

Towards the Realization of a Smart Financial Nation

Building an Innovation-Inducing Society

July 28th, 2016

Hello, Future!



Japan Association of New Economy

FinTech Promotion Taskforce

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1. The Purpose of this Proposal

1. The Purpose of this Proposal

The promotion of FinTech is one of the priority areas included in the government growth strategy, and has been a topic of in-depth discussions at political parties and related ministries.

In line with these developments, JANE, as an association whose mandate is to promote the new economy, is presenting the first of its proposals, setting out objectives and future directions for Japan's FinTech business.

JANE plans to issue the second of its proposals to put forward detailed recommendations for policy measures.

2. Basic Principles of Measures to Promote FinTech

2-1 Three objectives

Creation of new innovative opportunities through smart, finance-centered growth

1. Promote low-cost, secure, and user-oriented services

2. Create new flows of money that support economic growth

3. Build financial infrastructure and governance that are accessible to all

2-2 Two points for achieving the objectives

Towards a further sophistication of domestic financial systems

Realizing a society where smooth flow of money is ensured

- Simplification and speeding up of all transactions through a complete transition to a cashless and paperless society
- Financial brokerage systems that facilitate personal investments, making use of Japan's pool of personal financial assets worth 1,700 trillion yen
- An API(*)-driven society that enables effortless identity authentication and low-cost administrative procedures

Bringing financial infrastructure from Japan to Asia

Building institutional mechanisms that make innovation happen

- Speeding up the PDCA cycle of economic activities through EDI-backed automatic processing
- All relevant information automatically linked to each other through API
- Smarter and more affordable financial systems and government procedures that can cope with incessant changes described above

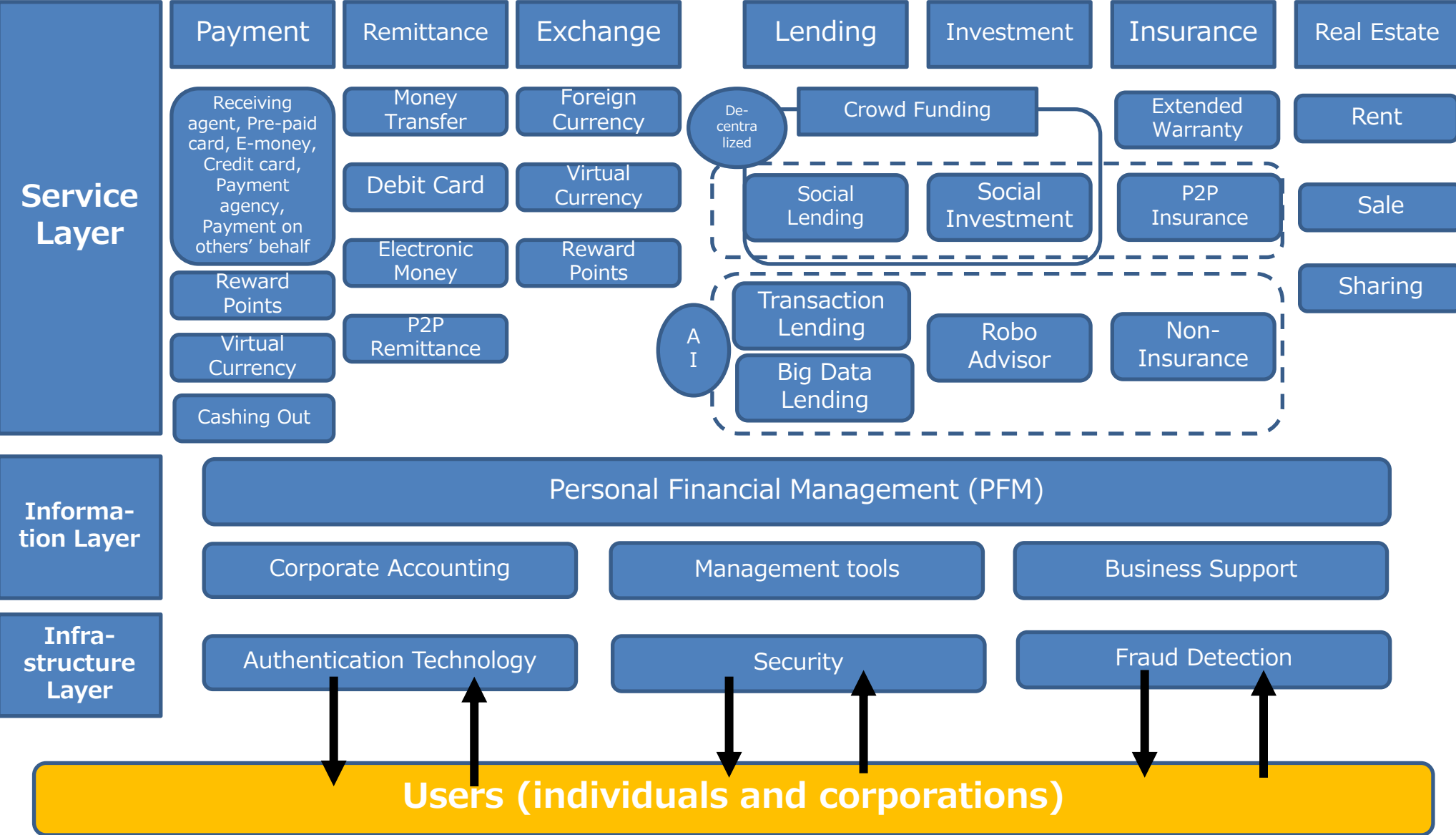
API(*) : Application Programming Interface, which allows efficient inter-system data exchange and linkage

