ANALYSIS OF COMMUNICATION SERVICE IN THAILAND: A CASE STUDY ON THE COMMUNICATION MARKET 2014 AND OUTLOOK 2015

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ABSTRACT

The breakthrough in the country's telecommunications technologies takes a significant part in propelling the country’s development in several dimensions: both directly and indirectly. This is due to the fact that expansion of the telecommunications industry is a key factor in increasing the value of various industrial sectors, since the penetration into markets, data, and various learning resources will produce benefits and lead to the country’s development in various dimensions. Therefore, the analysis of previous market conditions will facilitate the forecast for future market trends. This particular research is conducted with the aim of enabling telecommunications market data to be analyzed, leading to the efficient determination of frameworks and directions for telecommunications regulation. Besides, the data of which can be used in analyzing the technology trends influencing future communication markets. On top of that, the researcher also aims to create an understanding of the country’s telecommunications situations which will be conducive to sustainable enhancement of the country’s competitiveness.

Key word: Analysis, Communication, Market, Service, Thailand

http://www.iaeme.com/ijm/issues.asp?JType=IJM&VType=7&IType=4
1. INTRODUCTION
Playing a major role and being a critical mechanism to the development and growth of the nation’s real sector and society, the communication market is an important driving force of the information and communication market. Basically, the communication market is classified into 2 categories i.e. communication equipment market and communication service market. These two markets are governed by the Office of the National Broadcasting and Telecommunications Commission (NBTC) which grants licenses and regulates for effective operations under rapid changing growth of economic environment and communication technologies & industries for the maximum benefits of the country and population as a whole.

Having up-to-date basic information, both primary data and secondary data, for analysis, policy related suggestions, license permission and governance is an essential factor for international governing bodies. As a result, the NBTC has supported a market research of the Thailand communication market 2014 and outlook 2015 in order to obtain the current communication market information for on-going operations which will benefit to the NBTC’s activities and responsibilities. Moreover, it will be an important source of information for the national telecommunication sectors to widely disseminate the update information to the public constantly. However, this paper aims to present only the communication service market [1].

The objective of this paper is to provide data of the communication service market value which will benefit as primary information when analyzing demands and supplies of the internet service and communication market in order to effectively determine the NBTC’s regulatory framework and direction.

2. RESEARCH METHODOLOGY
The market research of Thailand communication market value 2014 and outlook 2015 focuses on the communication service market. Data is collected from domestic vendors and communication service providers instead of gathering directly from consumers. It is a qualitative research by random selection of specific samplings with in-depth interview from 15 key players, along with various sources of secondary data such as annual reports, SET reports, economic analysis articles and news etc. Focus group is organized to verify the obtained information by enterprises and experts before officially disseminating the market research result to the public.

Communication service market refers to market of service providers both cable and wireless. It is categorized into 5 groups as the following [1]

- Fixed Line Service market consists of a market of wire line telephone handset within the same areas, the domestic long-distance calling service and the public telephone service including voice service and value added service. The cable internet service market is not included in this group.
- Mobile Service market consists of prepaid mobile service, postpaid mobile service including mobile non voice service such as SMS, MMS, E-mail and mobile internet via GPRS, EDGE, 3G and 4G networks etc.
- Internet Service for internet access means an access to internet including narrow-band and broadband of fixed line internet i.e. Dial Up, DSL, FTTx, Cable Modem/DOCSIS and also Wifi Internet etc.

The international internet gateway refers to the international internet connectivity service, which is considered a cost of internet service providers (ISP). As a result, it
is not included in the market value of the internet market because it will make a double counting.

- International Calling Service consists of International Direct Dialing (IDD), Voice over Internet Protocol (VoIP) including Calling Card Service.
- Data Communication Service refers to an internal data communication network within a specific organization. This service serves for a point to point and point to multipoint on the private network or so called “leased line” which is commonly used for data transmission between both domestic and international offices including on a virtual private network. The data communication service can be served by many forms of technologies such as IP-VPN, Asynchronous Transfer Mode (ATM), Frame Relay and Multi-Protocol Label Switching (MPLS) etc.

