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# Evolution of Electronic Payments

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*International*



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# Discussion Overview

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- **Changes in Payment Business Environment**
- **Changes in Payment Technology**
- **Evolution of Payment Products**
- **Future of Payment Products and Technology**
- **Impact on New Economy**

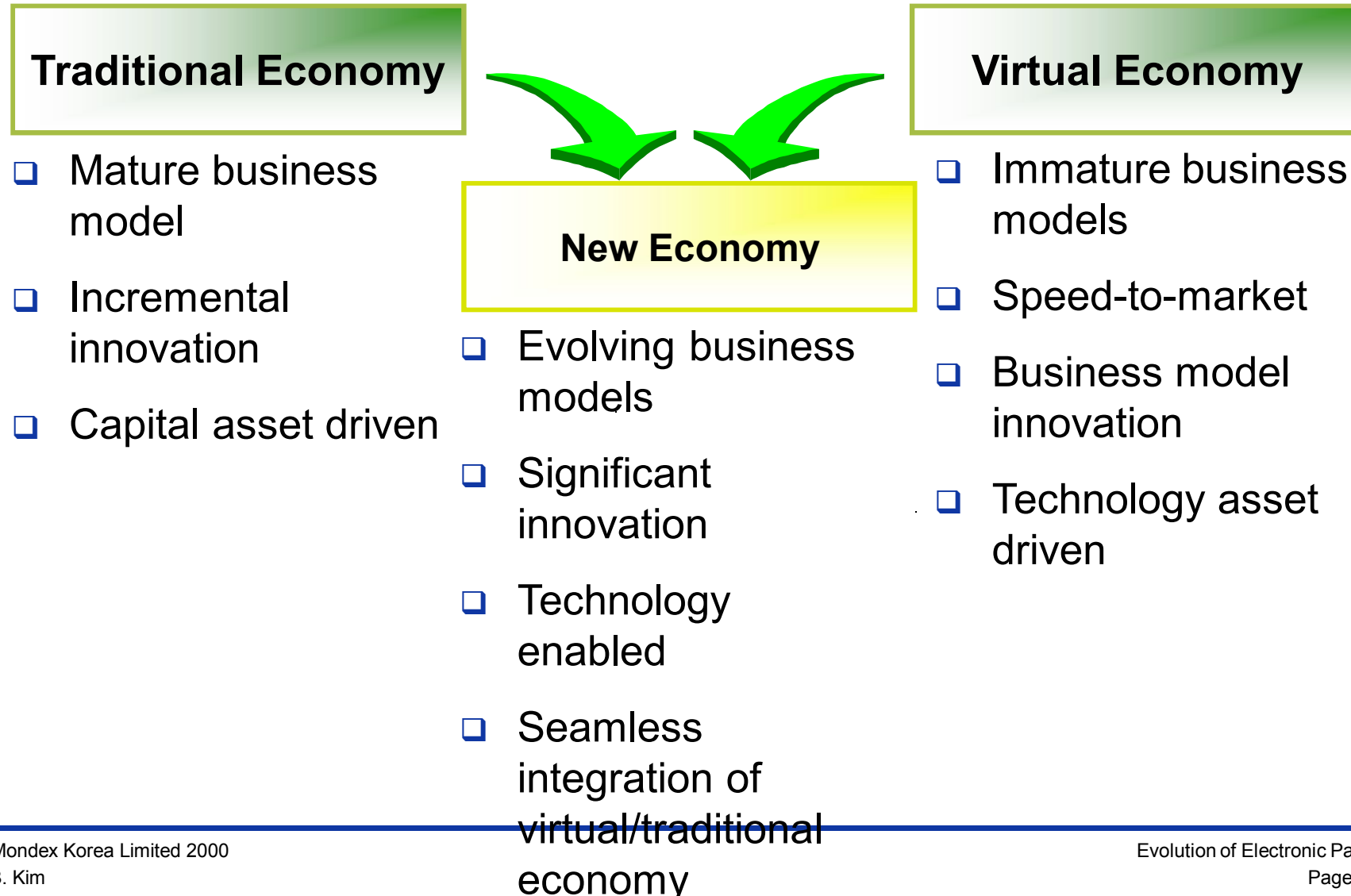
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# Changes in Payment Business Environment

# The New Economy

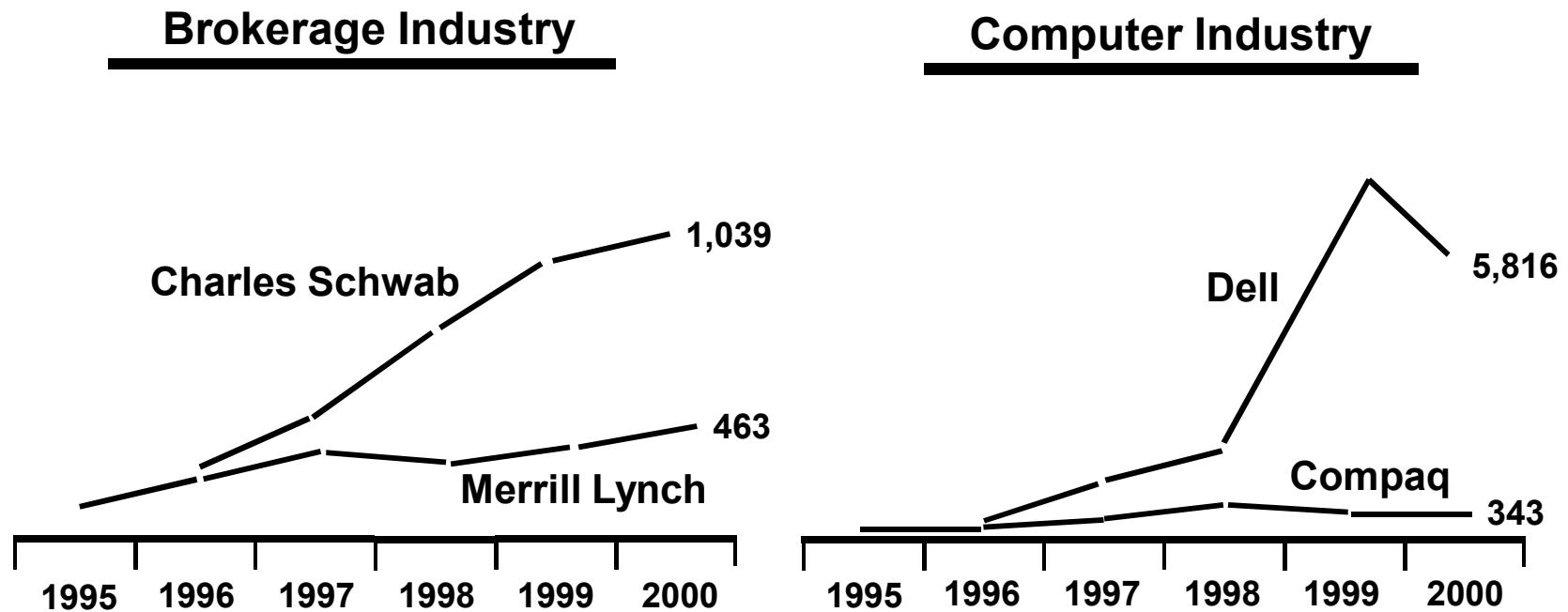
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# Internet Transforms Industries