2-3 Perspectives on Legal Framework

- **Legal frameworks to support the development of FinTech**
 - Growth promotion and support by competent authorities (eg. London, Singapore)
 - Regular updating and revision of regulations to keep up with the times (smart regulation)
 - Experiment with new solutions through trial and error (regulatory sandbox)
- **Reviewing of regulations**
 - Discrepancy between regulatory frameworks and services used in daily life
 - Importance of seamless linkage between decision-making and actual transactions
- **Regulatory standing of FinTech businesses**
 - High licensing threshold for bank agencies and financial services brokers providing such simple services as remittance or investment
 - Balance between industry promotion and guaranteeing of security

3. Vision of a Future Society Enabled by FinTech

3-1 Mapping of FinTech Services



Source: Drafted by JANE secretariat based on materials compiled by Mr. Masakazu Masujima, a partner at Mori Hamada Matsumoto LPC and materials included in *Introduction to FinTech* published by Nikkei Business Publications

3-2 The Effects of FinTech

- **Visualization and enhanced analytical accuracy made possible through cashless transactions**
 - Speedier and more efficient transactions, minimized need for cash withdrawals
 - Simplification and automation of tax payment procedures, reduction of administrative procedure cost
 - Curtail the black economy and realize fairer taxation
 - Accumulation of transaction data will increase the effectiveness of financial policy
- **Effective utilization of blockchain**
 - Credibility of data ensured by built-in mechanism rather than by conventional, manually assured guarantees
 - Lowering of financial and administrative burden relating to inter-bank or government transactions
- **Building of integrated platforms accessible to private individuals**
 - Personal financial assets worth 1,700 trillion to be diverted to investment activities
 - Alleviate individual concerns about the future and boost the economy
- **Realization of more secure financial transactions**
 - Refined identity authentication and possibility to carry out transactions without any worries

3-3 Quantitative Socio-Economic Effects

Indicators		Expected quantitative effects
BtoC	Consumption boosting effects of cashless transactions *1	At least 1.6-fold increase of personal spending
	Reduction of time required to physically visit the bank *2 (saving of time to visit bank branches or onsite ATMs)	Annual total of 948 million hours = 108,219 years
	Increase in the investor population due to 1. Introduction of robo-advisors 2. Expansion of the market for defined contribution pension *3	20 million investors (estimated) ⇒46 million (estimated) Breakdown of the increase 1: 16 million plus 2: 10 million plus
BtoB	Development and expansion of lending services utilizing data	【reference indicator】 Lending amount to non-bank businesses of more than 20 trillion yen (data from the Financial Services Agency)
	Improved productivity of the self-employed (as an outcome of utilizing cloud services including Fintech) *4	appx 5.9 trillion yen
	Cutback in accounting work at SMEs *5	appx 4.05 trillion yen per year

3-3 Quantitative Socio-Economic Effects

Source materials

- *1 Per capita purchase price using credit cards is 1.6 times more than that of cash payments, according to survey results conducted at the Nakamise shopping street in Asakusa, Tokyo (*Efforts by the credit card industry towards a realization of the tourism-oriented nation*, issued by the Japan Credit Card Association, January 14th, 2016)
- *2 <http://www.fujitsu.com/jp/group/fri/column/ideatank/2015/2015043.html>
Method of calculation: working age population of 79 million x 0.5 hour required for each visit x 24 visits per year (twice monthly on average)
- *3 The current investor population in Japan is 19.72 million. Based on the hypothesis below, robo-advisors can be expected to increase the number of investors by 19.2%
 - The current number of investors is estimated at 19.72 million, based on the Japan Securities Dealers Association's "National Survey on Securities Investment" (2015) and population estimates by the Statistics Bureau, the Ministry of Internal Affairs and Communications
 - In the above survey, 30-40% of most age groups cited "the lack of financial and investment knowledge" as a reason for not needing securities investment
 - It is estimated that robo-advisors can bring improvements to the lack of knowledge aspect with 30% of the 20-39 age group, 20% of the 40-59 age group, and 10% of the "60 or over" group
 - The above improvements can be translated into an estimated increase of 16.47 million investors
 - Defined contribution pension (DC): the number of DC subscribers in the US stood at 39 million in 1992, after major tax reforms designed to promote DC schemes were implemented (currently 80 million). The equivalent number of DC subscribers in Japan would be 18 million. We deducted the overlap with the aforementioned effects by robo-advisor (19%) from the difference between the 18 million and the current 6 million subscribers.
- *4 <https://www.freee.co.jp/smlab/soleproprietor2>
- *5
 - A reduction of appx 50 working hours per month (6 working days a month) can be expected for each small or medium sized company through a systematization of accounting procedures
 - Top 3 ranking systems with time-saving effects https://keiriplus.jp/article/hontou_keirisystemranking/
 - If a company pays 5m yen as annual salary for an accounting personnel, the systematization would cut down 1.5m yen-worth of work
 - If the same outcome can be expected of all the companies with less than 300 employees (about 2.7 million companies), it would enable cost-saving of 4.05 trillion yen/year

