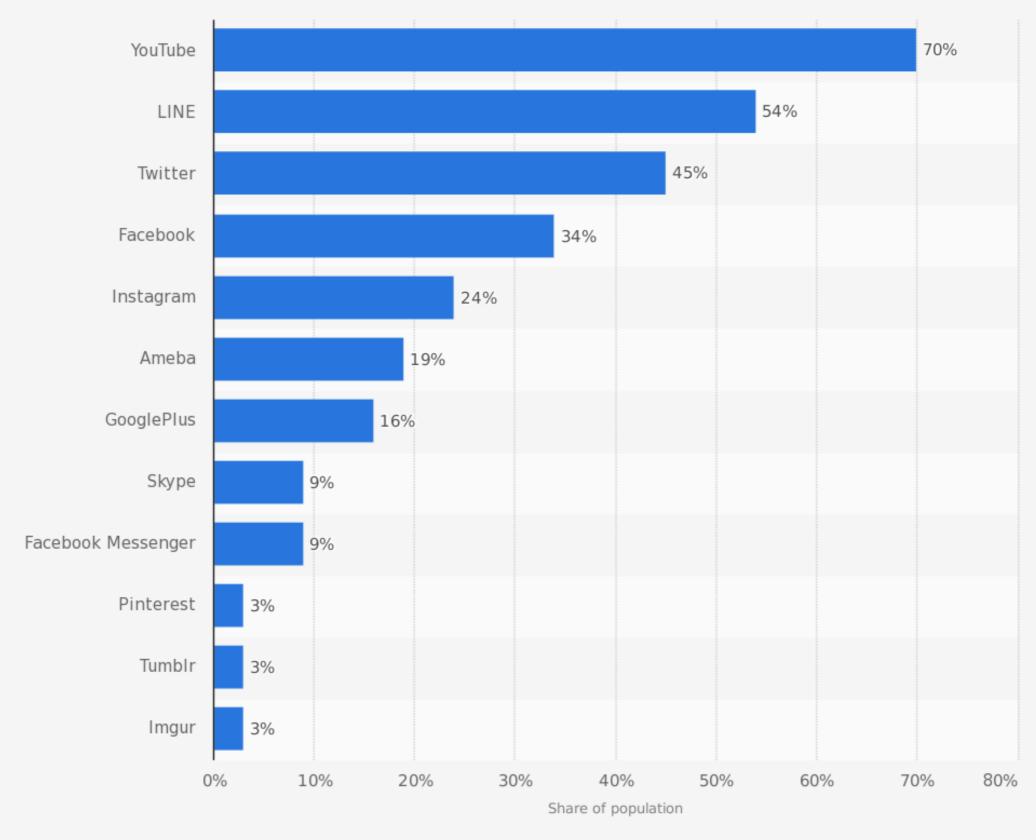


## FacebookとTwitterがモバイル広告支出を支配している

米国における企業ごとのモバイル画面広告純収入(2013-2017)



### Penetration of leading social networks in Japan as of 3rd quarter 2017



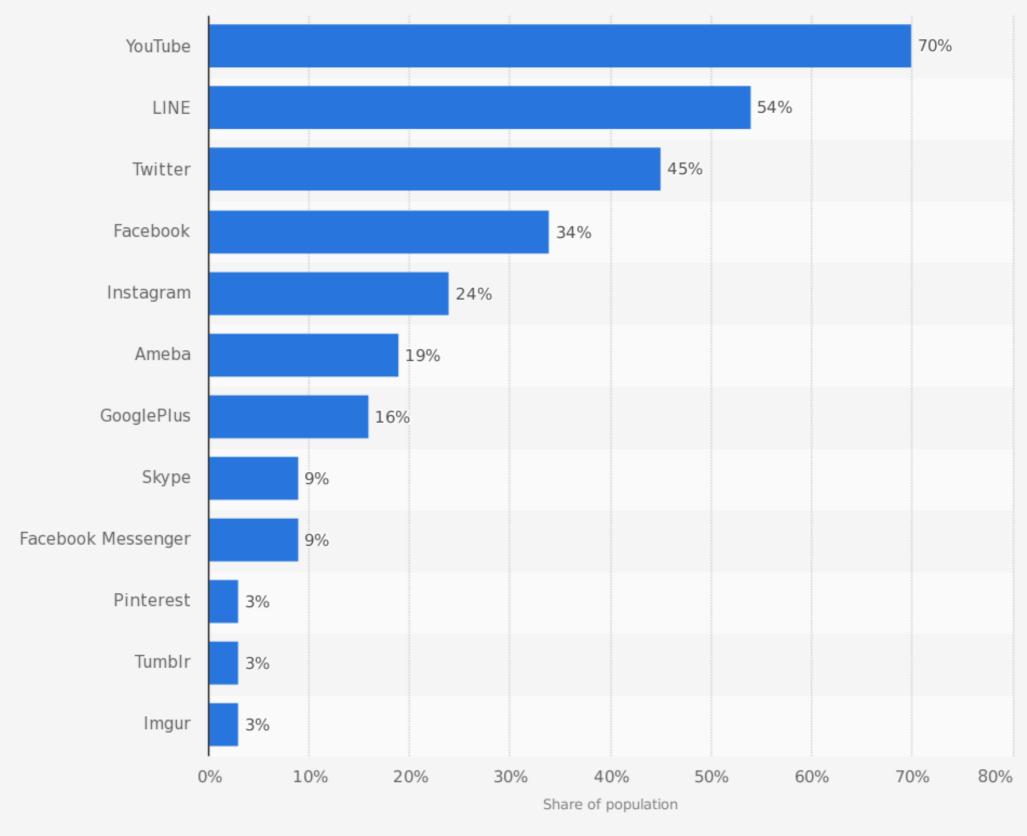
#### Sources

We Are Social; GlobalWebIndex © Statista 2018

#### Additional Information:

Japan; GlobalWebIndex; 2nd and 3rd quarter 2017; 16 to 64 years

## 2017年第3四半期時点での日本における主要SNSの浸透度



#### Sources

We Are Social; GlobalWebIndex © Statista 2018

#### Additional Information:

Japan; Global WebIndex; 2nd and 3rd quarter 2017; 16 to 64 years

**Table 1: Social Media Use in the United States** 

Platform	% of US using (2018)	% daily users (2018)	% who use Facebook (2018)	%of US using (2016)	% daily users (2016)	% who use Facebook (2016)
Facebook	68	74	100	68	76	100
Pinterest	29		89	26	25	92
Instagram	35	60	91	28	51	95
Twitter	24	46	90	21	42	93
LinkedIn	25		90	25	18	89
SnapChat	27	63	89			
YouTube	73	46	81			
WhatsApp	22		85			

Source: Pew Research Center, 2018 and 2016. Sample restricted to respondents aged 18 and older.