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## Indexed Market Capitalization

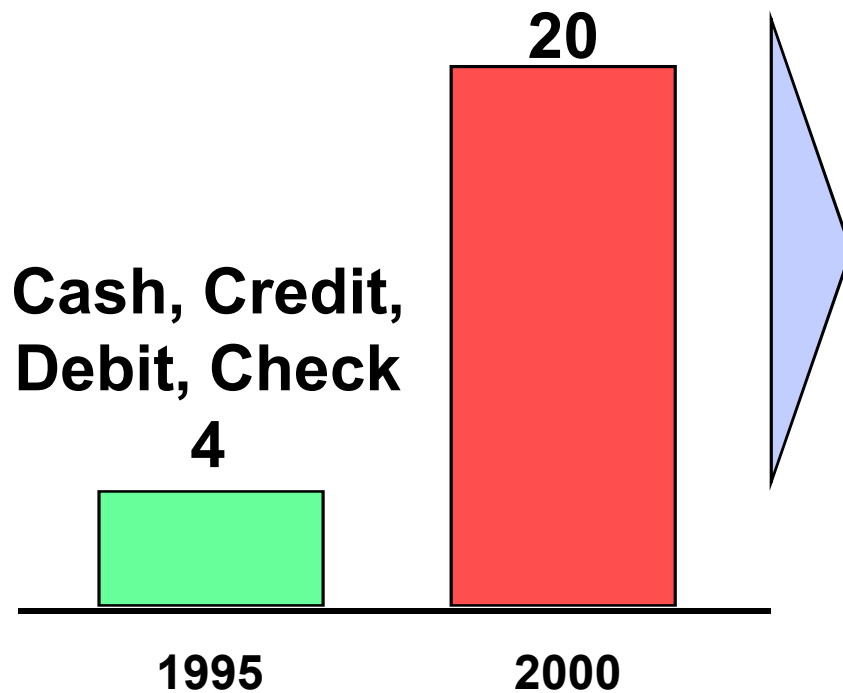


# Emerging Consumer and Merchant Choice

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## Number of Consumer Payment Choices

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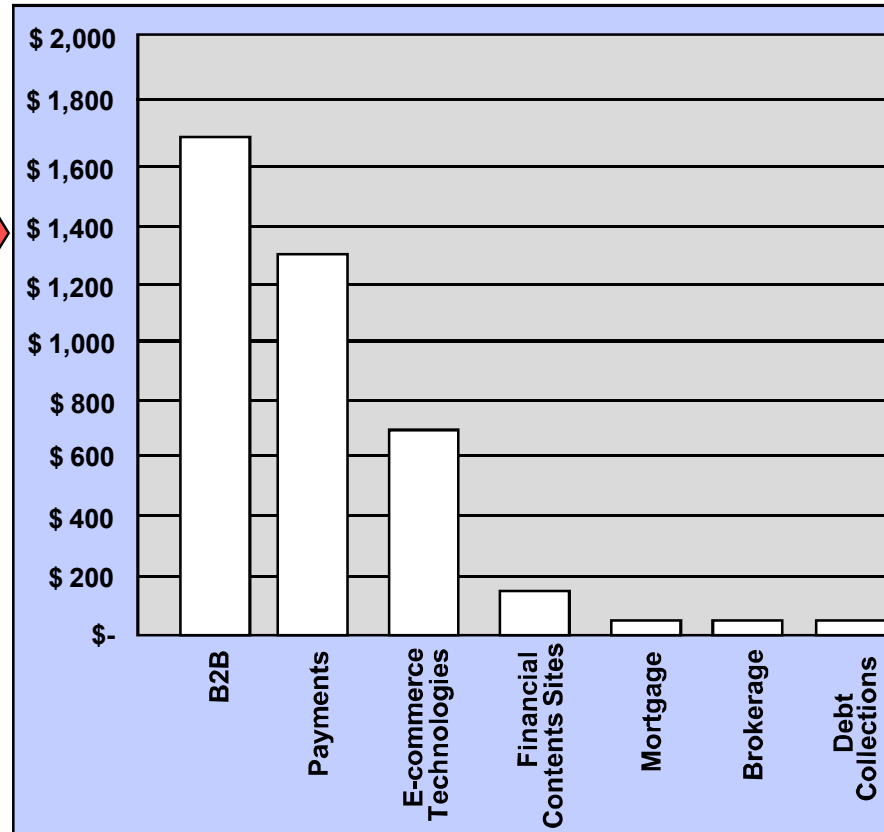
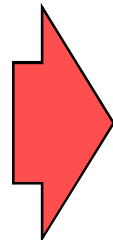
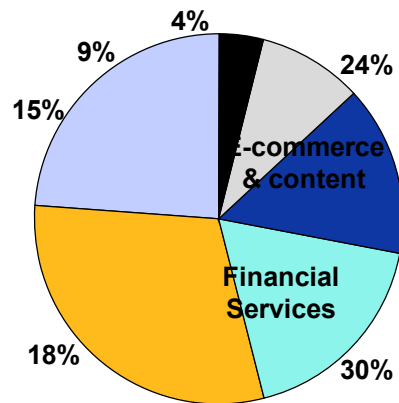


- New concepts introduced weekly
- Increasing consumer choice
- Increasing merchant choice
- Inflection point in the evolution of the industry?