3-4 FinTech Lifestyle

The following pages present how various services and solutions can be utilized in real-life settings in a FinTech future

3-4 FinTech Lifestyle

- Commuting -

6:00

Get up. Check my morning schedule on my smart glass while brewing coffee.



8:00 Nursery
9:00 Office meeting

8:00

Take the daughter to nursery school. Face-authentication **connected to the national Social Security and Tax Number system** automatically prompts the use of a child care ticket issued by the Tokyo Metropolitan Government



Face recognition
connected to
national ID
system

Buy my usual sandwich at a convenience store en route to work. Special discount is automatically applied through fingerprint authentication thanks to **integrated loyalty cards**.



The purchase of sandwich is recorded in the account book while on train ride (**Bank and card API**)



12:00

Received lunch coupons while checking my calendar. Reserve limited availability lunch.



Limited lunch
reservations
accepted

16:00

Browse overseas e-commerce website for daughter's birthday present. Bitcoin payments have now become acceptable in any store. No longer concerned about security issues in using overseas e-commerce since payment is by **smart contract** in which payment is only executed when delivery is made.



Bitcoin payment
upon delivery



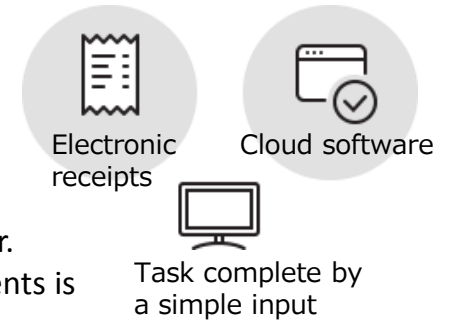
3-4 FinTech Lifestyle: at work/working from home

-At Work-

9:00

Today is the end of the month, the deadline for settling expenses. Invoices also need to be paid.

Expense reporting has already been prepared by a cloud software and is waiting for approval. No need to prepare original copy receipts as electronic receipt data has been forwarded and registered. Enter clients' information into the system and the procedure is complete!



9:10

All left to do is to ask a colleague in accounting who works from home to process wire transfer. Clerical tasks are completed in 10 minutes first thing in the morning. Communication with clients is done through video conferencing.

-Working from Home-

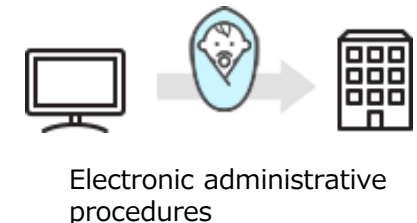
9:30

Receive this month's payment requests from staff members. Paying small amount invoices is charge-free via a money transfer service instead of using a bank. Transfer service can also assign corporate numbers and invoice numbers. Reconciliation of incoming payments is completed immediately at the receiving end, and a thank you response email is automatically generated.

Today's tasks are completed after finishing the input of information on children newly born this month and their parent employees. **(Expansion of electronic administrative procedures)**

9:40

Next month is a settlement month. Accounting tasks as well as filing of a corporate tax return have become less burdensome compared to the past. **(Possibility for increase in tax revenue)** It was unthinkable in the past that one is able to work from home and close the accounts while looking after children



3-4 FinTech Lifestyle: weekend

-At Home on Weekend-

10:00

Take the daughter to a park. Chat with other fathers in the neighborhood about childcare and education. Wonder if it would be better to consider buying a house before my daughter starts primary school. Record a voice reminder on the spot.



Consider buying a house

13:00

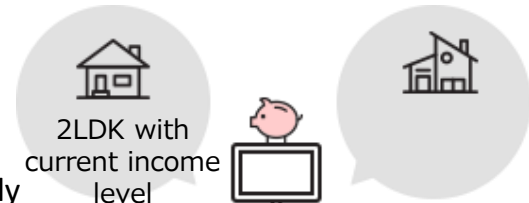
Browse through housing concierge website at home with wife

“A two-bedroom property in the xx ward is recommended based on the current level of income”

“A three-bedroom house is within reach if 20,000 JPY can be saved every month”

Our second child will be born in six months. During that time we plan to live in wife’s family home in the neighboring area, and our own house can be let out for tourists. (Filing of final tax return is also easy)

Life insurance policies are reviewed and switched as appropriate every six months to coincide with the birth of our child.



