

# Study on Value Chain of Telecom VAS under Transformation Background

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## Abstract

Driven by both technology and market, telecom industry is becoming a part of several converged industries in information society gradually from an independent industry which provides telecom products like voice or data. Under such background, this paper introduces a new value chain model of telecom value-added services in the new environment, providing theoretic support for transformation of telecom operators.

**Keywords:** Telecom Transformation, Telecom VAS, Value Chain, Service-Oriented

## 1. Introduction

With the dual-driving of technology and market, the developing environment of globe telecom industry is undergoing profound changes. (Ma, 2006) In terms of industrial external environment, firstly, regulatory focus has transferred gradually from controlling of corporate behavior to improving market effects, and telecom industry regulation is shifting to be user-centric; Secondly, the continually advancing technology is driving the convergence of the networks like telecom network and internet etc., so the traditional definition of industry boundaries no longer exists, and “digital integration” represented by network integration, business integration and terminal integration has become inevitable developing trend of information and communication industry (Shu, 2007), and traditional telecom business revenue is diverting continually; thirdly, the traditional telecom market in developed countries are becoming more and more saturated, while the market growth scale of telecom industry in the emerging markets exceeds developed countries for the first time, and the telecom industry will be confronted with global competitions under the frameworks of “WTO basic telecom agreements”. In terms of industrial internal environment, firstly, the business developing trend changes, for example, the number of mobile users exceeds the one of fixed users in nearly 20 years; Secondly, the industry becomes increasingly competitive, and more and more enterprises participate in the competition with lower entering barriers, and it makes the global telecom industry has to face the problem of surplus capacity; thirdly, the requirements of users become diversiform and

personalized gradually, and with the driving of buyer’s market users will require not only more telecom products with better quality and lower price, but also require more convenient and practical services. With comprehensive analysis of industrial internal and external environment changes, it is no doubt that telecom industry will enter a new phase, and transformation will be corporate strategic choice to achieve sustained growth in the new phase for telecom carriers.

Nowadays, the global mainstream telecom operators have decided to implement strategic transformation, and most of them choose integrated information service providers as their future industrial roles. As embryonic form of future integrated information services, today’s telecom value-added services are gradually becoming important sources of revenue for carriers. How to effectively nurture them and make them grow to be integrated information services will become the focus of attention for telecom operators in recent years.

Under such background, this paper will study the growth of telecom value-added services from the point of view of value chain, analyzing and find out the shortages of the existing value chain of telecom value-added services in the developing process, and proposing a new value chain model of telecom value-added services to adapt the new developing environment, which can be take as theoretic support for carriers’ transformation.

## 2. The Developing Trend of Telecom Industry is Service-Oriented

Since Alexander Bell invented the telephone, the telecom

industry has experienced more than 100 years developing process, and in the meantime, the continually advancing technology brought people increasingly high-quality communication experience. However, with the developing of technology and deregulating, the continuous influx of new investment makes an increasingly competitive telecom industry, and telecom market is becoming a buyer's market, and pure voice services and simple data services are difficult to fulfill customers' growing diversified and personalized requirements. At the same time, the quick developments of digital technology and communication technology make the convergence of industries to be possible and it gradually becomes a new developing trend, and media, entertainment, internet and telecom industries began to converge not only at technical layer but also at business layer. In such converging environment, users can acquire not only high-quality voice services and data access services, but also more information and entertainment services, and even experience in some forward-looking studies.

In the past hundred years, telecom companies connected different users through wired or wireless way, and transmitted voice or data for them through different communication technologies, while in the new converging environment, telecom operators can help users achieve greater functionality and provide users with a wider range of services based on the connections between them. At this point, the connections built by telecom companies become infrastructures for users' enjoying rich services. In this vein, the transformation of telecom industry is not a general sense of business transformation, but strategic choice in the information revolution of leading human society from industrial society into information society.

People produce and use information and knowledge on a large scale in information society, which is a knowledge-based economy-driven society. According to the ITU's description of information society, information society is composed with two major parts for socio-economic and industrial. Socio-economic part includes setting up new lifestyles (such as online shopping, virtual reality, etc.), creating new arts and culture methods (such as multimedia books, remote music appreciation, etc.), constituting laws, rules and regulations (such as medical law in remote-medicine etc.). Industrial part includes creating new applications and services (such as e-commerce, video services, etc.), building information networks (such as telecom networks, cable networks, satellite networks, etc.), manufacturing equipments (such as terminals, transmission systems and servers, etc.).