# Well-Funded New Entrants

## Total VC Funding Q1 2000

\$17 Billion



Total VC Funding for Financial Services  
Q1 2000

- Average new entrant investment was approximately \$60M in 2000
- \$17 billion spent by VCs on Internet startups in Q1 2000
- Nearly \$5B spent in the financial services sector

# New Payments Competition

Software Providers	eRetailers	eFinancial Services	Portals - ISPs	Telcoms/ Cable	Online Currency
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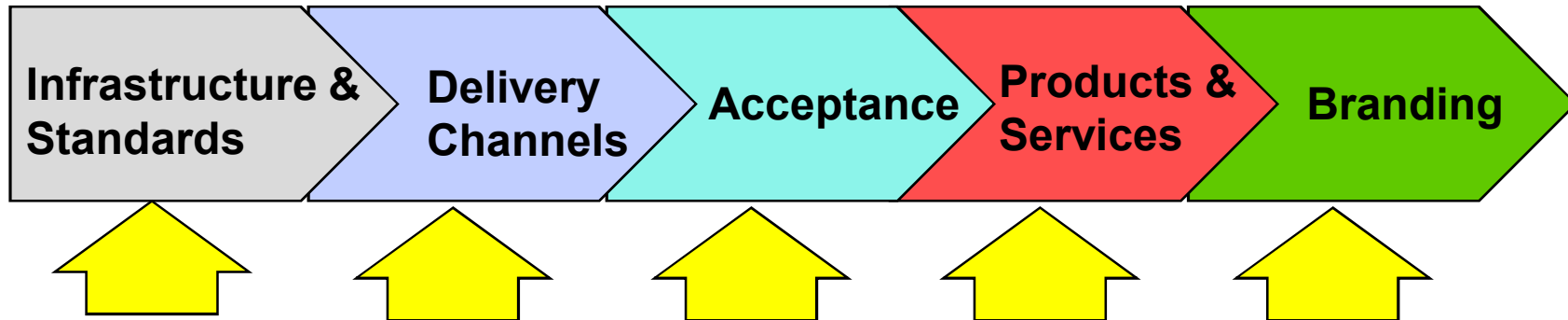
					
					
					
					

Traditional Competitors					
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# Competitive Impact

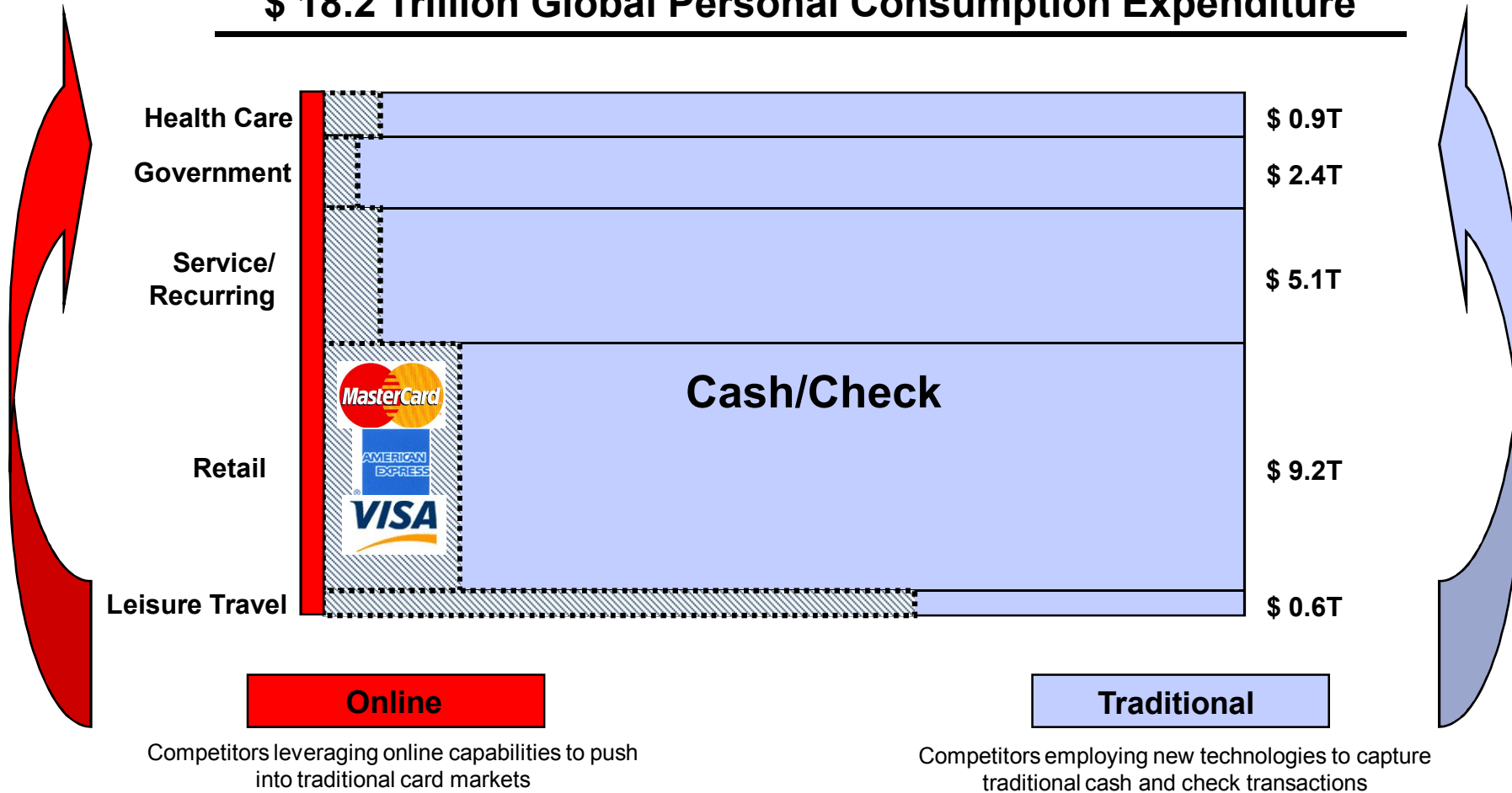
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- Disintermediation threat at a number of places along bank's value chains
- Pressure from new channels on infrastructure and standards
- Challenged by new economic / business