表1:米国におけるソーシャルメディアの利用

プラット フォーム	米国での利用 (%) (2018)	日常的利用者 (%) (2018)	Facebook利 用者 (%) (2018)	米国での利用 (%) (2016)	日常的利用者 (%) (2016)	Facebook利 用者 (%) (2016)
Facebook	68	74	100	68	76	100
Pinterest	29		89	26	25	92
Instagram	35	60	91	28	51	95
Twitter	24	46	90	21	42	93
LinkedIn	25		90	25	18	89
SnapChat	27	63	89			
YouTube	73	46	81			
WhatsApp	22		85			

Source: Pew Research Center, 2018 and 2016. Sample restricted to respondents aged 18 and older.

**Graham:** Who's your biggest competitor?

**Zuckerberg:** Senator, we have a lot of competitors.

**Graham:** Who's your biggest?

Zuckerberg: Mmm... I think the categories of... do you want just one? I'm not sure I can give

one. But can I give a bunch?

Graham: Mmhm.

**Zuckerberg:** So there are three categories I would focus on. One are [sic] the other tech platforms, so Google, Apple, Amazon, Microsoft, we overlap with them in different ways.

**Graham:** Do they do, do they provide the same service that you provide?

**Zuckerberg:** Um, in different ways, different parts of it yes.

**Graham:** Let me put it this way. If I buy a Ford and it doesn't work well and I don't like it, I can buy a Chevy. If I'm upset with Facebook, what's the equivalent product that I can go sign up for?

**Zuckerberg:** Ah well, the second category that I was going to talk about was...

**Graham:** I'm not talking about categories. I'm talking about is there real competition you face. Because car companies face a lot of competition. If they make a defective car, it gets out in the world, people stop buying that car, they buy another one. Is there an alternative to Facebook in the private sector?

Zuckerberg: Yes Senator, the average American uses 8 different apps...

Graham: OK.

**Zuckerberg:** ...to communicate with their friends and stay in touch with people, ranging from text to email.

**Graham:** OK, which is the same service that you provide.

**Zuckerberg:** Well, we provide a number of different services.

**Graham:** Is Twitter the same as what you do?

**Zuckerberg:** It overlaps with a portion of what we do.

**Graham:** You don't think you have a monopoly?

Zuckerberg: (long pause) Ah, it certainly doesn't feel like that to me! (laughter)

Graham: あなたの最大の競争者は誰か?

Zuckerberg: 上院議員, 我々には多くの競争者がおります。

Graham: 最大の競争者は誰か?

**Zuckerberg**: カテゴリーを考えると・・・一つに絞りたいのでしょうか?。私としては1つに絞れるかは分かりません。集団としてならお答えできますが。

Graham: うーん。

**Zuckerberg:** 私が焦点を当てているカテゴリーは3つあります。1つは, 他の技術的プラットフォームであり, グーグル, アップル, アマゾン, マイクロソフトです。我々はそうした企業と様々な形で重複しています。

Graham: そうした企業はあなたが提供するサービスと同じサービスを提供しているのでしょうか。

Zuckerberg: 違った形・部分にはなりますが、そういうことになります。

**Graham:** つまりですね。仮に私がフォードの車を買ったもののうまく動作せず気に入らなかったとしても、シボレー*[GMの車]*を買うことができます。では仮に私がフェイスブックに腹を立てたとしたら、私が利用できるような同等の製品はあるのでしょうか?

Zuckerberg: ええ, 私がお話しようと思っていた2つ目のカテゴリーは・・・

Graham: 私はカテゴリーについて話しているのではありません。あなたが実際に競争に直面しているかについて話しています。自動車会社は多くの競争にさらされているので、欠陥のある車を作ったとしたら、それは世界から退けられることになり、人々はその車を買うのをやめ、別の車を買うでしょう。フェイスブックには民間部門において代替性のあるものはあるのでしょうか。

Zuckerberg: はい、議員。平均的な米国人は8つの異なるアプリを使っており・・・

Graham: ええ。

Zuckerberg: テキストからEメールに至るまで、友人とコミュニケーションをとったり、人と連絡を取り合ったりするのに使っています。

Graham: それはあなたが提供しているのと同じサービスでしょうか。

Zuckerberg: 我々は数多くの異なるサービスを提供しています。

Graham: ツイッターはあなたが提供しているサービスと同じでしょうか。

Zuckerberg: ある程度は重複しています。

Graham: あなたは独占状態にあると考えていないということですか?

