China Telecom Sector: Market and Regulation

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Xi’an, CPR South5, Dec 06, 2010
Outline

- China’s New Regulator—MIIT
- Recent Progress of Telecom Sector
- Market Landscape and regulation
- What about CATR and I?
Regulatory Reform in China ICT Sector

1998

Ministry of post and telecommunication

Public monopoly: no clear line between government and enterprises.
Main target of regulation: develop infrastructures.

2008

Ministry of Information Industry

Separating functions of government from enterprises.
Purpose of telecom regulation: introduce and promote competition, consumer interest & welfare.
2000: enter the stage of supervision according to laws, complete system of regulation established.

MIIT

Supervision facing to full-service and fusion of industrialization and informatization.
2008, From MII to MIIT

March, 2008. The Ministry of Industry and Information Technology (MIIT) was founded.

The new established MIIT integrated the function of:

- The industrial management of the National Development and Reform Commission (NDRC)
- The function of the State Administration of Science Technology and Industry for National Defense (SASTIND, except for the function of nuclear power management)
- The function of Ministry of Information Industry
- The function of the Informatization Office of the State Council (SCITO)

MIIT = MII + SCITO + SASTIND + Partial of NDRC
Legal Functions of MIIT

◆ The main functions of MIIT include
  - To formulate and implement industrial planning, policies and standards, monitor the daily operation of industrial sectors
  - To promote the development of key technical equipments and independent innovation, administrate the communication industry
  - To lead and promote the construction of Informationalization and protect national information security

◆ As the industrial administrator, the main task of MIIT is:
  - To establish planning, policies and standards
  - To guide the industrial development
  - It will not intervene in the manufacture and operation of enterprises so as to ensure their main body status in the market.

◆ With the establishment of MIIT, The pace to take a new path of industrialization was accelerated
As National Regulator & Policy Maker

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Outline

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- What about CATR and I?
Biggest Population Country

- Area
  - the third biggest country
  - a land mass of 9,600,000 sq km

- Population
  - 1328 million by 2008
  - Urban: 607 million (45.7%)
  - Rural: 721 million (54.3%)
  - Population Density: 134 people per sq. km.
  - The majority concentrated in the east.
Third Largest Economic State, still Developing

- **Total GDP**
  - Since the reform starting from 1978, the Chinese economy has been developing rapidly
  - By 2008, the total GDP reached RMB 30 trillion
  - Only after the US and Japan

- **GDP per capita**
  - GDP per capita has grown steadily
  - Reached US$1,000 by 2003
  - 2008, this index reached RMB22640, (over 3300 us$)
  - Compound Annual Growth Rate reached 12.8% during the past decade

1998-2008 China’s GDP and Its Growth Rate

1998-2008 China’s GDP per capita

Data Source: National Bureau of Statistics of China
Largest Subscribers, Growth Speed Declining

By 2008, the number of fixed subscribers, mobile phone subscribers and Internet subscribers in China have all ranked the top of the world. By the end of October 2010, the total subscribers has exceeded 1.14 billion.

Source: MIIT, China
Telecom Revenue Suffers fast Decreasing

- From 1998 to 2008, the compound growth rate of telecom service revenue in China reached 17.2%.
- The ratio of revenue to GDP reached to 3.5% at the peak in 2002, the ratio decreased to 2.7% in 2008 due to decline in tariff.
- In 2009 telecom revenue reaches 840 billion RMB, while growth speed is only 3.9%, lower than half of GDP growth speed.

Source: MIIT, China
According to CNNIC, internet users has reached 384 million, penetration rate to 28.9%, among which broadband users reach 346 million, over 90.1% of total number; mobile internet user 233 million, reaching 60.8% of total.

- Internet penetration rate in China has exceeded world average level.
Broadband Service is on Highway

- In 2008, broadband users reached 83.4 millions, up 25.6% from 2007
- From 2004 to 2008, the average growth rate of broadband users in China was 36.8%
- xDSL is still the main technology. In 2008, the xDSL proportion of subscriber was 80.3%.
- Other technologies include FTTX, LAN, Cable Modem etc.

Steady Growth of Broadband, with Dominance of xDSL

Source: MIIT, China
Tariff Level is Dropping down quickly

- Decreasing tariffs enabled the customers to benefit more from the telecom reform
  - In March and October in 1999, telecom tariffs were adjusted twice
  - Since Jan. 2001, telecom tariffs went through structural adjustment
  - From 2003 to 2008, Telecom composite tariffs fell by 58%.