# Competitive Dynamics

**\$ 18.2 Trillion Global Personal Consumption Expenditure**

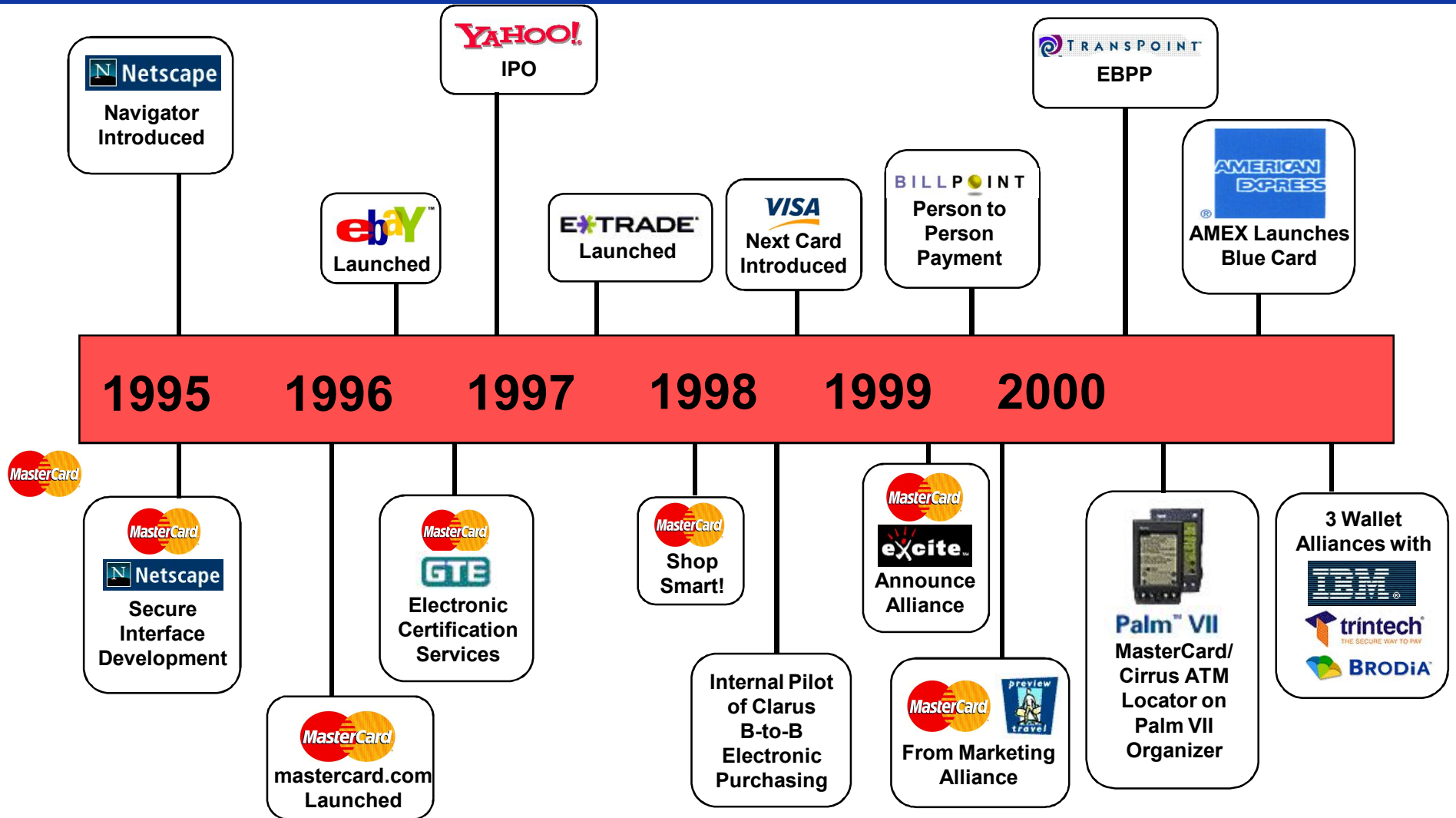


# New Competitive Environment

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- **It is early in the game but competitors and new entrants are putting significant “stakes in the ground”**
- **The bar is being raised on what it takes to lead, let alone remain competitive**
- **We are at an inflection point in our industry where “doing business as usual” will create a weakened position for MasterCard**
- **Success will be driven by appropriate focus and investment in emerging markets and ideas**

# Market is Changing



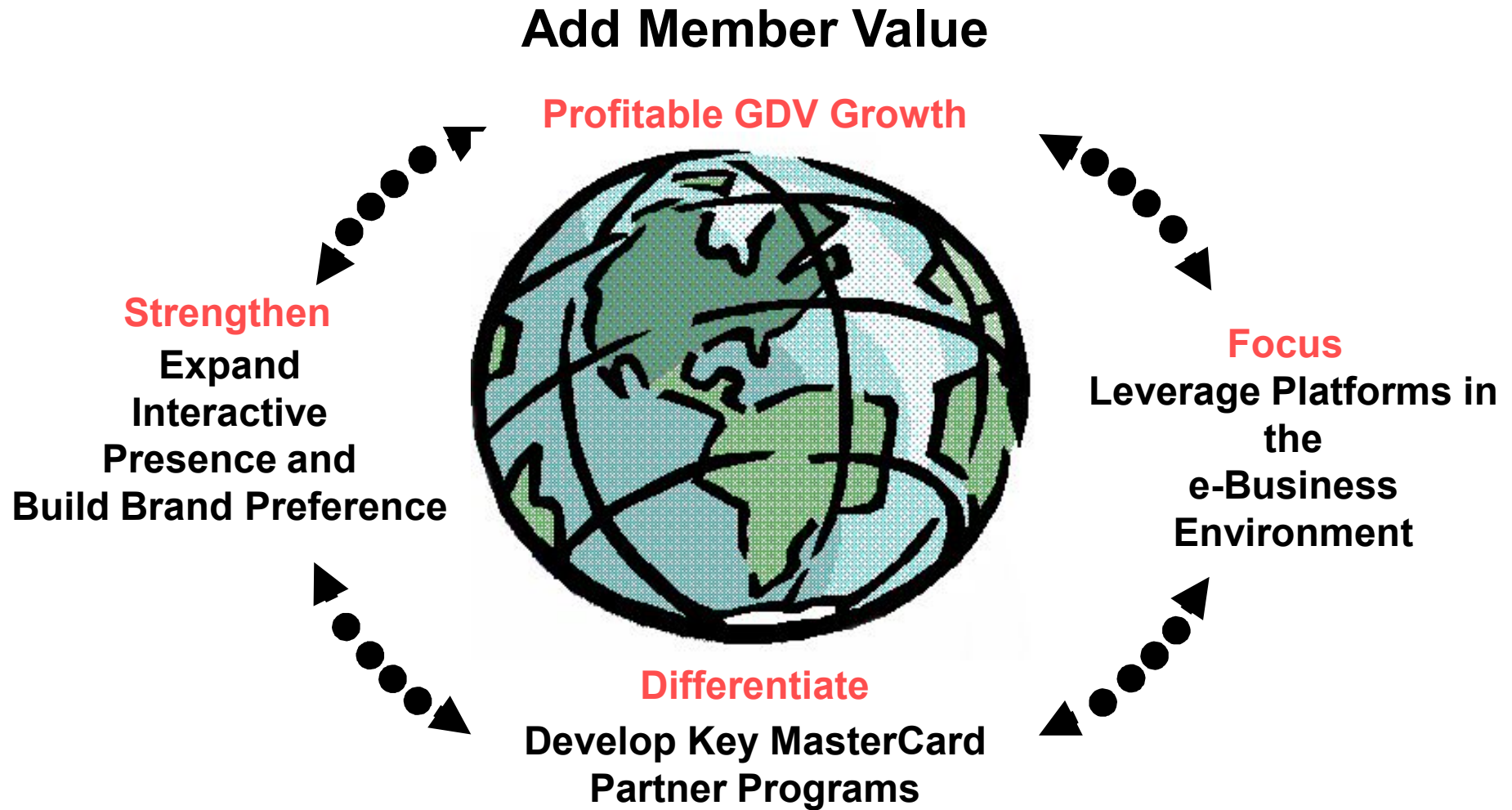
# Creating Value in the New Economy

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- ❑ **The fundamentals have not changed:**
  - **Know your customer**
  - **Differentiate**
  - **Execute**
- ❑ **Our plans**
  - **Focus on our members and their customers**
  - **Invest in new activities**
  - **Become net ready and active across the company**
- ❑ **Leverage our current assets coupled with disciplined investments and execution in Leadership / Big GDV opportunity areas**