The research of this communication market value is organized in February 2015 – May 2015 with the following processes:

- To prepare interview questionnaires and categories of information to be gathered from secondary sources.
- To contact enterprises for interview.
- To interview enterprise operators and collect data from the secondary sources in order to conduct a proper cross check.

3. COMMUNICATION SERVICE MARKET 2014 AND OUTLOOK 2015

The communication service research is organized in 5 sub-categories i.e. 1). Fixed Line Service 2). Mobile Service 3). Internet Service 4). International Calling Service and 5). Data Communication Service with the following details:

3.1. Fixed Line Service

Fixed Line Service is likely to decline in accordance with decreasing use because consumers have shifted to use more mobile phones and other mobility Devices, especially the mobile non voice service is more popular than the voice service. In 2014, the fixed line service market valued at THB 16,000 million with a 8.6% decline rate and it will be steadily declined to THB 15,180 million or accounting for a 5.1% decline rate in 2015 respectively [2] as below Figure x:

![Figure X Fixed Line Service Market Value 2013 – 2014 and Outlook 2015 [2]](http://www.iaeme.com/IJM/index.asp)
The fixed line service market value has still declined continuously due to the replacement of mobile devices. Moreover, communication through applications like online-chatting including the voice service on applications are also major factors because users can use the service conveniently everywhere they can access an internet network provided by internet operators without additional fees of current subscribed data usage and internet packages, depending on their subscribed internet packages. This is different from the fixed line voice service that users have to pay per minutes or calls they used which causes limited usage, which another factor is leading to steadily decreasing use, especially at the household sector. So, the corporate sector is the main users for the fixed line service.

3.2. Mobile Service
Mobile Service can classify into 2 categories i.e. voice service and non voice service including mobile internet service such as GPRS, EDGE, 3G and 4G. From the survey in 2014, the mobile service market valued at THB 209,660 million, accounting for an 11.3% of growth rate because the mobile service is more popularly used for a convenient use and a lower price of mobile phone unit. Furthermore, many consumers are using more than 1 mobile phone. So, it makes the mobile service market have a rapid increase steadily. It is predicted that the mobile service market in 2015 will hold THB 237,658 million, or accounting for a 13.4% of growth rate [3].

Figure XX Mobile Service Market Value 2013 – 2014 and Outlook 2015 [3].

When classifying the market value into the mobile voice service and the mobile nonvoice service, it is found that the mobile nonvoice service market value is steadily increasing. In 2014, it stood at THB 88,485 million (42.2% growth rate) and then it became increasing to 49.4% growth rate or THB 117,389 million while the mobile nonvoice service market declined from 57.8% growth rate in 2014 to 50.6% growth rate in 2015. In the other words, its market value declined from THB 121,175 million to THB 120,269 million respectively [4] as below Figure xxx:
The increasing ratio of the mobile nonvoice service market share implies increasing usage of mobile data service, caused from many factors such as 3G nationwide coverage on the 2100 MHz spectrum, affordable cost of mobile devices either smartphones or tablets, including more new social media users of both youth and elderly people [5]. Additionally, some service providers begin to launch 4G service which provides a high speed of data sending-receiving. They have also expanded more service coverage, plus launching a low cost of 4G package including some privileges of special services which offer their clients with opportunities to experience new applications which will motivate their needs to use more mobile nonvoice service.

When comparing the growth rate between the mobile voice service and mobile nonvoice service, it is found that the market share of mobile voice service declined at 4.9% in 2014 and it is predicted to continue shrink to 0.7% in 2015 while the mobile nonvoice service in 2014 held a 45.3% growth rate and it is predicted to steadily grow to 32.7% in 2015. Based on the market research result, it is estimated that the mobile voice service has declined almost reaching the lowest level while the mobile nonvoice service can still continuously grow more in the future. However, if Thailand hold the auction of 900 MHz spectrum and 1800 MHz spectrum to support the usage of 4G service in 2016, the mobile voice service may be declined more than what have been estimated [6], [7].