Source: MIIT, China
Telecom Service keep on Evolution

- The telecom service have been keeping pace with the leading countries
- Some new emerging services planted in local market, such as “Nong Xin Tong (the rural information platform)”, Fetion service (a kind of IM service over Internet and mobile network)

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1882</td>
<td>Telephone entered</td>
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<tr>
<td>1987</td>
<td>Analog mobile communication entered</td>
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<tr>
<td>1994</td>
<td>Internet service entered</td>
</tr>
<tr>
<td>1997</td>
<td>Digital mobile communication entered</td>
</tr>
<tr>
<td>2008</td>
<td>3G service made its bow</td>
</tr>
</tbody>
</table>
Technology Innovation Emphasized

◆ A breakthrough in R & D and industrialization of TD—SCDMA, including a complete industrial chain.
◆ Equipments made by Huawei or ZTE have entered the phase of leading position in the international market.
◆ CNGI, the demonstration project of next generation internet
◆ Major operator is launching NGMN to enhance its competitiveness (ChinaMobile)
Opening to the outside world

To meet China’s WTO commitment, the domestic telecom market continuously opens to the world

- Shares held by foreign investors in China’s main telecom carriers has reached 25%-30%
- 14 JV enterprise have the license of add-value services, 4 have more than one services license
- International communication equipment magnates like Nokia, Ericsson, Motorola achieved good results in China market

Distribution of Add-value Services Licenses to JV

Source: MIIT, China
New 3G base stations has reached 264.5 thousand.

Base stations addition has been over 1/3 of 2G base stations, making 3G service available in one year.

<table>
<thead>
<tr>
<th></th>
<th>ChinaMobile</th>
<th>China Unicom</th>
<th>China Telecom</th>
</tr>
</thead>
<tbody>
<tr>
<td>3G新建基站（万）</td>
<td>8.99</td>
<td>7.86</td>
<td>9.6</td>
</tr>
<tr>
<td>3G到达基站（万）</td>
<td>10.8</td>
<td>7.86</td>
<td>9.6</td>
</tr>
<tr>
<td>覆盖地市</td>
<td>238</td>
<td>284</td>
<td>342</td>
</tr>
</tbody>
</table>
According to MIIT statistic, 3G users reach 15 million in 2009, including phones, netbook and data cards.

In 2010, MIIT plans to raise 3G subscribers to 50 or 60 million.
3G 's KSF in coming development

1. Network Coverage: upgrade to 2G level

2. Terminals supplement: data cards, network laptop, smart phones

3. Content and applications— Recreation, commerce and online office

4. Demand stimulation— Proper tariff
   Easy use
   Similarity with 2G service
China is ready to build digital city in most big cities

A Symbol of city informatization, Gvt as an sponsor

New city management system make things easier!

Source: CATR, 2009 STUDY REPORT
Outline

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Key Factors Affecting Domestic Market Competition

Stock Competition & Incremental Competition

- Telecom Reorganization
  - 3G Licensing
- Broadband Service
  - Mobile Intercommunication
- Triple Play
  - Broadcasting and TV companies
- Competition Tools
  - Management Capacity
The status quo market structure

- In May 2008, three national wide carriers reorganized, namely China Mobile, China Telecom and China Unicom
  - CT is the dominant operator in south china in terms of fixed and broadband
  - CM is the dominant in national mobile market
Voice market has severe competition. Operators used to focus on tariffs in the competition, and nowadays they are trying to minimize the sensitiveness of customers towards prices through bundled products. The price of voice business is becoming less flexible.

China Unicom

1. Promote the development of integrated business between fixed and mobile businesses, retain the voice business within the network and increase the usage of traditional fixed voice service.

2. Directly reduce tariffs: vigorously develop the fixed and wireless public voice business with low tariff. Indirectly reduce tariff: introduce the bundled preference of local and long-distance calls, and reduce tariff through time-decided preference, monthly time-limit preference, staged preference of long-distance calls, and package preference.

China Telecom

1. Fully reflect the full business, provide comprehensive information service, integrate mobile elements into converged business, no not over-emphasis voice business

2. Sustainably reduce the tariff of fixed and mobile voice business. For instance: The highlight of corporate and enterprise customers is within the group, such as the free phone calls within the group customer.
Competition Situation in Value-added Business Market

All operators strive to realize business value increase in “growing market” through differentiated marketing strategies.