2LDK with current income level

Suggestion from home accounting website

15:00

Mortgage rate quotes are generated and sent to me from various banks that viewed my household accounts data.

Borrowing from an individual investor through P2P lending may be an option.

Money for buying a house will be saved and set aside by automated tools. A robo-advisor automatically reserves for daily convenience store purchases and expenses. No need to worry about investment in defined contribution pension scheme as the robo-advisor takes care of it.



Mortgage quotes based on accounting data



Automatic savings by robo advisor

4. Recommended Measures

4-1 Key Performance Indicators (KPIs)

■ The government needs to execute reform based on clearly-defined KPIs with 2020 as the target year, and to appoint relevant staff in the government in charge of achieving each KPI. Possible KPI targets are listed in the following pages.

■ Even with the spread of online banking and the emergence of various FinTech services, the present state of FinTech (FinTech1.0) still underutilizes information technologies. Urgent need to realize IT potentials in the FinTech industry (FinTech2.0), with an eye to moving toward a further stage of FinTech3.0

4-1 List of KPIs (1/2)

項目		KPI (examples)	Current	Target
Realization of low-cost, secure and user-oriented services	Promotion of cashless settlements	Ratio of major facilities and services accepting cashless payments	N.A.	100% (2020)
		Circulation amount of coins and banknotes as a percentage of nominal GDP	20% (end of 2014)	10% (end of 2020)
		Ban on handling of small change at major facilities and services	-	By 2020
	Enhanced productivity of corporate and private businesses through IT utilization	Ratio of cloud-based back-office software usage (accounting, sales administration, etc.)	Goal setting through fixed-point observation	
		Ratio of corporations using online banking services		
		Ratio of corporate credit card usage		
Ratio of electronic tax filing	Income tax 52.8% Corporate tax 71.6% (2014 FY)	100%		
Labor productivity ranking among OECD countries	21st (2014)	Within the 10 th best		
Create new flows of money to support economic growth	Expansion of investment markets	Increase in investor population	20 m (2015 FY)	46m (2020 FY)
	Improved business startup ratio	Business startup ratio	4.6% (2012)	10% (2020)
	Realize the sharing economy (crowd funding and home sharing)	Expansion of the sharing economy market * Covers the overall sharing economy including FinTech	-	10 trillion yen-level (2025)

4-1 List of KPIs (2/2)

項目	KPI (examples)	Current	Target
Building financial infrastructure and governance accessible to all	Percentage of people going online to handle most frequently used administrative procedures	46.2% (2013 FY)	70% (2020 FY)
	Ratio of electronic tax filing (as in the table 1/2)	Income tax 52.8% Corporate tax 71.6% (2014 FY)	100%
Building institutional mechanisms to support innovation	Opening up necessary banking functions to APIs	-	100% (2020 FY)
	Elimination of face-to-face, stamp-requiring and paper-based procedures (interactions between private corporations as well as laws and administrative guidance between public and private entities)	-	Complete elimination (effective immediately)
Make Japan a leading country in FinTech by 2020	Emergence and growth of FinTech unicorns	-	At least 5 companies
	Financing of FinTech companies (total financing amount raised by unlisted startups)	15 billion (2015)	100 billion (2020)
	The market size of domestic FinTech startups	3.39 billion (2015 FY)	60 billion yen-level (2020 FY)

4-2 Basic direction of policy measures

- **Promotion of data utilization as the foundation of FinTech as well as online and cashless settlement that enables automation**
 - Measures to encourage online financial transactions and cloud-based corporate services
 - Further promotion of e-government
 - eg) merging of FinTech and e-government in Estonia
 - Examine ways to streamline and make online of identity authentication process
 - Elimination of face-to-face, stamp-requiring and paper-based principles
 - Enhanced convenience of API-based infrastructure for financial institutions
 - Examine measures to obligate cashless settlements
- **Reviewing of legal environment for new services**
 - Examine new methods of credit administration using sales distribution data and other cloud-sourced data, and consider how legal frameworks can be made responsive to one-stop and other types of new financial services
 - Tax exemption on virtual currency transactions
- **Building mechanisms to encourage innovation**
 - Introduction of a regulatory sandbox in Japan

5. FinTech Promotion Taskforce of the Japan Association of New Economy

5. JANE FinTech Promotion Taskforce Members

■ This proposal was discussed and prepared under the framework of the Japan Association of New Economy's FinTech Promotion Taskforce

○Leader

Yosuke Tsuji Founder & CEO, Money Forward, Inc. / Executive Officer, JANE

○Deputy Leader

Daisuke Sasaki Co-founder and CEO, freee K.K. / Executive Officer, JANE

✕ A working group composed of JANE member company staff was also set up to broadly discuss issues at an administrative level

6. FinTech Reference Materials

What is FinTech?