Zuckerberg:(長い沈黙)私は全くそのようには感じておりません(笑いながら)。

Big data & AI

ビッグデータ & AI

# Prediction Machines





The Simple Economics of Artificial Intelligence

AJAY AGRAWAL JOSHUA GANS

AVI GOLDFARB

# Prediction Machines



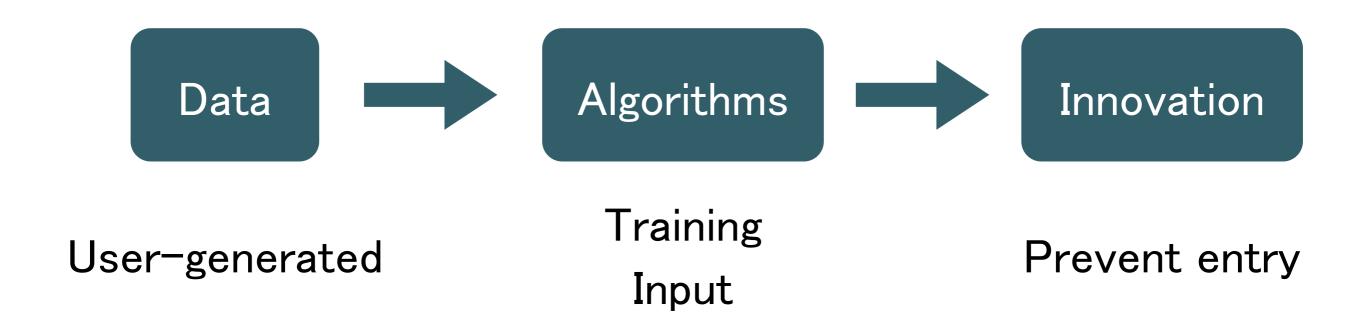


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## Big data & AI



Regulating Switching Costs

## ビッグデータ&AI



スイッチングコストの規制

# Art. 20 GDPR Right to data portability

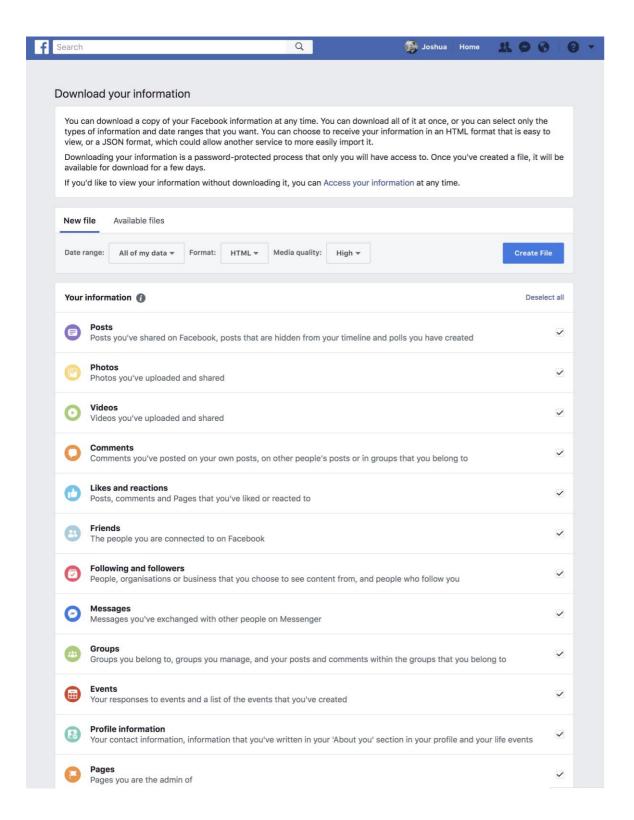
- (1) The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided, where:
  - a) the processing is based on consent pursuant to point (a) of Article 6(1) or point (a) of Article 9(2) or on a contract pursuant to point (b) of Article 6(1); and
  - b) the processing is carried out by automated means.
- (2) In exercising his or her right to data portability pursuant to paragraph 1, the data subject shall have the right to have the personal data transmitted directly from one controller to another, where technically feasible.
- (3) The exercise of the right referred to in paragraph 1 of this Article shall be without prejudice to Article 17. <sup>2</sup> That right shall not apply to processing necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller.
- (4) The right referred to in paragraph 1 shall not adversely affect the rights and freedoms of others.

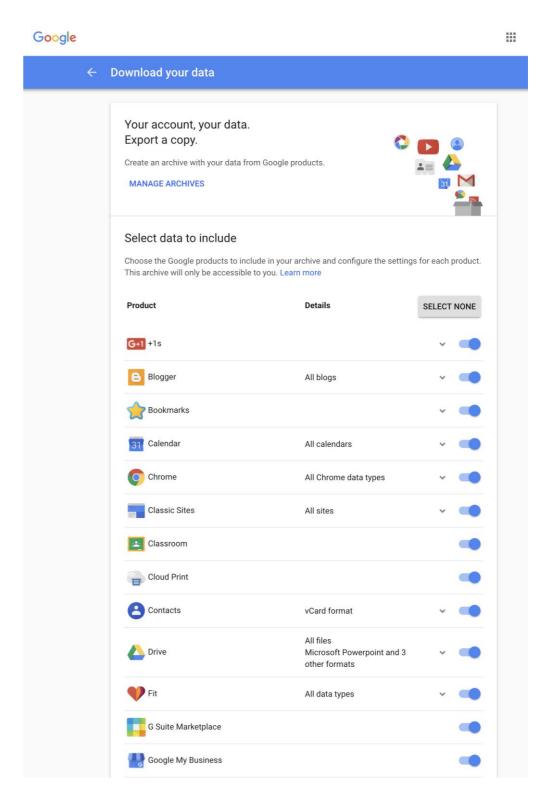
#### GDPR(一般データ保護規則)第20条

# データポータビリティの権利

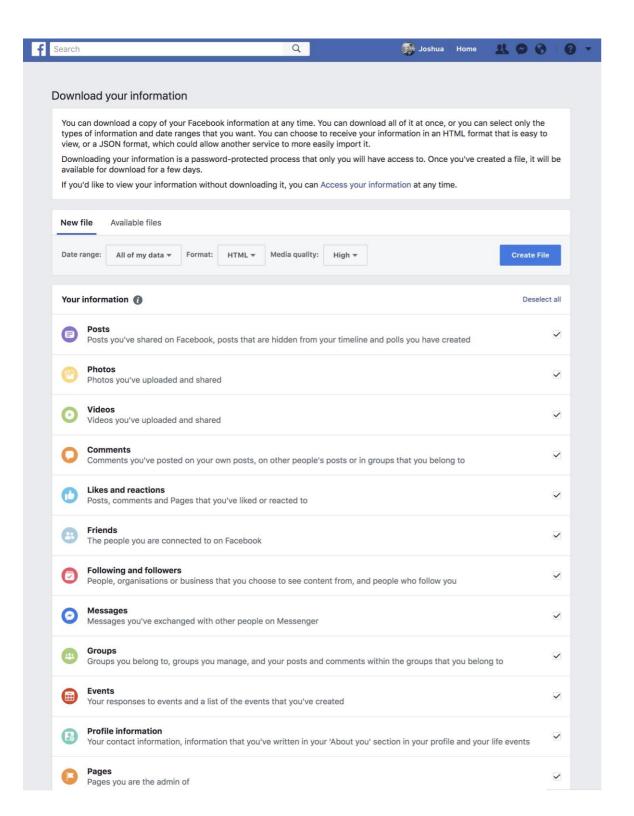
- (1) データ主体は、当該データ主体が管理者に提供した自己の個人データについて、構造化され、一般的に利用され機械で読み取り可能な可読性のある形式で受け取る権利があり、当該個人データの提供を受けた当該管理者の妨害なしに、そのデータを他の管理者に移行する権利がある。ただし、次に掲げる場合に限る。
  - a) 第6条第1項(a)号又は第9条第2項(a)号による同意に基づく又は第6条第1項(b)号による契約に基づく処理が行われている場合であり、かつ
  - b) 処理が自動化された手段で行われている場合。
- (2) データ主体は、第1 項によりデータポータビリティーの権利を行使する場合、データ主体は、技術的に実行可能であるならば、個人データを直接的に管理者から他の管理者に移行させる権利がある。
- (3) 本条第1 項で定める権利の行使は、第17 条の権利を侵害しないものとする。当該権利は公共の利益又は管理者に与えられた公的権限の行使のために行われる業務遂行上必要な処理には適用しない。
- (4) 第1項で定める権利は、他者の権利及び自由に不利な影響を与えてはならない。

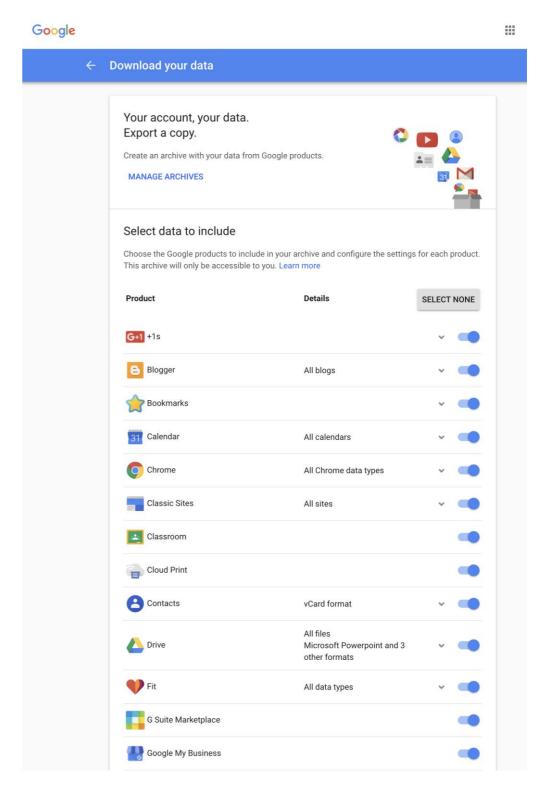
## Voluntary Data Portability





# 自発的なデータポータビリティ









NFORMATION ECONOMICS AND POLICY

Information Economics and Policy 13 (2001) 167–180

www.elsevier.nl/locate/econbase

# Numbers to the people: regulation, ownership and local number portability

Joshua S. Gans<sup>a</sup>, Stephen P. King<sup>b,\*</sup>, Graeme Woodbridge<sup>c</sup>