**Differentiated Competition**

Increasing incomes from mature business:
- SMS
- MMS
- Caller ID
- Color Ring
- GPRS

Promoting growth of key business:
- Wireless Music
- Fetion
- 12580
- Mobile Newspaper

3G Services, vigorously develop wireless modem:

Keep pace, promote stepped development of value-added business:

Extensively develop and promote mobile internet applications to make use of the mature 3G industrial chain:

Secure Communication
- C+Wi
- Personal Information Management
- Enterprise Call Centre (Integrated VPN)
- Best Tone (Mobile Search)

Key Business Expansion Stage:
- Mobile Instant Massaging
- PTT
- CDMA450/800 Double Sim Card

3G as preparation:

- Mobile Reading
- Mobile Gaming
- Mobile VOD
- Mobile Web Surfing
- Online Shopping
- Mobile Wallet
- Enterprise OA
- Mobile AD
- Industrial Applications

Newly-added applications in transition stage:

- Mobile Music
- Mobile Newspaper
- Instant Massaging

Dominated by convergent business with differentiation as highlight:

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Concentration of telecom revenue

- China Mobile’s market share grows from 37% in 2003 to 55% in 2009
- HHI index exceeds 4000 due to the reduce of operators number and gap’s widening of market share
Major Reasons for market Concentration

1. Mobile Substitution of Fixed Lines-FMS
   - In Oct, 2003, mobile subscriptions exceed that of fixed
   - In March, 2009, mobile subscriptions is two times that of fixed

2. Network Effects and Economies of Scale
   - Churn rate of China Mobile lower than other operators
   - Services cost of China Mobile lower than other operators

3. Entrepreneurial Competency
   - China Mobile is advantaged in the number and qualification of staff members, marketing and business management

4. Regulations
   - Strict market entry: fixed operators can only provide fixed line businesses
   - Only two mobile operators before 2009
Current Competition Status

◆ The homologous target market
  ▶ Focus on the fast-developing mobile and broadband services, with an increasing degree of homogenisation
  ▶ Gaining subscription is important task for all three operators

◆ Price as main competition instruments
  ▶ Many optional calling plans to meet customer’s differentiated demand
  ▶ Predation pricing, cross subsidies and Bundling

◆ Providing new services
  ▶ Varying service provision to cater to end users, such as ICT services
  ▶ Developing new services to increase the competitive advantage
Competition Performance

◆ Rapid growth of subscriptions
  ❖ As stated early, the subscriptions ranked No.1 both in fixed and mobile markets.
  ❖ Even confronted with finical crisis, the new added mobile subscriptions stilly exceed 8 Millions monthly.

◆ Steady optimization of revenues structure
  ❖ The value-added services revenues accounts for 22% of total revenue
  ❖ For China Mobile, the ratio is 27.5%, and its absolute revenues exceeding 110 billion *RMB* in 2008

◆ Continuous price reduction
  ❖ Average tariff index decreasing 12% annually in the past 8 years
On Jan 13, 2010, State Council executive meeting decided to accelerate the convergence of telecom network, broadcasting and TV network and internet. It has been requested that from 2010 to 2012 the focus is trials connecting broadcasting and TV network with telecom network, and exploring policy system and institutional mechanism that secure the orderly implementation of the integration. From 2013 to 2015, through the summarizing and promoting pilot experience, comprehensive integration will be achieved and the convergent services will be widely used, thus the network industrial structure with moderately competition will be formed and a new supervisory system suitable for the institutional mechanism of convergence with clear duties, smooth coordination, scientific decision-making and efficient management.

MIIT:
- Actively proceed to strive to work out pilot plan in May 2010
- Two Steps: First, realize two-way connections at operational level, then address problems concerning supervisory institute
- Vigorously study to not to lower the access threshold of basic telecom services
- Unavoidable to open broadband, so it is better to open mutual access early

SARFT:
- Focus on open market unilaterally in 2010
- Seek state investment to set up national cable network company
- Do not loosen management of content service market

Pilot Program and Implementation Details Worked out by MIIT and SARFT

Three Network Convergence enhance market competition
### Likely Business Areas cable TV companies would prefer

Businesses they may preferentially get access to include broadband, VOIP, IP-VPN and IDC etc