- A coined term combining “finance” and “technology”
- Originally used to refer to large-scale vendors but has come to denote startup businesses in the financial sector

Top 10 Fintech Companies Selected by American Banker (2015)

1. **Tata Consultancy Services**
2. **FIS**
3. **Fiserv**
4. **Cognizant Technology Solutions**
5. **NCR Corporation**
6. **Infosys**
7. **SunGard**
8. **Diebold**
9. **Nomura Research Institute**
10. **Total System Services**

10 Representative Fintech Companies

1. **Square : Smartphone card payments**
2. **Lending Club : P2P Finance**
3. **Mint(Intuit) : PFM**
4. **SIMPLE : Bank Apps**
5. **STRIPE : E-commerce payments**
6. **PayPal : Payments and transfers**
7. **Betterment : Discretionary investment management**
8. **Credit Karma : Credit scoring**
9. **Xero : Cloud accounting**
10. **Coinbase: Bitcoin exchange**

The overall picture of the FinTech industry and representative companies

Functions	Settlement	Remittance	Exchange	Lending	Investment	Real estate
Service Layer	Electronic Money Apple Pay Linked with appx. 400 US financial institutions	Int'l transfer Transferwise International transfer for several dollars' fee(appx.¥10bn)	Virtual Currency Coinbase Bitcoin transaction/settlement (appx.¥12bn)	P2P Lending Lending Club Total loan amount of ¥1.8 trillion	Crowd Funding AngelList ¥30 billion finance for 835 companies	Rental ,Sales Zillow Automated assessment for 100m properties
	Settlement Service Stripe Major online payment agent (appx. ¥30bn)	P2P Transfer Venmo Monthly transfer amount of over \$1bn	Foreign Currency eToro 4.5m people doing copy trading (¥8bn)	Trade Distribution Finance Kabbage Lending based on ecommerce data (¥15bn)	RoboAdvisor Betterment ¥300bn investment for beginner investors (¥11.5bn)	Sharing AirBnB Over 2m rental properties (¥250bn)
Information Layer	Personal Financial Management					
	Corporate Accounting	Management Tools		Business Support		
Infra-structure	Authentication Technology	Security		Fraud Detection		

Figures in parentheses indicate amount financed by each company

Source: Excerpts from the material presented by Mr. Toshio Taki, the head of the Fintech Institute, Money Forward, at an implementation review meeting of the Japanese government's Industrial Competitiveness Council on March 31st, 2016

Technological Perspectives

1. Existing and innovative technologies

- The spread of smartphones opening a path to Fintech1.0
- AI, blockchain and other technologies leading to Fintech2.0

2. Supremacy of user experience

- Only user-oriented apps that are “the fastest or the best” will gain customer support
- The logic dictated by industry laws and arcane complexities specific to the financial sector can only convince service providers

3. Minimize the time lag between decision-making and transaction

- Various technological tools enhance the PDCA cycle through visualization
- Minimize or eliminate time lag between thought and execution through the provision of seamless technologies
- Repetitive patterns of decision-making and action, once detected, will be automated

4. Un-banked problem (global)

- Majority of people in the world lack access to bank accounts or credit cards
- Possibility of mega IT companies getting involved in building banking infrastructures in newly emerging countries

Background Changes of FinTech

Decreased development cost with the adoption of the open source model

- Drastic drop in service development and scaling cost
- "Innovation by combination" through API