3.3. Internet Service

The internet service market value has still grown steadily. From the survey, the internet service market in 2014 valued at THB 48,663 million, accounting for a 14.3% growth rate because of expanded service coverage of wire line internet service providers. Some areas in Thailand are still limited by the wire line internet service, therefore, it is a great opportunity for the internet service providers to expand their business to new customer targets. However, the mobile internet service on mobile devices such as smartphones, tablets, and other mobile equipment have increased because of fast, convenient use and covered service areas. In addition, the economic situation has continued to decline steadily, then, the corporate sector negotiated with internet providers to remain the same charging fees, but increasing bandwidth.
Consequently, the wire line internet market value cannot grow as the same as the mobile internet’s one. Considering on the mobile nonvoice service to be used in 2015, the market value of the internet service in 2015 will be increased to THB 54,231 million or accounting for 11.4% growth rate [8] as below Figure xxxx:

**Figure XXXX Internet Service Market Value 2013 – 2014 and Outlook 2015 [8]**

In this survey, the market value of the internet service also includes the one of the international internet gateway in order to prevent the data double counting because it is a part of investment cost of internet users. The international internet gateway in 2014 recorded THB 12,300 million of market value increasing a 0.9% growth rate. This was merely grown because many service providers invested on their own ground connection gateway, forcing the existing service providers have to decrease their charging fees in order to retain their current customers to remain using their international internet gateway. As a result, spending on the international internet gateway is also decreased. Even the connection speed of international bandwidth is increased steadily in accordance with increasing needs of Social Media Web/Application from International Internet Providers which established their data centers in oversea countries. The internet service market value in 2015 is expected to increasingly hold THB 12,718 million or accounting for a 3.4% growth rate.

3.4. International Calling Service

The total market value of the overall international calling service in 2014 was THB 12,412 million or accounting for 12.2% decline rate due to it was replaced by alternative communication approaches such as social media and online chatting. It is predicted that the international calling service market value in 2015 will be decreased to THB 12,117 million (2.4% decline rate) [9] as below Figure xxxxx:
Figure XXXXX International Calling Service Market Value 2013 – 2014 and Outlook 2015 by Services [9]

When classifying services into the international direct dialing: IDD (Voice Over Internet Protocol: VoIP) and the calling card, based on the research it is found that the IDD and VoIP market in 2014 valued at THB 11,662 million or accounting for a 10.3% decline rate. It will be declined to THB 11,420 million of share in 2015 or accounting for a 2.1% decline rate. The decreasing trend of IDD and VoIP market value results from increasing use of social media and application, along with the effective wire line and wireless internet networks which currently can support the voice communication service and the video call service which are key factors to decrease use of the international calling service. Moreover, a high competition among service providers, especially mobile service providers, affected lower international calling tariffs. Then, it was another factor to have the overall market value of the IDD and VoIP services declined.

In the meantime, the calling card market is likely to be decreased continuously. The calling card market value in 2014 recorded THB 750 million presenting at a 33.6% decline rate due to the recession of economic, tourism and political situation. Moreover, it was replaced by social media and application. It is expected that the 2015 calling card market value will decline to THB 697 million or accounting for 7.1% decline rate [10].

3.5. Data Communication Service

In this survey, data communication service refers to a leased line service both domestic and international connectivity such as a leased line international private leased circuit (IPLC) and virtual private network (VPN) by charging only spending incurred in Thailand. The overall data communication service market in 2014 held THB 13,591 million, accounting for a 2.1% growth rate. It is predicted that the data communication service market in 2015 will be increased to THB 13,591 Million or accounting for a 2.9% growth rate [11] as the Figure xxxxxx:
Even the data communication service has been highly demanded for corporate operations steadily, its market growth rate is decreased, resulted from many key factors such as a high competition of the data communication service. Many telecommunication service providers invested on their own network establishment with high capacity for data communication service in order to maximize the most of their network investment. In addition, according to the country’s economic recession, customers negotiated asking for decreasing or remaining the same amount of charging fees of previous year, but increasing the data capacity. Then service providers have to adjust themselves in the highly competitive market by responding to their customers’ requests to retain their current target groups.