# e-Business Strategy

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# Changes in Payment Technology

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# ATM

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- **Second Industrial Revolution**
- **Changed Banking Landscape**  
**Citibank never sleeps →**  
**24hr Banking**
- **Changed Banking Operations**  
**Automated processing**  
**Cost Competitiveness**





# Electronic Funds Transfer (EFT)

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- 3 rd Industrial Revolution
- SWIFT, TESTED TLX Obsolete
- Accelerate Credit card usage
- Authorization and settlement
- B2B transactions → ATM Network

# Internet Payment

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- **B2B transactions**
- **B2C transactions**
- **Cyber transactions and cyber payments**
- **Network type vs IC card type**
- **Security critical**

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# Evolution of Payment Products



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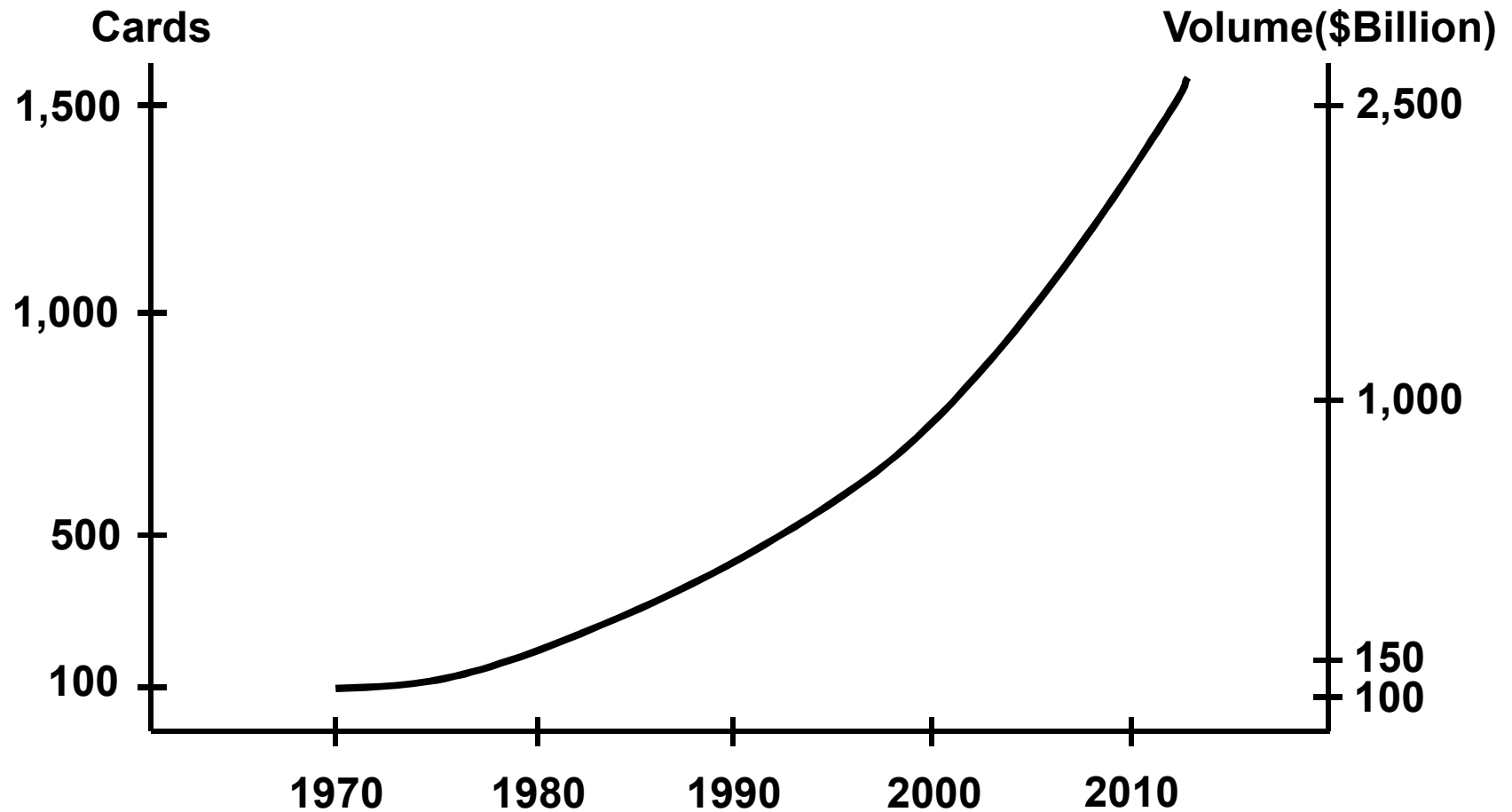
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# Credit Card, Debit Card

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# Virtual Card

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- **Internet Payment Card**
- **Virtual account**
- **EC driven**
- **Real and virtual world  
HSBC i-Life Card**

# Electronic Cash

- Network vs IC Card
- Micropayments for virtual and Real
- Security critical
- Life style card
- Mondex leading e-cash