Spread of smartphones and tablets

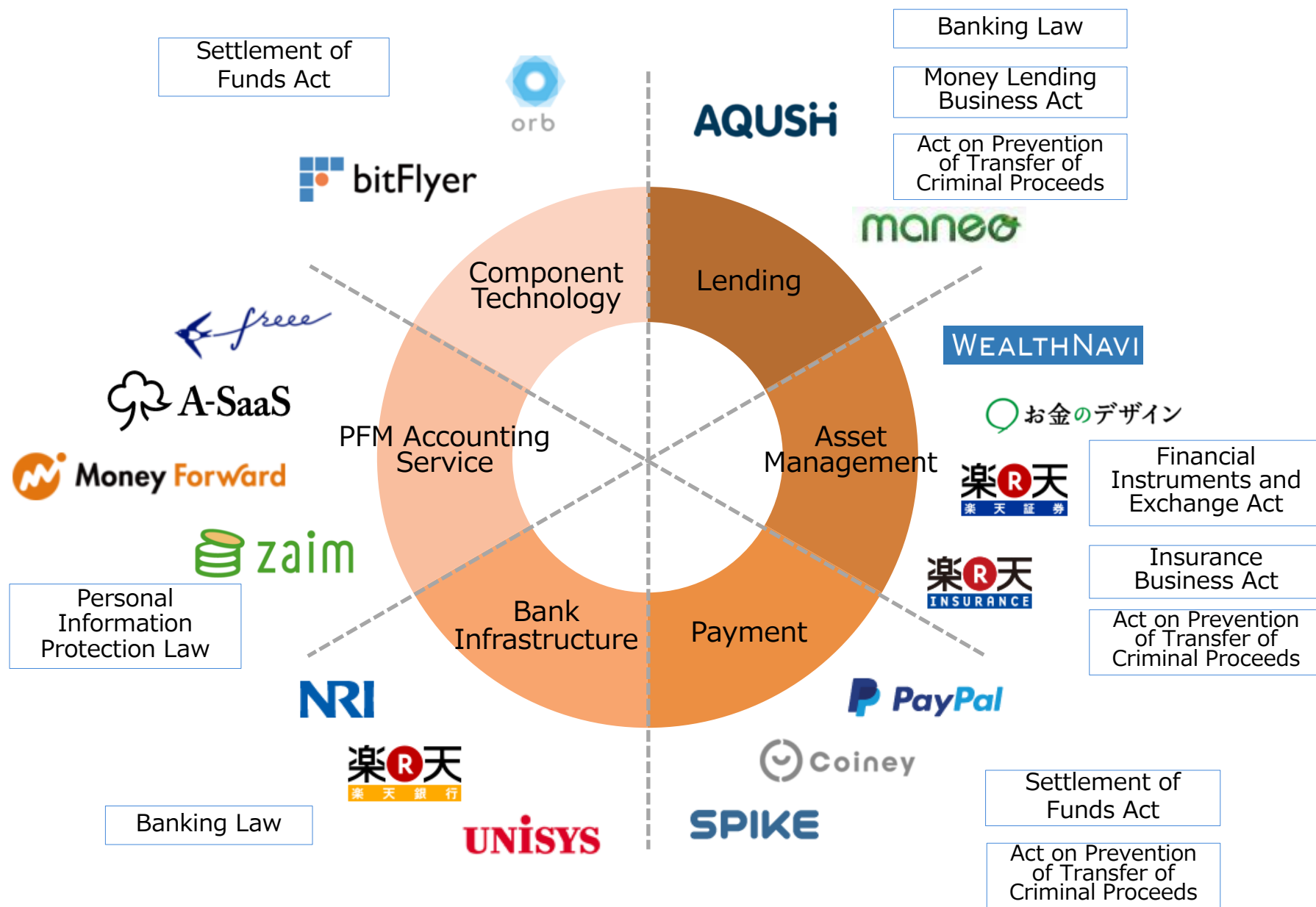
- Shift from text data to apps as a dominant mode of communication
- Wide availability of free communication infrastructure