<table>
<thead>
<tr>
<th>Consideration when choosing telecom business</th>
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<tbody>
<tr>
<td><strong>Big Market Demand</strong></td>
</tr>
<tr>
<td>■ Low user penetration rate</td>
</tr>
<tr>
<td>■ High social informationization demand</td>
</tr>
<tr>
<td><strong>Great Profitability</strong></td>
</tr>
<tr>
<td>■ High marginal benefits</td>
</tr>
<tr>
<td>■ Small innovation difficulty</td>
</tr>
<tr>
<td><strong>Capable self-owned network</strong></td>
</tr>
<tr>
<td>■ Two-way transformed networks</td>
</tr>
<tr>
<td>■ Bundle sale applicable</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Broadband Services</th>
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<tbody>
<tr>
<td>• Low penetration rate with only 100m broadband users, annual growth of more than 20m</td>
</tr>
<tr>
<td>• Average broadband ARPU is RMB70, RMB80 for southern markets</td>
</tr>
<tr>
<td>• Capable to operate after two-way transformation of cable networks</td>
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<tr>
<th>VOIP Services</th>
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<tbody>
<tr>
<td>• 70% revenue from voice services</td>
</tr>
<tr>
<td>• “Skimming” strategy, still room for profits</td>
</tr>
<tr>
<td>• Bundle sale applicable, e.g.: bundle with TV services;</td>
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<table>
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<tr>
<th>IP-VPN and IDC Services</th>
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<tbody>
<tr>
<td>• High IP-VPN networking demands from enterprises with high marginal benefits and security risks</td>
</tr>
<tr>
<td>• High market demand for IDC market with capable networks. Low benefit capacities and greatly influenced by intercommunication</td>
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The Evolution of Regulator in China

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<tbody>
<tr>
<td>Establishment of socialist market economy</td>
<td>Entry into WTO to open up the telecom market</td>
<td>set up SASAC</td>
<td>Big department system reform</td>
</tr>
</tbody>
</table>

- **Government-Enterprise-in-one**
  - before 1998
  - 1998
  - 2003
  - 2008

- **Ministry of Post & Communications**
  - Regulatory goal: to develop infrastructure and raise penetration rate

- **Ministry of Information Industry**
  - Regulatory goal: to ensure competition, consumer protection and development
  - 2000: promulgation of the Telecom Regulations

- **Ministry of Industry and Information Technology**
  - Regulatory goal: to regulate competition, protect consumers and integrate industry and information
Budget for MIIT in Telecom Regulation

Non-independent Financial Support

Radio Frequency Charge, part of

Number Resource Charge

Regulation Fee

Fiscal Budget for MIIT

Part of

Notes:
1. Resource charge adds up to far less than one third
2. MIIT has not declared any detail for regulation in budget allocation, neither Ministry of Finance.
Eight basic rules Set by Telecom Regulations

Market Access
Interconnection
Tariff Regulations
Network Security
Resources Management
Network Access
Telecom Construction
Consumer Protection
Market Entry Policy

Market Entry Policies for Foreign Investments

- The basic telecom market is only accessible to the foreign investment through equity, including Vodafone investment in China Mobile, and the investment in China Unicom by Korean SK and Spanish Telecom, both at no more than 8%

- For the value-added telecom market, there are 14 inter-provincial foreign-funded enterprises, including the joint-ventures by Google and MSN
  - 80% of the investment in value-added telecom market came from private capitals.

- Oriented by the service operation licence system

- Full-service competition by the big three carriers
## Market Entry Policy

### Relaxation of Market Entry

- To satisfy the development of technology services, the cataloguing of telecom services needs to be revised.
- The conditions for value-added service entry need revision.
- Timely adjustment of the methods for market entry.
- Timely opening of market entry to convergent services.

### Further Opening

- Continuous opening of telecom market according to WTO promises.
- Further lowering the entry threshold for foreign capitals, e.g. simplifying the approval procedure and reducing the entry requirements.
- Upon the current booming of private capitals in value-added services, more channels should be developed to help private capitals access the basic telecom services market.
Interconnection Policy

Technology: the Quality Monitoring System and Standards

- To establish a monitoring system for interconnection, to investigate violation, resolve disputes and assure interconnection quality

- To follow the international trend of establishing a dual tariff system for fixed-fixed, mobile-mobile services

- Unilateral-tariff system was established for fixed-mobile calls

Law: the Criminal Sanctions on Vandalising Telecom Infrastructures

- The Judicial Explanation on Criminal Sanctions on Vandalising Public Telecom Infrastructure by the PRC Supreme Court

- The MII demanded an accountability system to be established at enterprises concerning responsibilities