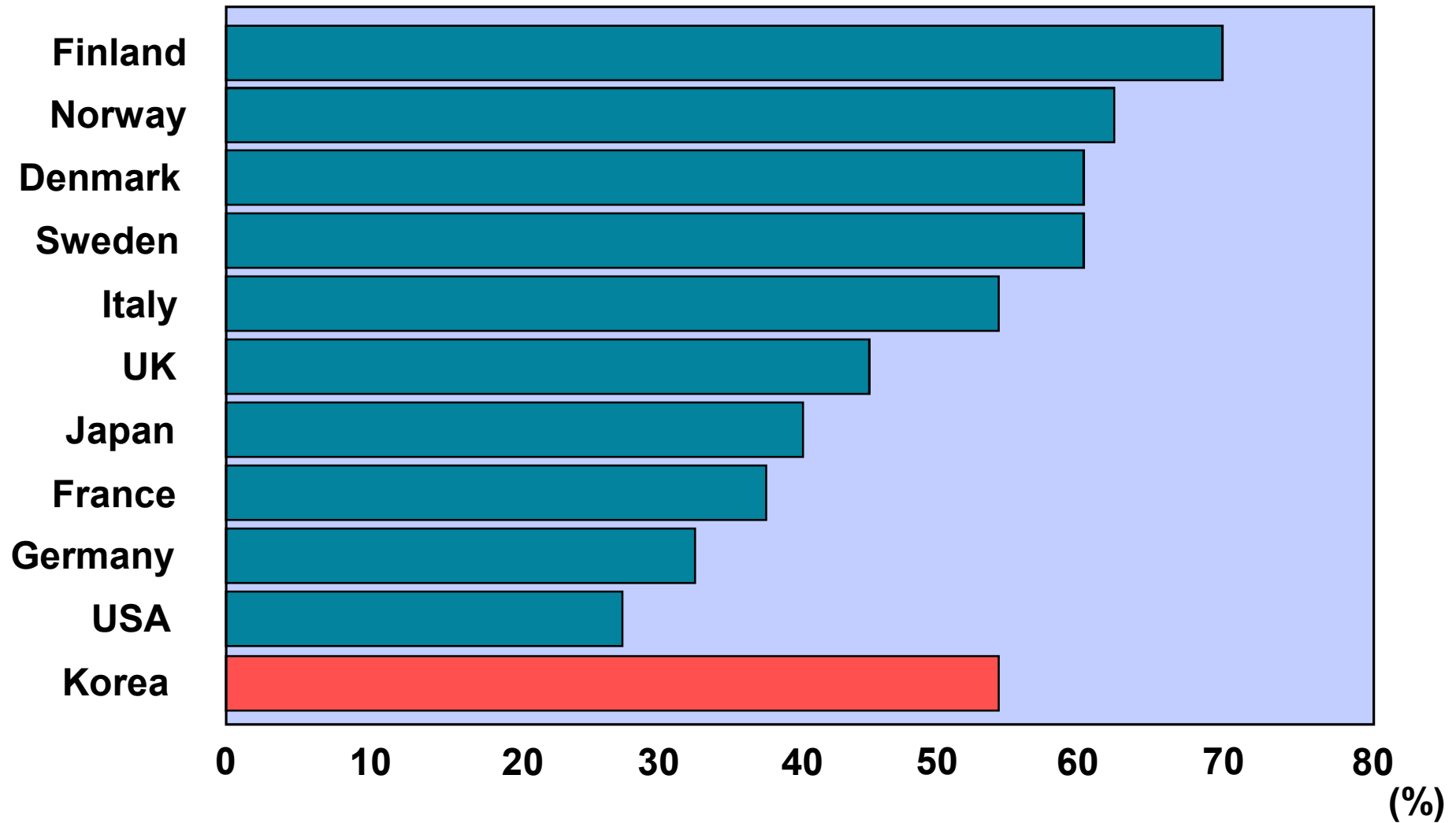


# Mobile Commerce

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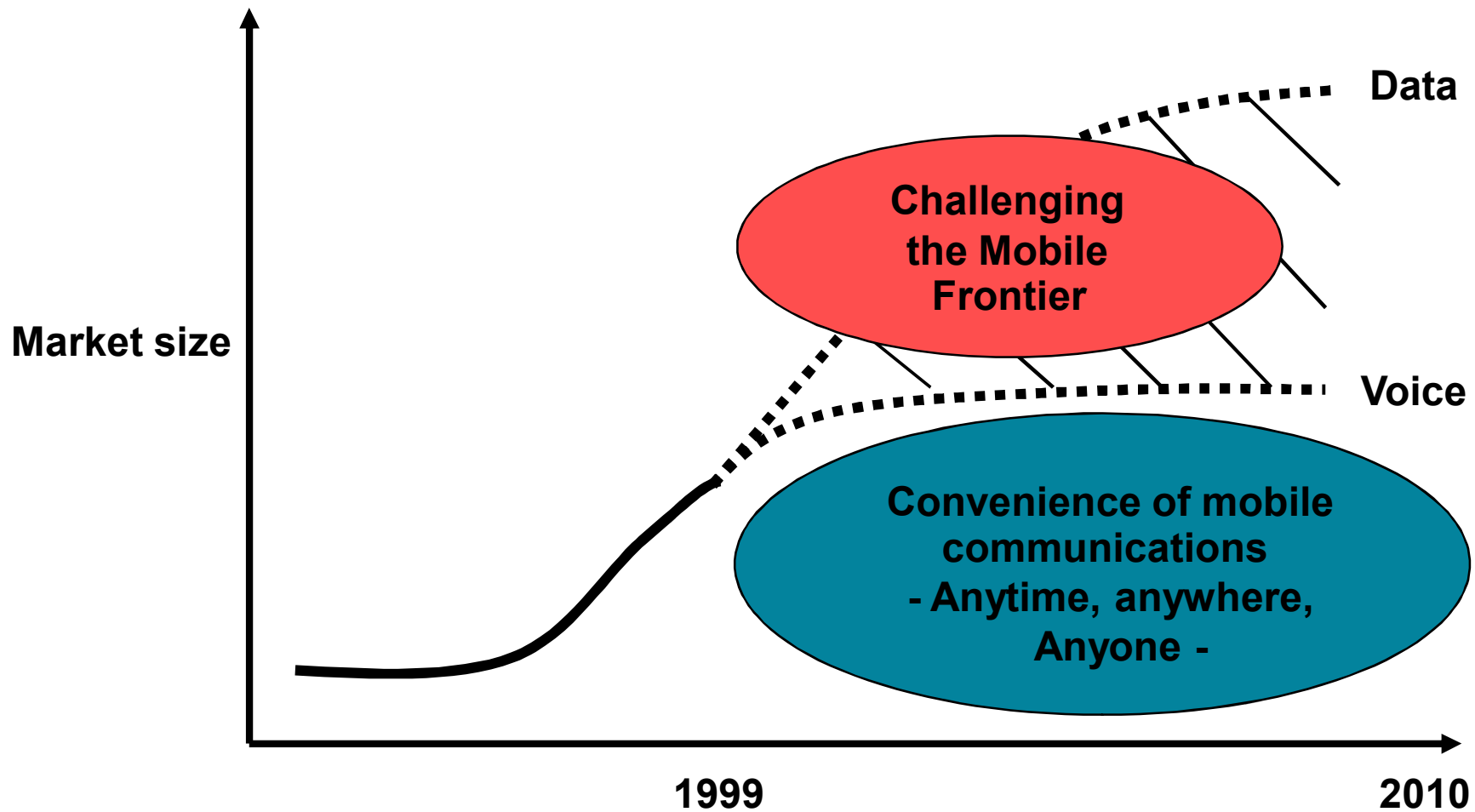
- **Internet Access**
- **Voice, Data, Fax**
- **Information transmission**
- **Payments over mobile phone**