As part of industrial part, the focus of telecom industry's transformation must be "Applications/Services" and "network/infrastructure" in Figure 1. That is to say, besides continuing to upgrade and maintain the network infrastructures, the more important tasks for telecom operators will be developing and providing rich applications and services based on the requirements in people's social and economic life.

It is clear that in the future evolution of information society, the focus of telecom operators will change from the network-centric communications service providing to the application /service-centric information service providing. In other words, telecom operators will no longer provide users with simple products limited by existing functions that network supports, but fulfill users' diversified demands in information society through related network upgrading and value chain cooperation.

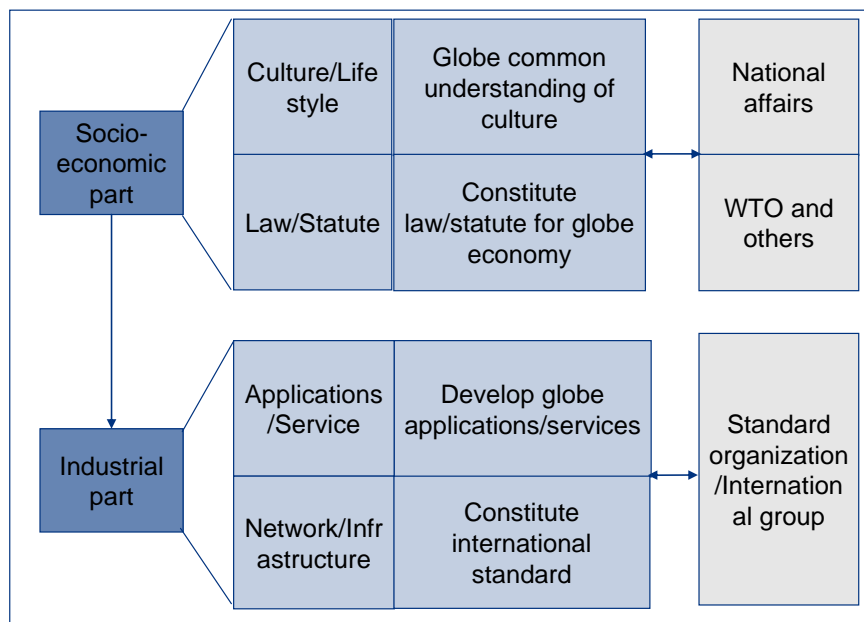


Figure 1. Constitution of information society.

In a word, the future operating model of telecom industry will be service-oriented converted and transformed.

### 3. The Shortages of Existing Value Chain of Telecom VAS

In the past ten years, with the sustained and rapid developing of networks and computer technology, a large number of new features and business appeared in addition to the traditional voice business in telecom industry, and they are so-called telecom VAS. In recent years, the voice revenue declined because of increasingly competition, while VAS became important measures for operators to maintain stability and growth of total revenue.

Telecom VAS plays a important role for telecom operators' growth at this stage. The current operating modes of telecom VAS can be partitioned to three types in accordance with the participating degree of operators, which are independently providing, cooperatively operating and fully outsourcing. The three main operating modes are fundamentally based on common value chain, as shown below.

In current network-functions-based developing environment, this value chain mode in accordance with division of functional expertise contributes much for growth of telecom value-added services. However, when facing the requirements with telecom industry in future information society, the limitations of current value chain mode are fully exposed as followed:

First of all, the limited telecom VAS based on currently existing network functions will not be able to fully fulfill people's rich demands of informationization; Secondly, a single business platform in the value chain mode limits the business expansion, making the involving scope of telecom VAS have been confined in a small framework, and we can not fully mobilize and make use of a wide

range of social resources, what's more, it also limits the applying scope of basic resources of telecom industry; Thirdly, which is the core problem, the users' demands are difficult to be reflected in this value chain mode, while in future service-oriented operating mode, the user's demands in information society are the sources of information services.

In summary, the current value chain mode of telecom VAS is clearly unable to adapt the new requirements of telecom industry in future service-oriented operating environment, and it must be redefined and transformed to effectively support transformation of telecom industry.