<sup>a</sup>Melbourne Business School, University of Melbourne, Carlton, Australia <sup>b</sup>Department of Economics, The University of Melbourne, Parkville, Australia <sup>c</sup>Frontier Economics, Melbourne, Australia

Received 14 September 2000; accepted 28 October 2000

#### Abstract

Local number portability (LNP) is a key factor in the promotion of local call competition in telecommunications. By allowing a consumer to retain their number when moving between local telephone providers, LNP reduces customers' switching costs and makes it easier for new providers to compete for customers. But regulators face a number of important choices when implementing LNP — what technology should be chosen, what are the costs of implementing LNP and who should pay? This paper considers how the regulator can implement LNP when there is asymmetric information about the optimal timing, choice and cost of technology and about the value of LNP to individual customers. We show that requiring each carrier to bear their own costs and creating transferable ownership of telephone numbers may allow the regulator to overcome the problems created by asymmetric information. © 2001 Elsevier Science B.V. All rights reserved.

Keywords: Number portability; Telecommunications; Asymmetric information; Property rights

JEL Classification: D4; L13; L51

# 番号ポータビリティ 権利に基づくアプローチ



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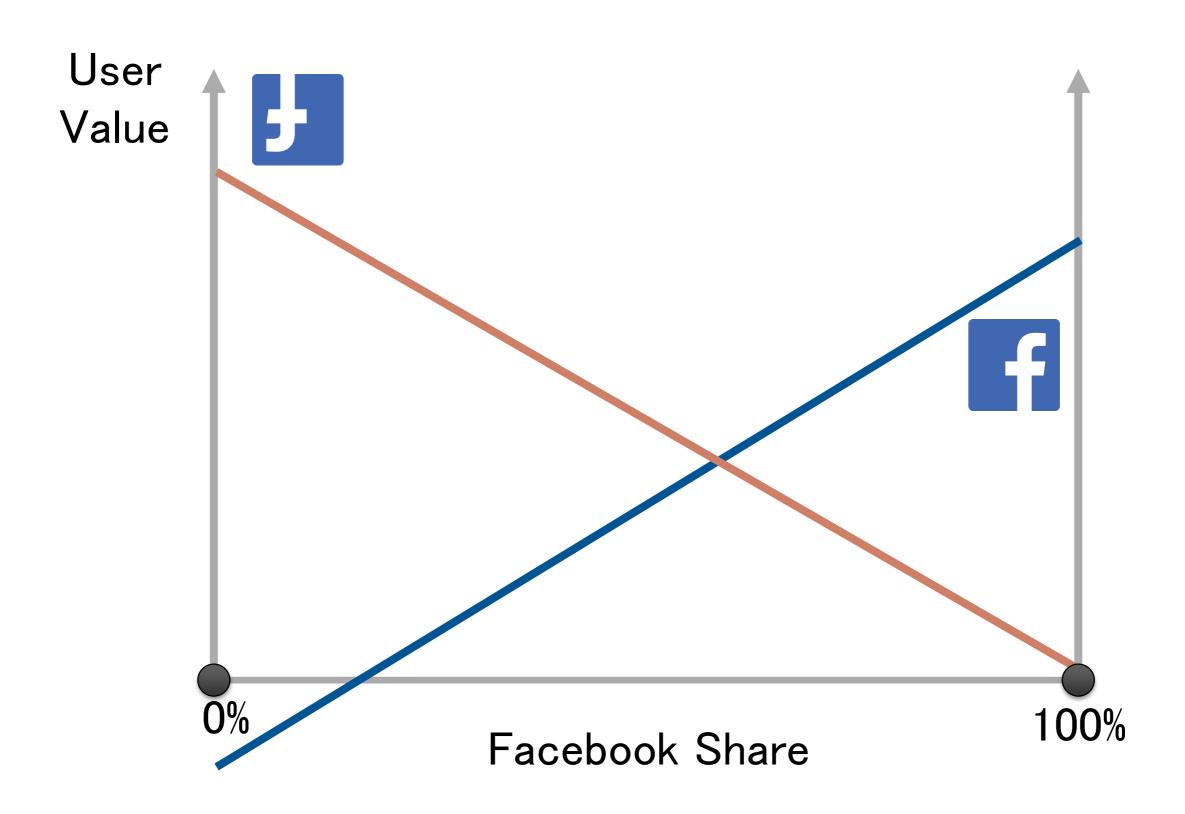
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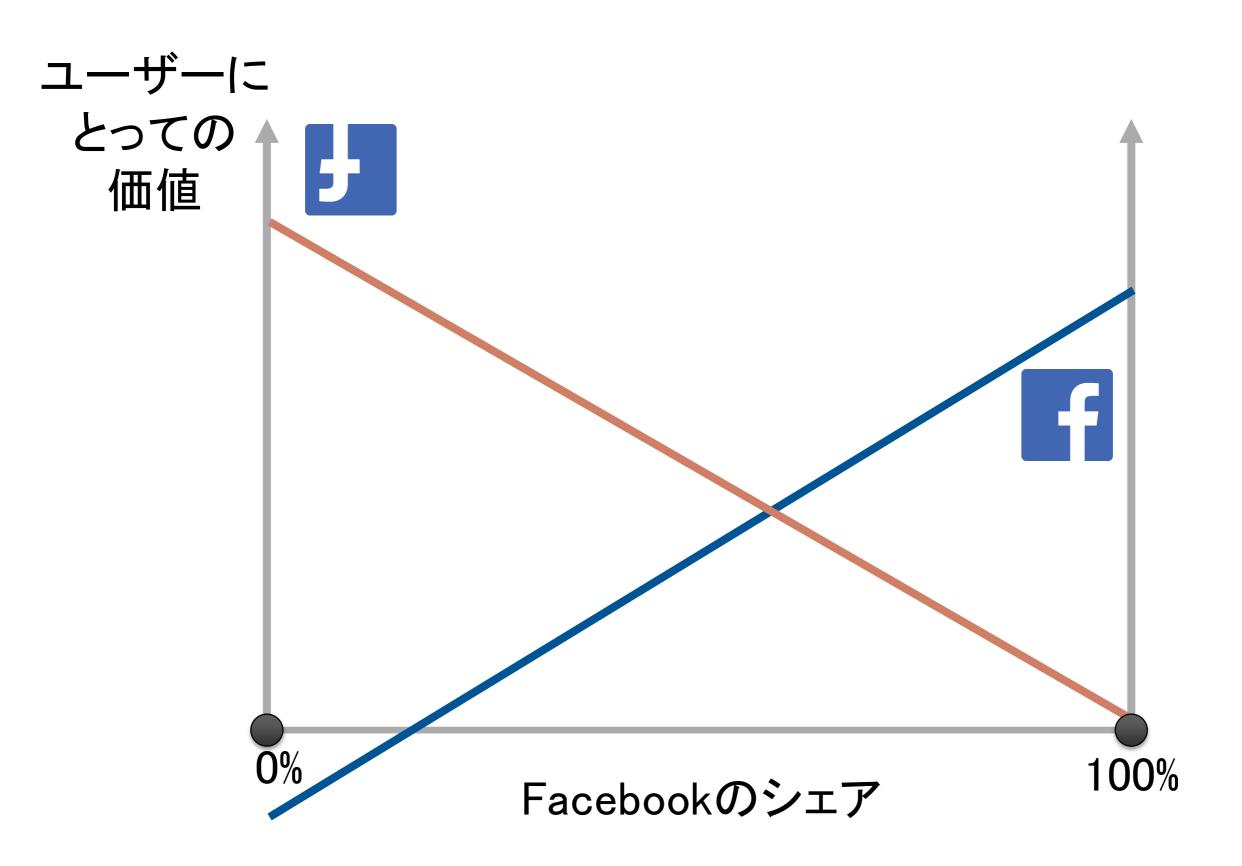
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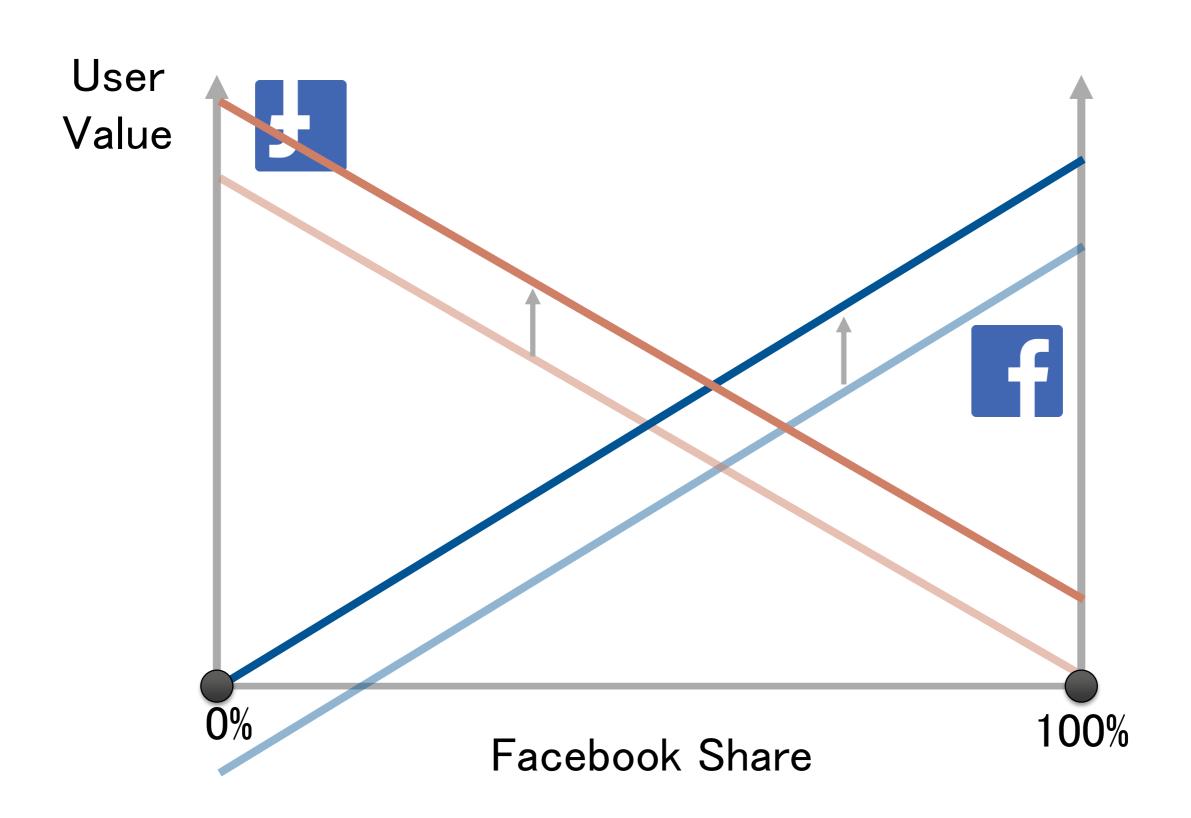
## Network effects