Expectations of users wanting to benefit from new information infrastructure

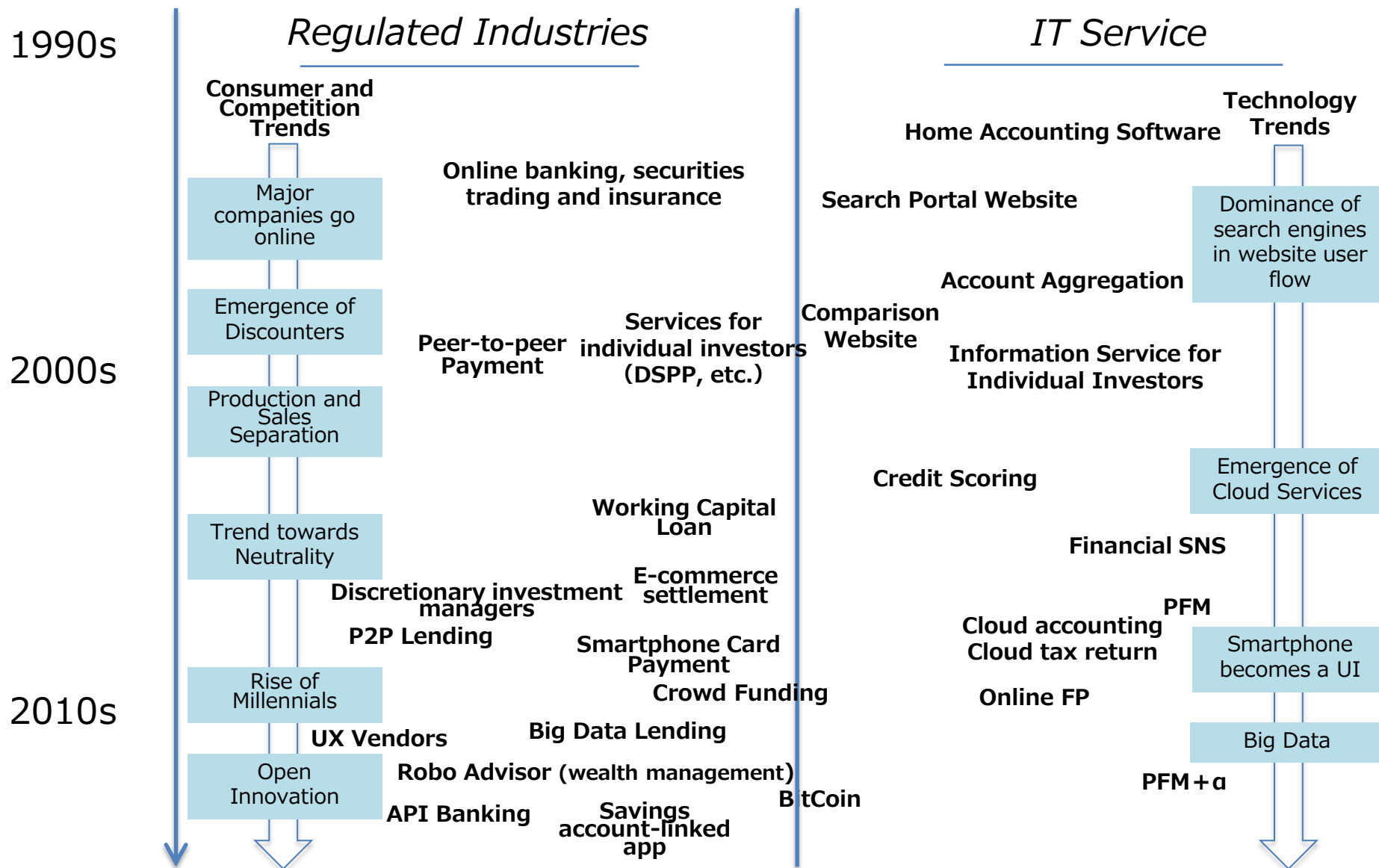
- Neutrality, convenience and price reasonableness becoming an essential condition instead of just being an optional feature
- Demand concentrates on a small group of services with high problem-solving capacities

As an outcome of the above changes, new services and infrastructures are being rebuilt in the IT industry, drastically enhancing productivity and convenience

Laws related to the FinTech field



Broader FinTech Trends (the U.S.)



Recent areas of focus in the FinTech field

- **Lending (P2P, Big Data):** for individuals and small/medium-sized companies
- **PFM & Accounting Service:** automation and analysis of financial transactions and asset management
- **Asset Investment:** indexed and automated rebalancing
- **Settlement :** smartphone card payments, Ecommerce payments, interpersonal payments
- **Bank Infrastructure:** provision of apps and other useful functions
- **Component Technology:** optimize existing systems using new technologies

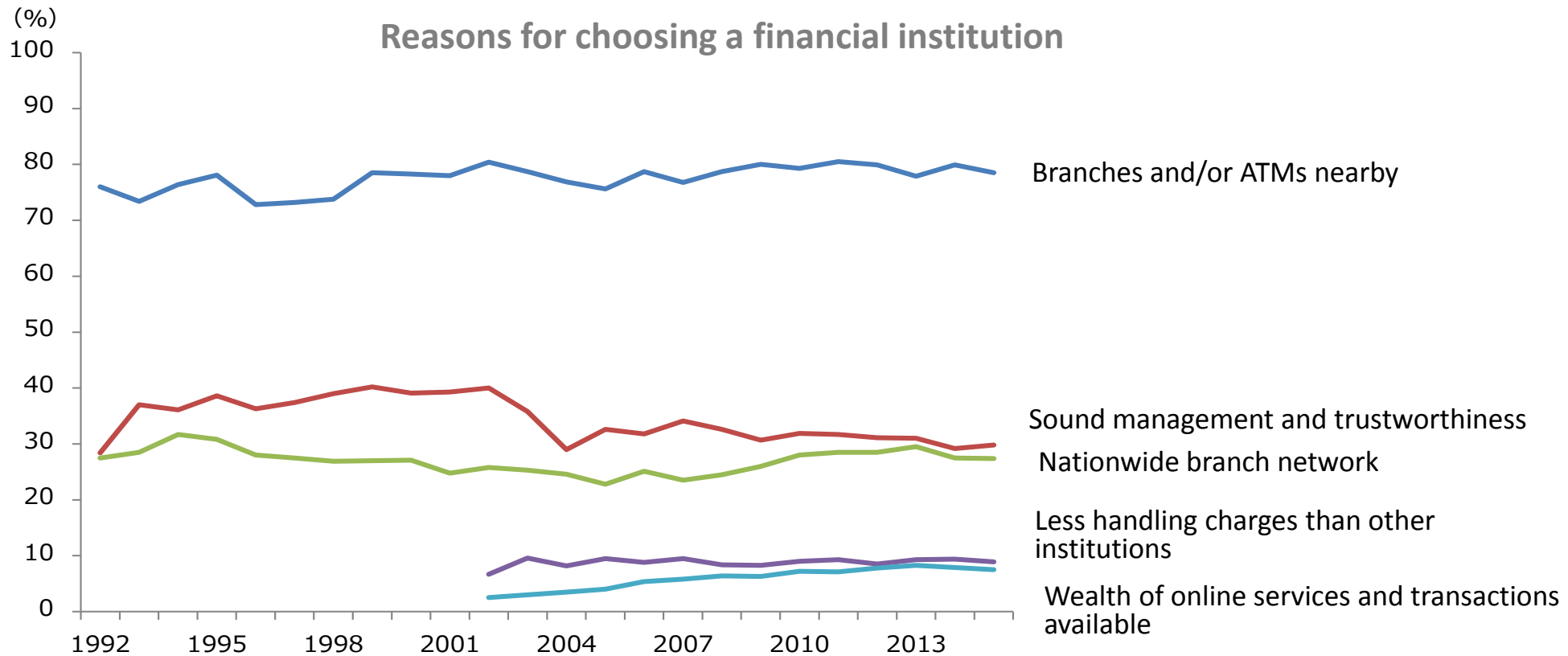
Example cases of collaborations between financial institutions and ventures overseas