# Penetration in Major Cellular Markets

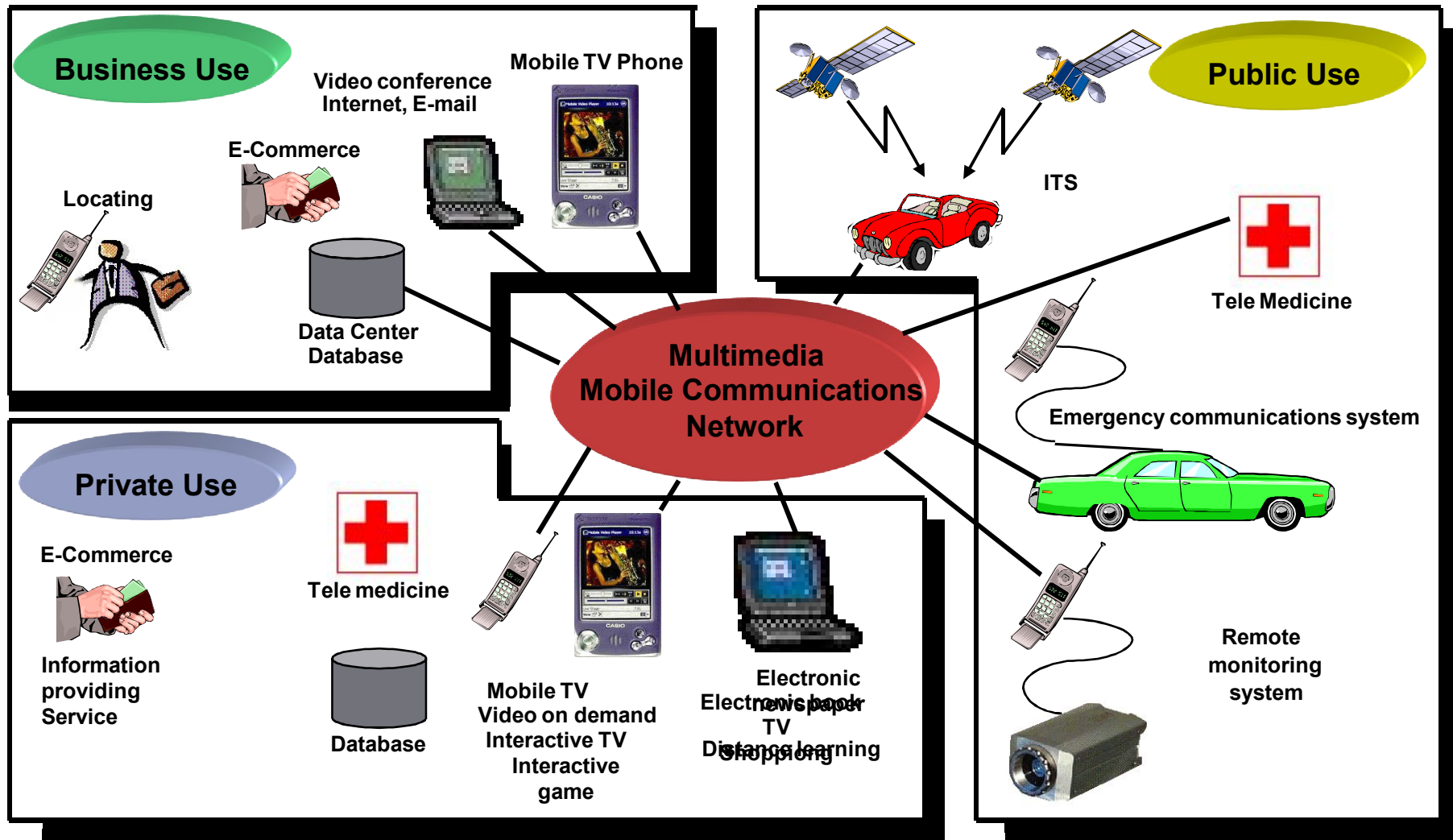




# Voice to Non-voice Communications



# Mobile Multimedia Service





# Application Alliance Partners (1)

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- Mobile Banking Service (300 major financial institutions)

  - Full Banking Services

  - (Money Transfer, Check Balance, etc.)

    - Sakura Bank

    - Sanwa Bank

    - Sumitomo Bank

    - Bank of Tokyo Mitsubishi

      - 150 other major banks in Japan

  - Partial Banking Services

  - (Not including money transfer from your account to others)

    - CITIBANK (Money Transfer, Check Balance, etc.)

    - 119 other banks and financial institutions (regional banks, credit unions, farmer's unions, etc.). (Check Balance, Foreign Currency Delivery, etc.)



## Application Alliance Partners (2)

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- ❑ Mobile Trade Service  
You can check the latest real time stock price and trade it!
  - Daiwa Securities (Stock Quotes, Selling/Buying Stocks, MMF)
  - Nikko Securities (Stock Quotes, Selling/Buying Stocks, etc.)
  - DLJ Direct (Stock Quotes, Selling/Buying, Virtual Investment Game, etc.)
  - Nomura Securities (Stock Quotes, Selling/Buying, etc.)
  
- ❑ Credit Card Information
  - DC Card (Check Account Balance, Member Information)
  - Sumitomo VISA Card (Member Information)
  - UC Card (Member Information)
  - Million Card (Check Account Balance, Member Information)
  
- ❑ Insurance Transaction (Account Info, Money Transfer)
  - Nippon Life Insurance, Meiji Life Insurance, and many others

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### – AIU (Online Travel Insurance Application)



## Application Alliance Partners (3)

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- ❑ Airline (e-ticket, Online Reservation, Mileage Account Check, etc.)
  - Japan Airlines (JAL)
  - All Nippon Airways (ANA)
  - Japan Air System (JAS)
  - Northwest Airline (NWA)
  
- ❑ Travel
  - JTB (Japan Travel Bureau) (Hotel Online Reservation)
  - 6 other travel related web (incl. Railway/Subway Transit Guidance w/Timetable, Discount Ticket Search, etc.)
  