4. COMMUNICATION SERVICE SPENDING BY FACTORS

4.1. Communication Service Spending by Sectors
When considering the communication equipment market value by core sectors, it is found that the corporate and government sectors are the largest spenders who’s spending are higher than 60.2% of the communication equipment market share or THB 120,079 million. In the meantime, the household and SOHO sector hold a 39.8% share of spending or THB 79,336 million. However, considering by sub-categories, it is found that the corporate and government sectors are the key targets in almost every markets i.e. they held a 100% of spending ratio of the core network, the wire line communication equipment market held a 99.5% of spending ratio, and the wireless communication equipment market held a 90.9% of spending ratio with the value of THB 63,742 million, THB 14,903 million and THB 24,849 million respectively. In the mean time, the household and SOHO are the largest spenders in the telephone handset market comparing with other sub-category markets which held a 82.2% of spending share or THB 76,773 million of spending value [12] as shown in below Table x:
Table X Communication Equipment Market Value 2014 by Core Sectors [12]

<table>
<thead>
<tr>
<th>Communication Equipment Categories</th>
<th>Total Value (M.Bht)</th>
<th>%</th>
<th>Corporate and Government Value (M.Bht)</th>
<th>%</th>
<th>Household and SOHO Value (M.Bht)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Handset</td>
<td>93,358</td>
<td>100</td>
<td>16,585</td>
<td>17.8</td>
<td>76.773</td>
<td>82.2</td>
</tr>
<tr>
<td>Fixed Line Handset</td>
<td>1,508</td>
<td>100</td>
<td>1,430</td>
<td>94.8</td>
<td>78</td>
<td>5.2</td>
</tr>
<tr>
<td>Mobile Handset</td>
<td>91,850</td>
<td>100</td>
<td>15,155</td>
<td>16.5</td>
<td>76.695</td>
<td>83.5</td>
</tr>
<tr>
<td>Core Network Equipment</td>
<td>63,742</td>
<td>100</td>
<td>63,742</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wireline Communication Equipment</td>
<td>14,978</td>
<td>100</td>
<td>14,903</td>
<td>99.5</td>
<td>75</td>
<td>0.5</td>
</tr>
<tr>
<td>Wireless Communication Equipment</td>
<td>27,337</td>
<td>100</td>
<td>24,849</td>
<td>90.9</td>
<td>2,488</td>
<td>9.1</td>
</tr>
<tr>
<td>Total</td>
<td>199,415</td>
<td>100</td>
<td>120,079</td>
<td>60.2</td>
<td>79.336</td>
<td>39.8</td>
</tr>
</tbody>
</table>

The corporate and government sectors are the key spenders in the communication equipment market, especially the development and expansion of basic infrastructures of TelCo providers to fully cover all service areas and provide more support to the individual and corporate sectors. These include the enhancement of use for both wire line and wireless endpoints. Even those corporate and government sectors as end-users are aware of their spending due to the country’s economic recession and unpredictable political movement direction which affected the corporate and companies’ investment plans.

For the communication equipment spending of the household and SOHO also plays an important role, especially smartphone using behaviors which are key pushing forces of spending in the communication equipment market for the household and SOHO.

4.2. Communication Service Spending by Users

A major spending of the communication service market still involves the mobile handset market which the household and SOHO are the key spenders. When comparing the overall communication service spending, it is found that the household and SOHO hold a 69.1% of spending rate, accounting for THB 207,471 million while the corporate and government sectors hold a 30.9% of spending rate or THB 92,855 million. When considering by sub-sectors, it is found that the household sectors hold the largest spending ratio in the mobile handset market at 75.9%, accounting for THB 159,132 million of the spending value. The internet service ratio is 78.4% of share, accounting for THB 38,154 million. Although the household and SOHO sectors have the largest spending ratio in 2 categories only, but they hold the largest spending share.
comparing to other communication service markets. The corporate and government sectors recorded high spending ratios of the fixed line handset service, data communication service, and international calling service, with 65.3%, 99.7% and 63.0 respectively, valued at THB 10,448 million, THB 13,550 million and THB 7,820 respectively [12] as below Table xx:

Table XX Communication Service Equipment Market Value 2014 by Core Sectors [12]