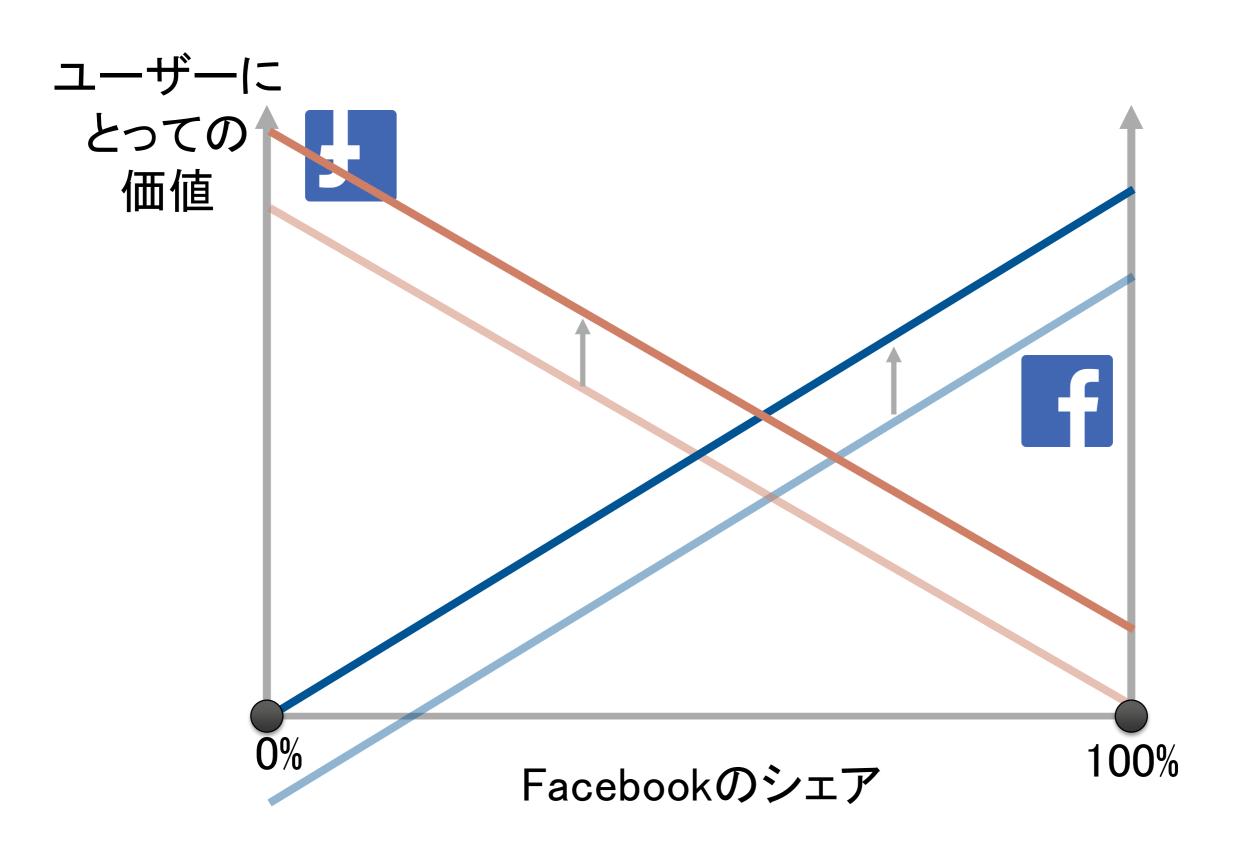
# ネットワーク効果



# Standard Data Portability



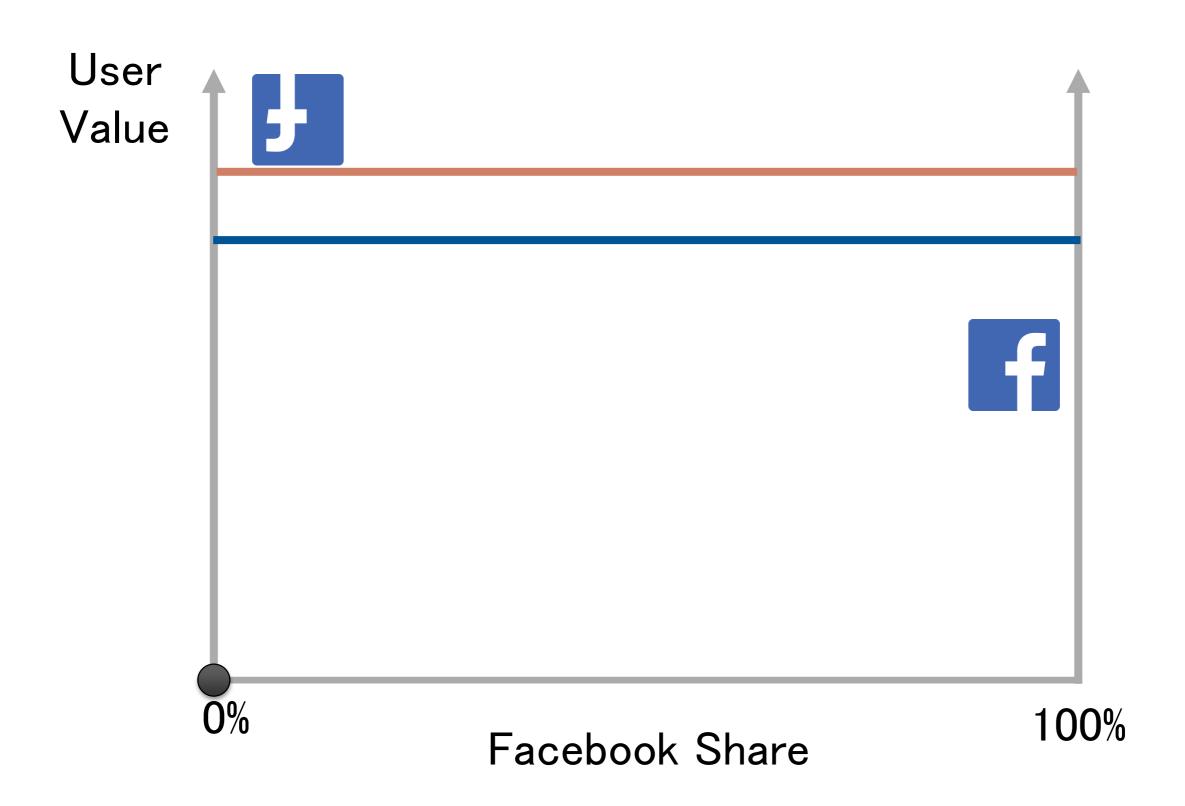
# 標準的なデータポータビリティ



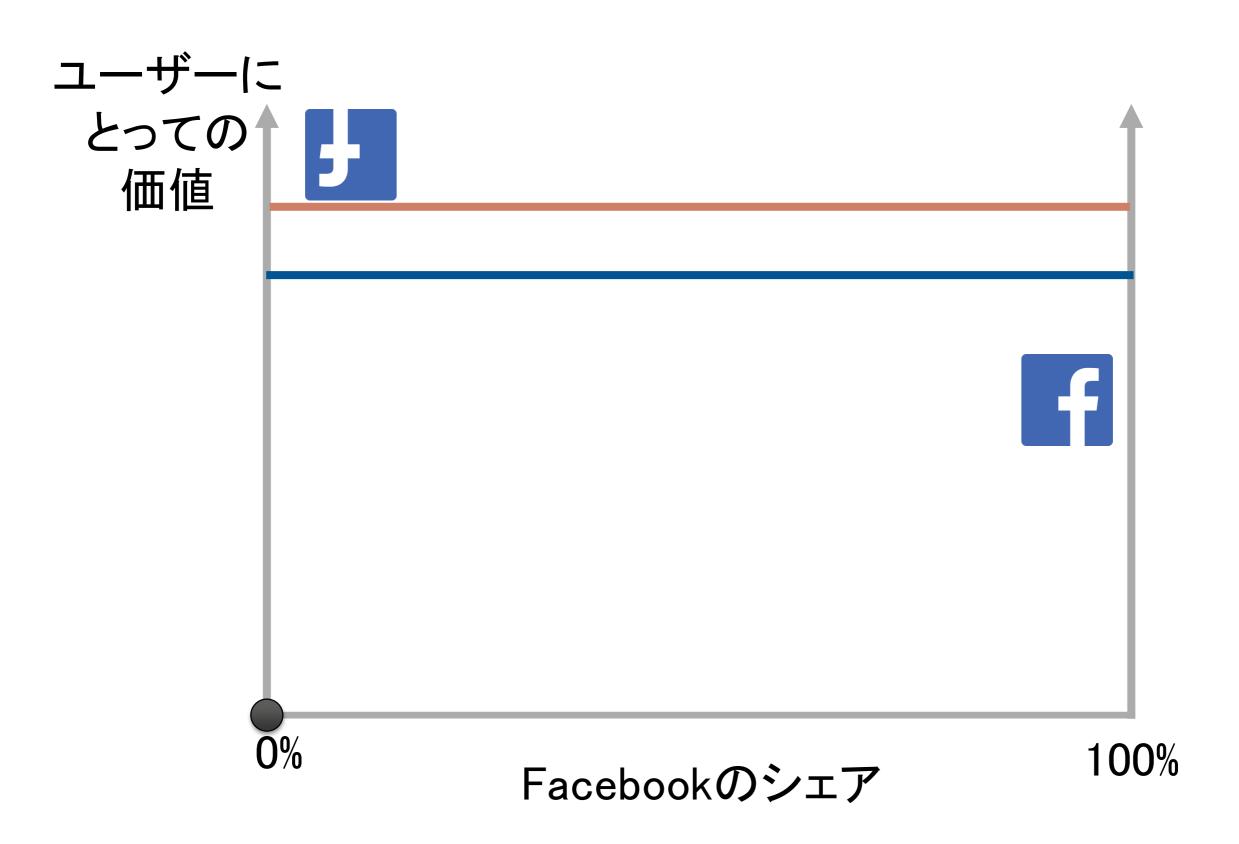
Solution: Identity Portability

解決法: アイデンティティポータビリティ