- ❑ Concert Ticket Reservation
  - PLA (Searching Concerts, Telephone Booking)
  - Lawson Ticket (Online Booking, Searching Concerts)
  - Ticket Saison (Searching Concerts, Telephone Booking)



## Application Alliance Partners (4)

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- News/Information
  - CNN (Headline News, World News, Business News, etc.)
  - Bloomberg (Market News, Stock Quotes, Company News)
  - Dow Jones (Market Reports)
  - Asahi Shimbun (Headline News, Sports, News)
  - Mainichi Shimbun (News Updates, Sports News)
  - Sankei Shimbun (Web News, Horse Racing Info., Sports News, Classical Music Channel)
  - NIKKEI Newspaper (Categorized News)
  - Yomiuri Shimbun (News Updates, Giants Channel, Sports News)
  - Weathernews (Weather news, Weather Related Info.)
  - NHK (TV Headline News, Music Info., F-1 News, etc.)
  - Nikkei BP (BizTech: Business/Technology News)
  - JIJI Press (News Updates)
  - Morningstar (Mutual Fund Ratings, Fund information)
  - People's Daily (Chinese News, World News)
  - Chosun Ilbo (Korean News)
  - 17 other regional papers



## Application Alliance Partners (5)

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- Data Base Application
  - Ajinomoto (Recipe DB), Osaka Gas (Recipe DB)
  - NTT (Telephone Directory (Yellowpage))
  - Sanseido (Directory Service)
  - Zagat Survey (Restaurant Guide), PIA (Restaurant Guide)
  - Tokyo Food Pages (English Restaurant Guide)
  
- Sales
  - Kinokuniya Bookstore, Book Service, Hon-ya-san, Yamato (Online Book Sales)
  - Cyberwing (Online CD Sales)
  - Tsutaya (Online CD, Game software Sales)
  - TV Panic (Game software Sales)
  
- Visual Service
  - Bandai (Character Delivery)
  - Photonet Japan (Photo Data Web Hosting, Photo collections (downloads))



## Application Alliance Partners (6)

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### □ Entertainment

#### Network Games

- Bandai (Virtual Gamble Game, Virtual Golf, Virtual Dating Game etc.)
- Tomy, Namco, Konami (I-mode version of Arcade Games, etc.)
- Dwango (Virtual Fishing Game)
- Hudson (Miracle Ground Prix, Shogi)
- Index

#### Ringtone Downloads and Karaoke Search

- Dai-ichi Kosho (Karaoke Search, Ranking, New Songs, etc.)
- Giga Networks, Exing, Joysound, DAM, Yamaha, Sega (Ringtone Download)

#### Entertainment Information

- Tsutaya (Rental Video/CD Ranking, Inventory Information)
- Cybird (Surfing Information, Fishing Information)
- J-WAVE, TOKYO FM, FM802, fm osaka (FM Radio Station Information, Now On Air)
- Nippon TV, NHK, Sky Perfect, Fuji TV, (TV guides, program info, etc)
- Other entertainment guides

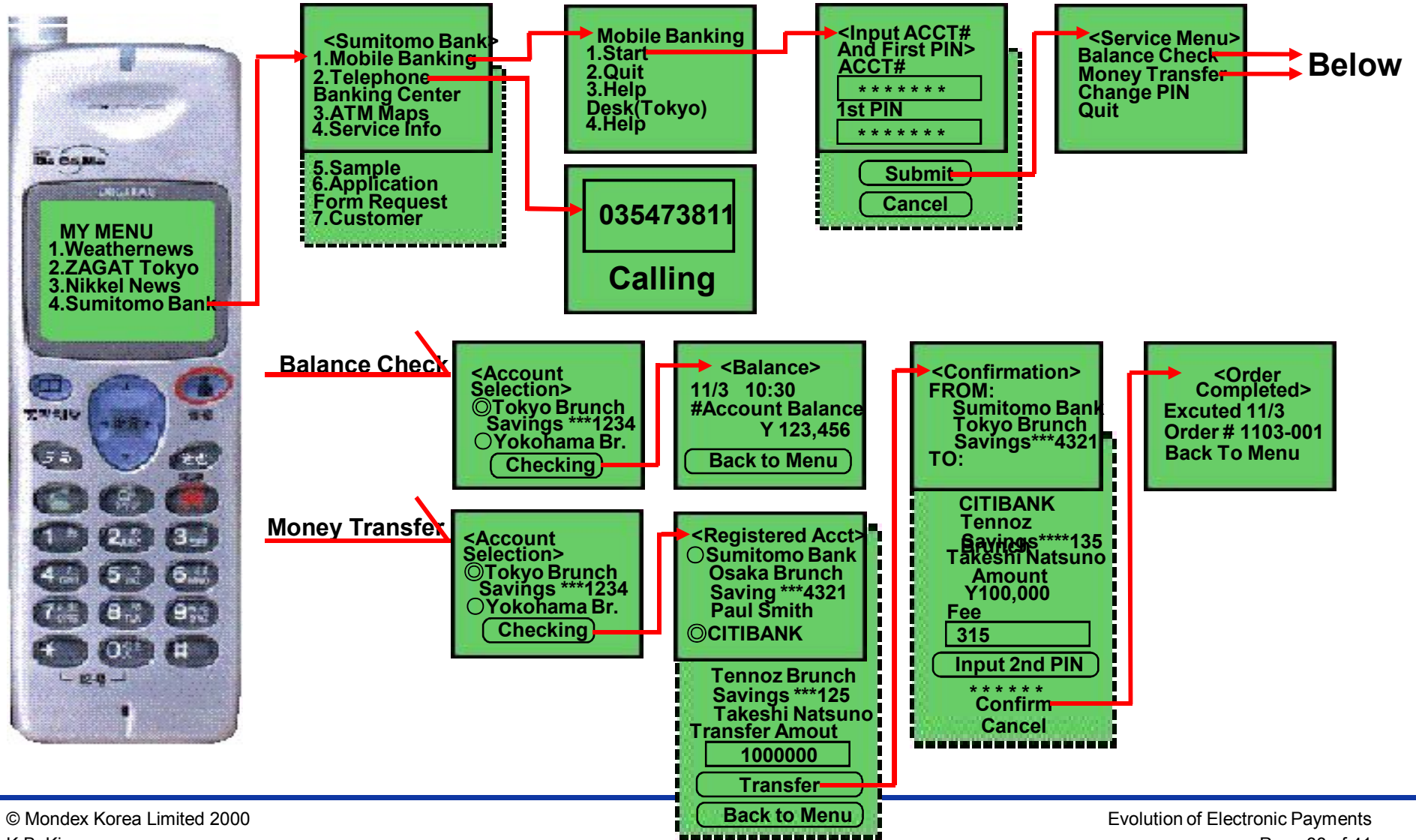
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Horoscope, Fortune telling, etc.





# Content Example Mobile Banking



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# Future of Payment Products And Technology

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# Future of Payment Products and Technology

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- **EBPP**
- **Electronic Cash**
- **Chip, Biometrix, Voice Recognition**
- **Security**

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# Impact on New Economy

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# Virtual Banking

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- **Smile Bank in UK**
- **Deposit, Transfers, Loan, fx**
- **Securities Transactions**

# Real and Virtual Consumers

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- **Virtual population**
- **Co-existence**
- **US Survey on consumer banking behavior**

# Real and Virtual Market

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- **B2B**
- **B2C**
- **B2G**
- **Market Place**

# Globalization

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- **Cross-Border**
- **Global Currency**
- **Global Economy**



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# Questions & Answers