<table>
<thead>
<tr>
<th>Communication Equipment Categories</th>
<th>Total Value (M.Bht)</th>
<th>%</th>
<th>Corporate and Government Value (M.Bht)</th>
<th>%</th>
<th>Household and SOHO Value (M.Bht)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Line Handset</td>
<td>16,000</td>
<td>100</td>
<td>10,448</td>
<td>65.3</td>
<td>5,552</td>
<td>37.4</td>
</tr>
<tr>
<td>Mobile Handset</td>
<td>209,660</td>
<td>100</td>
<td>50,528</td>
<td>24.1</td>
<td>159,132</td>
<td>75.9</td>
</tr>
<tr>
<td>Internet Service</td>
<td>48,663</td>
<td>100</td>
<td>10,509</td>
<td>21.6</td>
<td>38,154</td>
<td>78.4</td>
</tr>
<tr>
<td>International Calling Service</td>
<td>12,412</td>
<td>100</td>
<td>7,820</td>
<td>63.0</td>
<td>4,592</td>
<td>37.0</td>
</tr>
<tr>
<td>Data Communication Service</td>
<td>13,591</td>
<td>100</td>
<td>13,550</td>
<td>99.7</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>300,326</td>
<td>100</td>
<td><strong>92,855</strong></td>
<td>30.9</td>
<td><strong>207,471</strong></td>
<td>69.1</td>
</tr>
</tbody>
</table>

The spending of household and SOHO sectors are key drivers of the communication service market, especially the spending of mobile handset market and internet service market, resulted from the service-area expansion of 3G mobile internet services to support more than 90% of population and new area coverage. While the corporate and government users consider unstable economic and political situation as major factors then they are lack of confidence in investment including unclear government policy which are not obviously seen with tangible outcomes then it cannot motivate more communication service usages.

5. IMPACT FACTORS TO COMMUNICATION MARKET

Communication Service Movement are resulted from many positive and negative factors, especially during the past period, Thailand had faced various crisis affecting to the communication service spending which can be summarized as follows:

Changes in the communication service market both market growth and decline in 2014 are from many affecting factors. Some have continued from previous years and then showed more affects in 2014 such as trend of social media usages or mobile handset usages. While some factors are irregular incidents, but obviously affecting to the communication service spending such as economic situation which can be summarized as the impact factors to the communication service market in 2014 as the following:
5.1. Positive Factors

The mobile penetration on 3G and 4G mobile network: Since the 2100 MHz spectrum license auction for the 3G network in 2012 brought users can conveniently access the mobile internet service and it has been rapidly expanded to other national communication services such as fast growth of smartphone handset shipment because of many low and middle prices of smartphone handset in the market as alternative options. Mobile service operators launched promotional campaigns and mobile packages including smartphones to stimulate consumers to use their mobile networks. As a result, the mobile service sector is highly expanded [13].

Social Media is used more popularly, specifically among new users like youth and elderly people. According to the report of Thailand Social Media Association, in quarter 2 of 2014, there were many social media users in Thailand i.e. 30 millions Facebook users, 26.2 million YouTube users, 4.5 million Twitter users and 1.7 million Instagram users, thanks to easily 3G internet access on mobile devices i.e. 28 million users of 30 million Facebook users can access it on their mobile devices. About 18 million users access internet daily. Mobile devices and social media has supported one another, driven by 3G internet service which stimulate spending both telephone handset and mobile service. Furthermore, the service providers are supposed to invest in developing their basic infrastructures and end-point access to support the market needs which are now used more popularly [14].

Middle and small business are aware of the importance of the internet adoption and data communication technology for competitive capacity development. Using digital technology and social media is essentially needed in term of economic and commercial competition. In the past, the investment on the internet and data communication was carried-out to build competitiveness by big corporate. At present, successful middle and small business was resulted from online marketing approach in term of making trends, awareness and sales promotion including marketing. For those who understood and were aware of gaining benefits from the ICT have adopted the ICT to lift up their organizations in reducing cost of business investment including organization capacity development such as Cloud or Data Analytic Usage at many levels which might be new things for middle and small business. However, they began to study and adopt it, leading to the internet service and ICT development with more effectiveness and up-to-date in order to support more needs and provide services continuously [13].

DTV service provided since 2013 has impacted to TeleCo Network needs in transmitting Medias to all service areas including using the 3G/4G technology network for broadcasting. Increasing number of customers from DTV market is another factor to stimulate the communication market, especially expanded data communication market.