Economy: Adjusting and Improving the interconnection settlement Policies

Administration: the Accountabilities of Supervisors
Interconnection Policy

- Wholesale market VS retail market

### Wholesale market

- Termination monopoly
- Wholesale price, as a price floor for retail price
- To balance the interests of different operators
- Enterprise negotiation or government regulation

### Retail market

- Wholesale market with competition
- Retail price affects Interconnection net revenue
- to balance the interests of operators and users
- Government pricing market pricing

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Interconnection Policy

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Interconnection among Internet backbones

- Peering agreements between ChinaNet and China169
- Unilateral payments from other four small backbones to Chinanet and China169 separately, but it isn’t a transit agreements.
# Tariff Policy-history

<table>
<thead>
<tr>
<th>Time</th>
<th>History of reform</th>
<th>Objectives of reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government-fixed price</td>
<td><strong>Before Y2002</strong> All telecom services were priced by government</td>
<td></td>
</tr>
<tr>
<td>partially market-oriented price</td>
<td><strong>Y2002</strong> the pricing for value-added services, Internet access, IP calls was open to the market mechanism</td>
<td>Pricing for value-added service and basic telecom service should be open to market mechanism, which can help to promote the development of services;</td>
</tr>
<tr>
<td>Price cap regulation</td>
<td><strong>Y2005</strong> Price cap was established for national calls, international calls, mobile roaming fee and local fee for fixed lines</td>
<td>Further internationalisation of tariff regulation, with more autonomy of pricing for enterprises</td>
</tr>
<tr>
<td>deepen the reform</td>
<td><strong>now</strong> All tariff should be priced by enterprises, except the telecom charge for those with insufficient competition or closely-related to public interests which should be regulated by price cap</td>
<td>Expansion of enterprise’s autonomy of pricing, with improved regulatory functions of the government</td>
</tr>
</tbody>
</table>
## Tariff Policy-history

<table>
<thead>
<tr>
<th>Service types</th>
<th>means</th>
<th>Reasons for regulation</th>
</tr>
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<tbody>
<tr>
<td><strong>Government-fixed price</strong></td>
<td>✤ Fixed local services</td>
<td>✤ Insufficient market competition</td>
</tr>
<tr>
<td></td>
<td>✤ Mobile local services</td>
<td>✤ Closely-related to users’ rights</td>
</tr>
<tr>
<td></td>
<td>✤ Service prices to be fixed by government</td>
<td></td>
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<tr>
<td></td>
<td>✤ Service operators provide services to users by the government-fixed prices;</td>
<td></td>
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<tr>
<td><strong>price cap regulation</strong></td>
<td>✤ Mobile roaming fee</td>
<td>✤ Insufficient market competition</td>
</tr>
<tr>
<td></td>
<td>✤ National call fees</td>
<td>✤ Closely-related to users’ rights</td>
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<td></td>
<td>✤ International call and HK, Macao, Taiwan calls tariff</td>
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<td></td>
<td>✤ Leased line charges for national, inter-provincial, -regional and –city, international calls</td>
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<td></td>
<td>✤ Government-fixed price cap of service prices</td>
<td></td>
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<tr>
<td></td>
<td>✤ A flexible pricing by service operators within the price limits</td>
<td></td>
</tr>
<tr>
<td><strong>Market price</strong></td>
<td>✤ Value-added services</td>
<td>✤ Enterprises fix tariff on their own according to competition in the market</td>
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<tr>
<td></td>
<td>✤ IP calls</td>
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<td></td>
<td>✤ Functional expenses of fixed and mobile phones</td>
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</tbody>
</table>
## Tariff Policy - Challenge

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Content</th>
<th>Manifestation</th>
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<tbody>
<tr>
<td>Challenge 1</td>
<td>Increased competition may lead to an increase in improprieties by operators, such as monopoly, dumping and infringement on consumer rights</td>
<td>Large sum of cash-back</td>
</tr>
<tr>
<td></td>
<td>Further elaboration of price cap regulation, with regular review of government-fixed prices</td>
<td>Differential tariff</td>
</tr>
<tr>
<td>Challenge 2</td>
<td>Overlapping ministerial functions on tariff regulation</td>
<td>Monopolising channels</td>
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<tr>
<td></td>
<td></td>
<td>Comprehensive bundling</td>
</tr>
<tr>
<td>Challenge 3</td>
<td>Elaboration of the procedure and period of price cap adjustment</td>
<td>Elaboration of method and procedure for market evaluation</td>
</tr>
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<td></td>
<td>Multi-supervision by the government</td>
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</table>
## Consumer Protection