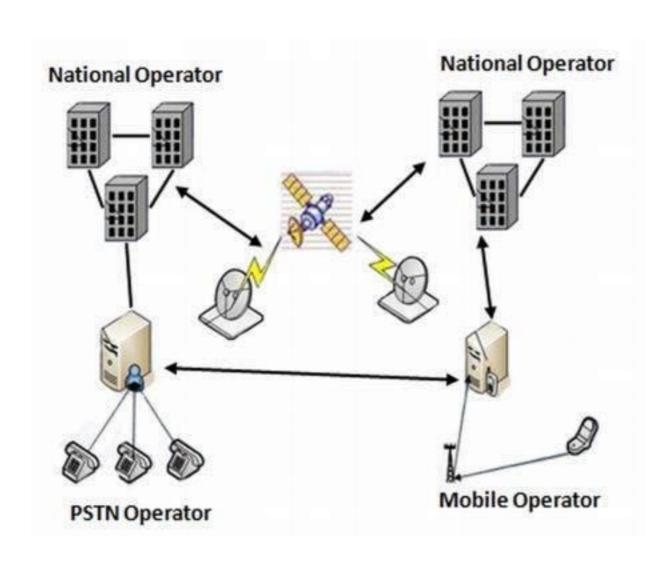
# **Identity Portability**



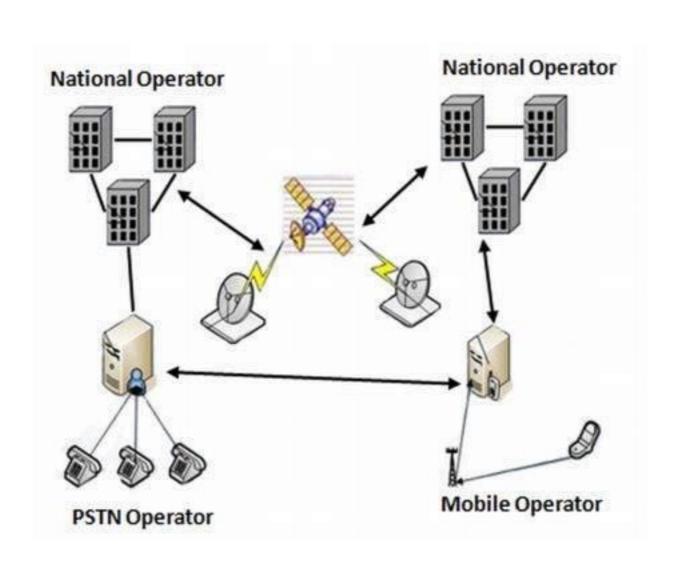
# アイデンティティポータビリティ



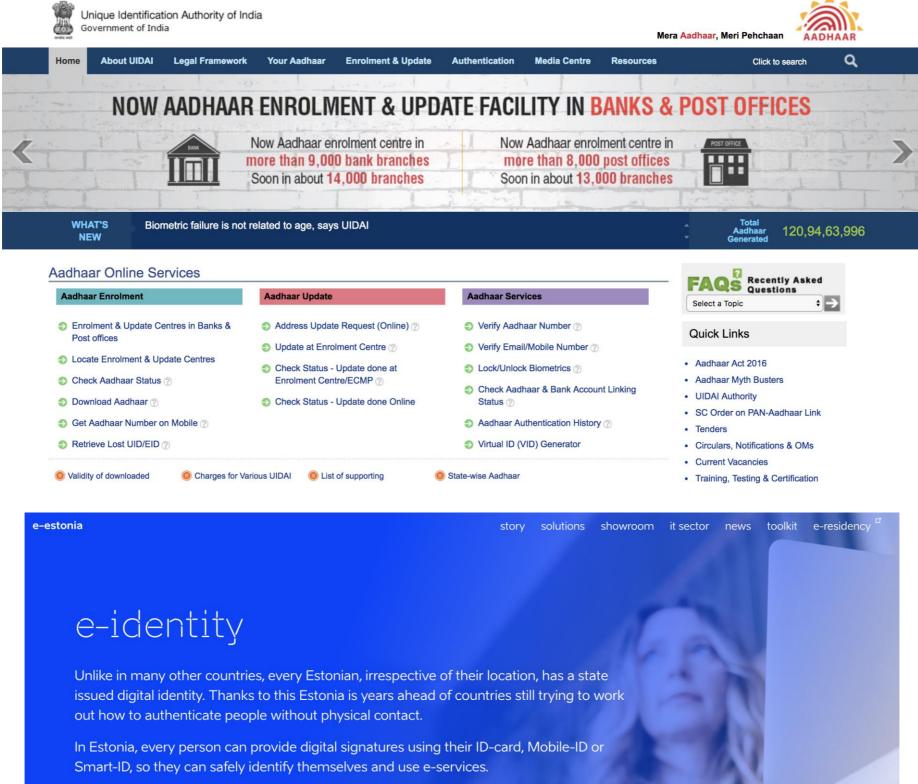
# Analogy: telecommunications interconnection