Changing LAN Cabling from CAT5 to CAT6 to increase speed and distance effectiveness of media transmission among devices such as switch, computer-related equipment or devices on indoor LAN cabling. Then, many organizations wanted to develop their existing technologies for up-to-date version and more efficiency on media transmission among devices.
5.2. Negative Factors

The country’s economic recession, low export capacity of agricultural products such as rice, rubbers including other electronic products and the slow-down tourism situation which affected manpower employment and general spending capacity. Then private corporate are more caution in spending and investment by deciding to invest wisely by making negotiation with vendors or service providers to reduce or maintain charging fees, while increasing volume of products or services. Moreover, the household sector still has high debt burden then it is difficult for them to spend for something as the same as the private sector. It then affects the communication market spending as the same as other markets of services or products.

Local conflict situation is another core factor affecting the confidence of local business investment, especially in the first half of year 2014. Even a clearer political situation was seen in the second half of the year, both investment of domestic and international business sector is still waiting for the government direction including clear policies. Therefore, it still cannot see the full capacity of the country’s investment and spending in overall picture.

Delayed government investment due to the country has political changing then the government has to conduct an audit and delay the spending of their activity budget, especially a big project. Then, the government spending in order to stimulate the overall picture of the economy related to the communication sector has been also delayed or postponed.

According to the order of National Council for Peace and Order, the CAT’s auction plan of 4G spectrum on 1800 MHz and 900 MHz was postponed affecting negatively to the telecommunication investment, including the growth of communication market value in 2014. However, the auction was delayed in a short period of time. It is expected to organize it in 2015.

In 2015, the use of internet and data communication are key drivers to stimulate the growth of communication market including using smartphones and internet on mobile devices in order to support the social media. The 4G spectrum auction both on 900 MHz and 1800 MHz is expected to organize, and other online marketing will be more acceptable [15], [16]. These factors are reasons for the spending of supporting devices for their needs. Also, the telecommunication service requires the network capacity development to support their expansion. Moreover, the government also establishes digital economic policies in order to lift up the country into the digital society, building up capacity in new business competition to gain better living standard of their population. However, these policies have been on the process of strategic making then it can stimulate some economic situation. Due to unclear and obvious government policies and actions in 2015 and the last important factor is that Thailand is going to join the AEC in late 2015 then investment movement will be conducted into Thailand so, communication operators will have an opportunity to more access new client groups which will benefit to stimulate the communication market and economy of Thailand.

However, Thai situation 2015 is affected from negative factors. Economic situation is delayed steadily leading both private business sector and household are more caution in spending than 2014. Moreover, political conflict situation and other security issues are risk factors to gain confidence of foreign business operators who may move productivity base to other countries where are safer and secured. Another important factor is the delay of government’s investment and budget spending which
were not meet goals. It causes a flow of budget from government into economic system which would replace spending of private business sectors and household were lost [17]. Then Thai economic situation was not bright leading spending on communication market in 2015 were under estimation.

6. CONCLUSION

There are 5 kinds of communication service markets: fixed-line service, mobile service, Internet service, international calling service, and data communication service. Nowadays, it is found that the trend in fixed-line subscription has been reduced in the same fashion as international calling subscription because most subscribers turn to carry out data communication mainly through mobile and Internet channels. This promotes the provision of mobile, Internet, and data communication services to become a group of communication services which is widespread and tend to grow continuously. There is a trend showing that mobile service businesses prone to attract greater investments, offer more data transmission services on the radio spectrum that has already been existed, and encourage the allocation of more new radio spectrum in the future.

Furthermore, regarding the overall image of Thailand's communication markets, there is a trend showing that future communications traffic will be driven by patterns of data transmission, generating massive data which connect everything together: people, devices, and technologies. There will also be the development and application of modern technologies, i.e. Internet of Things, Big Data and Data Analytic, Cloud, VoLTE, Infrastructure as a Service (IaaS), and VoWiFi. Such communication technology innovations generally bring about transformation in operators' means of service provision. For example, mobile service operators who used to normally provide only mobile networks have been recently found to offer data services through OTT (On The Top Service) such as IPTV or VoLTE (Voice over LTE). Therefore, not only must network operators attempt to increase the number of subscribers currently but also more patterns of service provision which are diversified and efficient based on the demands of consumers, organizations, and businesses in every industrial sector must be created as well.

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