- **Incubators (investors cum management mentors)**
 - Barclays Accelerator (UK), Commerzbank (Germany), UniCredit (Italy), ABN AMRO (Netherlands), Crédit Agricole (France), UBS (Switzerland), etc.
- **Venture Capitals (investment in startup companies)**
 - European banks : HSBC (\$200m), Santander (\$100m), Sberbank, etc.
US banks : Citi Ventures, Wells Fargo, etc.
- **Acquisition as part of R&D**
 - BBVA's acquisition of Simple (bank apps) and Spring Studio (design)
 - Capital One's acquisition of Adaptive Path, Monsoon (design, UX)
- **Shift of management resources to digital businesses**
 - Deutschebank announced its investment of €1 billion in the Fintech field (while closing down some of its branches)
 - Goldman Sachs launched a big data lending business with 100 staff members
 - Development of CitiCoin by Citi Bank

Move towards a Cashless Society - 1

Customers choose financial institutions for their proximity

- Banks are chosen mostly for reasons of “proximity to their ATMs and branches”
- Not much importance placed on online services so far



Source: Based on the survey data of the Central Council for Financial Services Information

Move towards a Cashless Society - 2

- **Key Technological Trends**
 - Mobile payments
 - Seamless and automated payments (eg. Ecommerce websites)
 - Pre-registration of payment information (eg. Uber)
 - Enhanced security (authentication methods, Apple Pay, etc.)
- **Corresponding Strategies**
 - Diminished necessity for consumers to consciously choose a financial institution
 - Importance of becoming the default card
 - Building of UI based on holistic understanding of customers

Key Findings | Payments

Cashless World

Key Disruptive Trends



Mobile Payments



Streamlined Payments



Integrated Billing



Next Generation Security

Summary

New consumer functionalities are being built on existing payment systems and will result in **meaningful changes in customer behaviour**

Implications for Financial Institutions

- Financial institutions may lose control over their customers' transaction experience as payments become more integrated
- With reduced visibility, becoming the default card among specific customer segments will become critical
- Winning issuers will be able to gain visibility into more of customers' spending patterns, build more holistic understanding of customers, and create more competitive offerings

Source: The World Economic Forum

Use of APIs in overseas banks

Bank	Country	Use of APIs
Crédit Agricole	France	Launched its own app store in 2012, and provides SDK for developers. The app store offers 79 apps with various functions including translation, currency conversion, money transfer, or managing of healthcare expenses.
AXA Banque	France	Opened up an API to account data in 2012, then ran a competition for independent developers to use it to build applications.
BBVA	Spain	Currently promoting BBVA API_Market on an invitation-only basis. Areas covered include data aggregation, inter-account coordination, and building of API-backed functions
Capital One	US	Has four public APIs. Although they have not yet implemented data access, third parties can authenticate customer identity and integrate with Capital One's Digital Deals and Rewards programs.
Banco Sabadell	Spain	Launched an "Open Apps" innovation program that provides limited access to some APIs for trusted developers. One of their first integrations was with Google Glass, enabling users to see their account balance or receive directions to an ATM.
Fidor Bank	Germany	Currently developing its API platform for developers. It has a roadmap that will open a wide range of functionality, from transfers, payments and account views to more complex transactions KYC verification and new account creation
Bradesco	Brazil	Built a set of closed APIs to integrate with Facebook. The app allows customers to check their bank balance and make transactions within Facebook.

The table was compiled based on "Data Sharing and Open Data for Banks" by Open Data Institute, September 2014

Hello, Future!



新經濟連盟



Japan Association of New Economy