### 4. A new Vale Chain Mode of Telecom VAS

As mentioned above, in the service-oriented operating mode of telecom industry, the developing and providing of telecom business will be based on users' practical demands in information society rather than existing network features, and this new operating idea will make new demands to value chain of telecom VAS as follows:

First, business will start from user's demands and end with users' fulfillments; Second, implementing network functions will become an important part among value chain activities, rather than limitation of infrastructure in the current value chain; Third, a wide range of social resources will be effectively integrated into the new value chain of telecom VAS, to fully maximize the level of participation to build telecom VAS, if possible, to make the telecom VAS to fully fulfill the people's various aspects of demands in the Information Society; Based on these new requirements of value chain of telecom VAS, combined with the optimization of original value chain mode, this paper proposes a new service-oriented value chain mode of telecom VAS, as shown below.

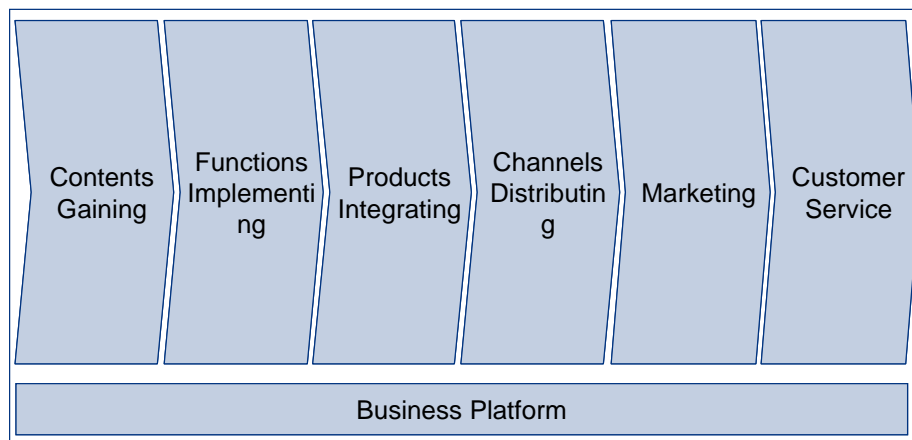


Figure 2. Current value chain of telecom VAS.

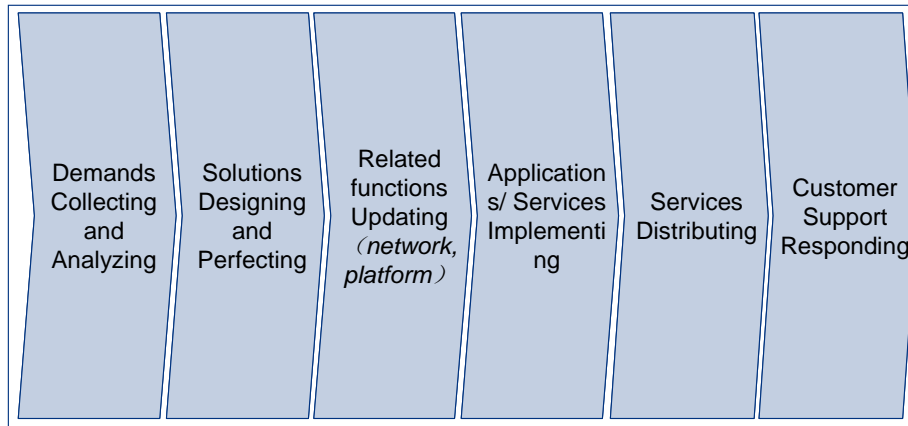


Figure 3. New service-oriented value chain mode of telecom VAS

The new value chain mode of telecom VAS not only integrates the original value chain, but also expands the value chain to include some new aspects like users' demands researching, solution designing, etc. What's more, it removes the original limitations of infrastructures through requesting the separation of network and business, and it also requests flexibility of network and platform and upgrading or adjusting them based on the different business solutions.

Overall, the new value chain mode of telecom VAS has gone beyond the range of telecom industry, and it combines possible demands for support of telecom network and services in information society with implementation and distribution of telecom services, creating effective support with networks and applications for information society.

## 5. Conclusions

In the new environment, telecom industry is becoming a part of several converged industries in information society gradually from an independent industry which provides telecom products like voice or data. Judging from the industry status quo, the construction of flexible telecom networks still need more time, and the degree of information society also needs to be further upgraded, and applying conditions of the new value chain mode of telecom VAS may be not sophisticated enough. However, it will be necessary to implement gradual transition towards future goals for telecom operators, and the study of this paper will offer certain theoretic guide to operators.

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