### Various Rights

- **By the process of telecom services, the consumer’s rights can be seen in the following chart**

<table>
<thead>
<tr>
<th>Service process</th>
<th>Rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throughout the process</td>
<td>❖ Right to using telecom, know and supervise</td>
</tr>
<tr>
<td>During service selection</td>
<td>❖ Right to selection and fair transaction</td>
</tr>
<tr>
<td>During using services</td>
<td>❖ Right to privacy and security</td>
</tr>
<tr>
<td>In case of infringements</td>
<td>❖ Right to compensation</td>
</tr>
</tbody>
</table>

Rights are relative to obligations, where the users’ rights can be realised through the enterprises performing their obligations.
Consumer Protection

◆ Laws:
  ❖ One law: the Telecom Regulations
  ❖ Two provisions: The Provisional Measures for Quality Assurance of Telecom Services, the Provisions for Handling Complaints by Telecom Users
  ❖ Three mechanisms: the Circulation of Quality Assurance Test of Telecom Services, the Reporting of Quality Assurance Test of Telecom Services, the Survey on User Satisfaction.

◆ Main regulations:
  ❖ Ex ante protection: the minimum assurance of quality of the services to be provided by operators
  ❖ Interim protection: the telecom regulator’s supervision of the services to be provided by operators
  ❖ Ex post protection: dispute resolution between users and service operators by the regulator
Outline

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CATR, Biggest Gvt think tank in ICT sector

◆ Founded in 1956 --China Academy of Posts & Telecommunication
◆ Before 1997
  – A research institution of MPT, the government and the monopolizing operator as well in China at that time;
  – Responsible for
    • Technical support to telecom operation;
      – Designing and planning telecom networks nationwide in China;
      – Telecom technical standards;
    • Advisory research in economy and policy field for the government;
    • Telecom system and equipment testing and certification;
◆ Today
  – A state owned advisory research organization; Working for:
    • Strategy and policy research and consulting for Chinese government
    • consulting services to industries;
    • Research on telecom technical standards;
    • ICT system and equipment testing and certification;
  – 5 Institutes and 1 testing lab group in Beijing, 3 local branches in Shanghai, Shenzhen, and Chongqing
  – Over 1400 employees
Goals of CATR

◆ China Academy of Telecommunication Research (CATR), belonging to the Ministry of Industry and Information Technology (MIIT) is the national think tank in the ICT sector for several ministries.

Support the government

◆ Research support
  – Development planning
  – Policies and regulations
  – Network standards
  – Regulatory work

◆ Administrative function entrusted by MIIT
  – License pre-review and annual review center
  – Telecommunication subscriber appealing center: to settle the dispute between the users and the operators

Serve the industry

◆ Test and Certification
  – Quality system certification
  – Telecom metrology
  – Product test/certification
  – Network planning/design

◆ Consulting
  – Strategic Consultancy
  – Business planning
  – Market Research
  – Management training
Three Core Areas of CATR

- Government Support (regulation) (policy) (Strategy)
- Testing & Certification (technology) (standard)
- Consulting service

Core business areas
What CATR has done in the industry

◆ There are more than 1,400 staff, with 85% in research and technical staff. This is a telecom research team with rational knowledge structure, optimized age structure, high academic level and rich experience.

◆ Many experts from CATR are chairmen and speakers in ITU study groups and working groups, and play important roles in the fields of 3G, mobile data service, IP and optical communications.

◆ CATR has set up long-term cooperation with famous telecom manufacturers and operators as well as test organizations in the world. Only in 2009 two EU regulators (OFCOM, CMT) have joined this army.
Who Am I?

◆ Professional titles—
  – Secretary General and Member of ECTE (Expert Committee of Telecommunication Economics, an important think tank for MIIT in the filed of ICT sector, established in 2003)
  – Member of the strategy and policy committee of China Institute of Communications

◆ International Activities—
  – Since 2001, I joined the study group of ITU-T and ITU-D as a chief member of Chinese delegation. I successfully carried out some projects of UNDP with Chinese and Germany scholars in the filed of building up information society. I led my team to fulfill the job entitled by ITU to train regulatory officials from South Eastern Asia countries in 2005. I was the main researcher for the project of EU-China information Society comparison study in 2006. I was invited as key speaker by several famous investment banks such as UBS and Goldman Sachs to attend their conference.

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Ministry of Industry and Information Technology (MIIT), China

Policy Consultant focusing on strategy and regulation in ICT sector
The End

Q & A ?

China Academy of Telecommunication Research of MIIT