# 類似例: 電気通信における相互接続







98% of Estonians have ID-card

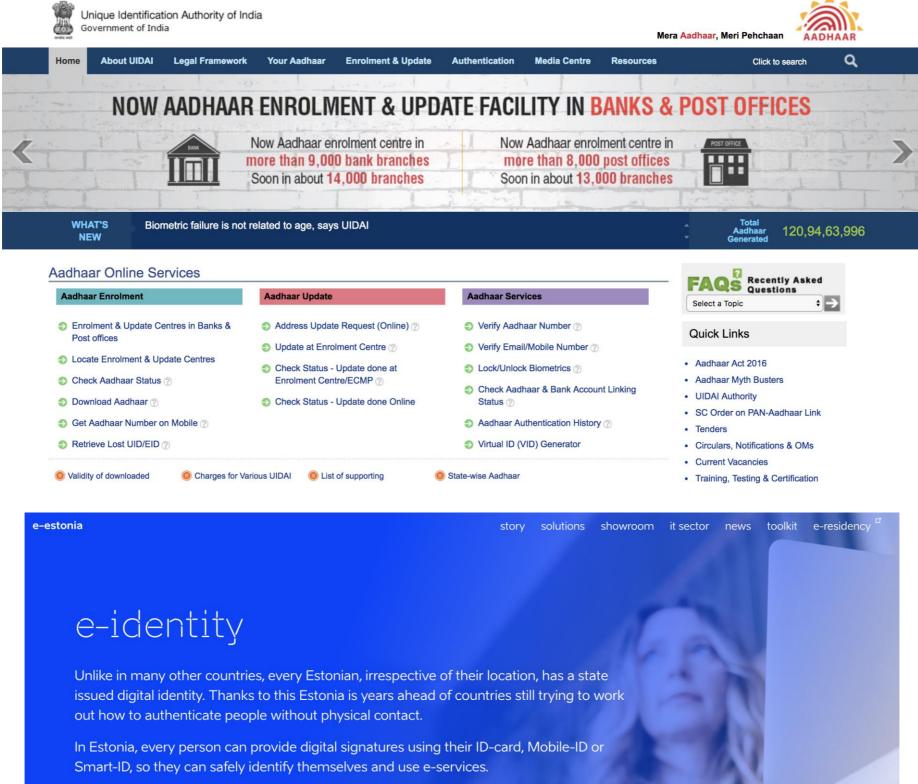
ID card Mobile-ID e-Residency Smart-ID

88% use the internet regularly 350M digital signatures

#1

Freedom on the Net (Freedom House 2016)





98% of Estonians have ID-card

ID card Mobile-ID e-Residency Smart-ID

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Freedom on the Net (Freedom House 2016)

## Official Microsoft Blog

Microsoft On the Issues

The Al Blog

Transform

## Partnering for a path to digital identity

Jan 22, 2018 | Peggy Johnson - Executive Vice President, Business Development









Photo courtesy of Mercy Corps.

In the U.S. and abroad, fundamental rights and services like voting, healthcare, housing and education are tethered to legal proof of identification – you can't participate if you don't have it. Yet nearly one in six people worldwide – the majority of them being women, children and refugees – live without it. The lack of legal documentation not only strips access to critical services, it puts those trapped in the "identity gap" at risk for larger issues including displacement and child trafficking.

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Support

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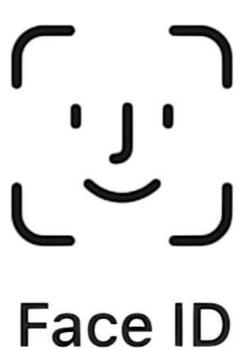


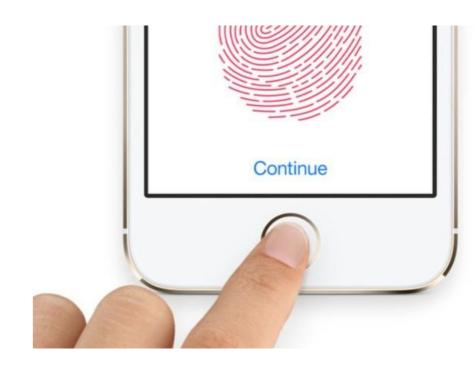


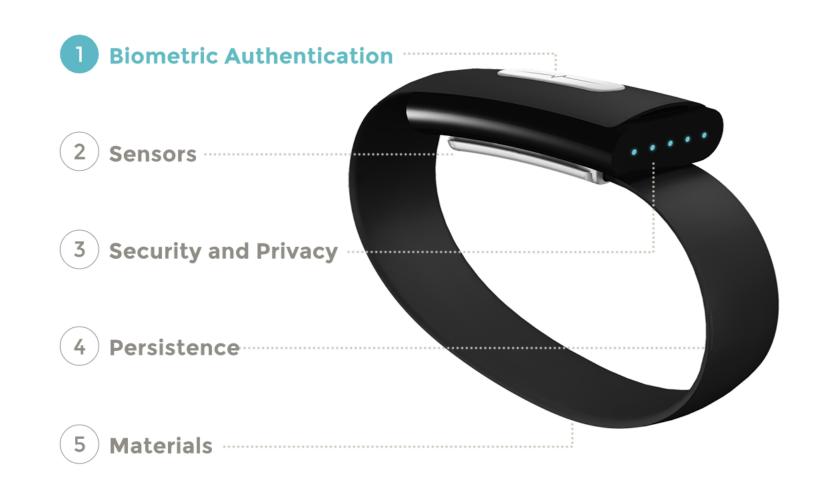
Photo courtesy of Mercy Corps.

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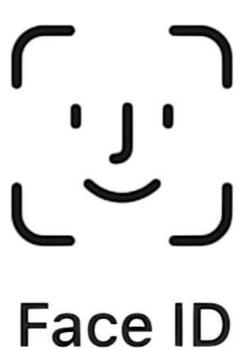


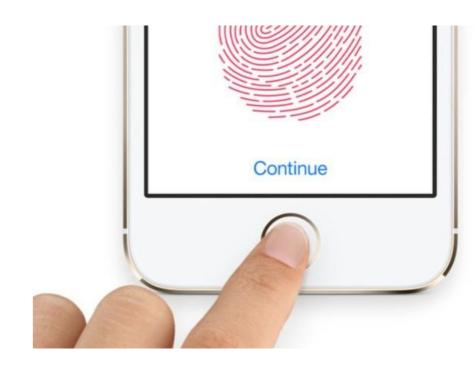


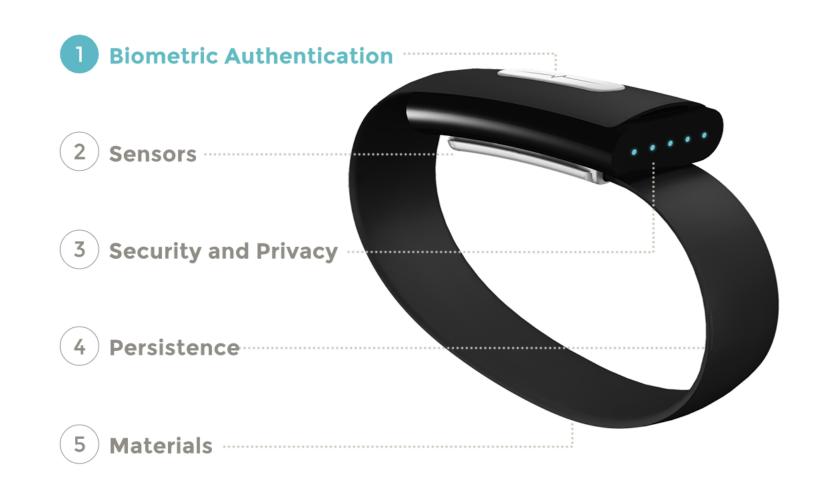
Biometric Authentication

The Nymi Band can authenticate users with Nymi's ECG-based HeartID™.









Biometric Authentication

The Nymi Band can authenticate users with Nymi's ECG-based HeartID™.

- Technical requirements
- Scope
- Incumbent manipulation
- · Cream skimming
- Privacy
- · Who pays?
- Many identities

- 技術的な必要条件
- ・範囲
- ・既存事業者による操作
- ・クリームスキミング
- ・プライバシー
- ・ 誰が支払うのか?
- ・ 多くのアイデンティティー



