

## Rating Methodology by Sector **Telecommunications**

### **1. Business base**

The telecommunications industry is characterized by the fact that it is relatively less susceptible to business fluctuations, because it provides services that are profoundly rooted in the daily lives of users, and in addition, its revenue is derived from monthly fees paid under contract. The telecommunications business requires a government license and the market is generally oligopolistic.

#### (1) Characteristics of the industry

##### (i) Market overview

In the mobile telecommunications market, the number of subscribers continues rising thanks to demand for second handset and new demand resulting from faster data transmission, although the population penetration rate has already exceeded 100%. From the revenue perspective, the number of subscribers to main lines where individuals use their telephone numbers is important, but the market is already quite widespread, and significant growth is unlikely in the future.

In the fixed telecommunications market, the number of subscribers for subscriber telephone (NTT East and West) continues declining. This is a result of diversified means of voice communication through the increasingly common use of mobile and IP phones. This trend is likely to continue for some time. On the other hand, the number of fixed-line broadband service subscribers continues increasing, especially for optical access services. However, the household penetration rate has reached a considerably high level, and the growth may eventually come to a halt.

##### (ii) Competitive situation

Telecommunications services often require government approval or authorization, while developing the necessary infrastructure takes considerable time and money. These factors create high barriers to entry. New entry is difficult, particularly in the mobile telecommunications market because of the limited availability of frequencies needed to provide the services. As a result, the market is largely oligopolized by three groups: NTT, KDDI, and SoftBank. However, competition in the industry continues to be fierce in terms of fees and services. In addition, Rakuten Mobile (a subsidiary of Rakuten Group) launched a full-fledged Mobile Network Operator (MNO) business in April 2020, and competition in the industry needs to be monitored closely.

##### (iii) Cost structure

The cost structure of telecommunications services needs to be considered in terms of the cost of providing services and the cost of acquiring new subscribers. The cost of providing services is characterized by a heavy

burden of fixed costs arising from a certain scale of capital expenditure associated with infrastructure development on the one hand, and on the other hand, by a relatively small variable cost. Therefore, once the number of subscribers exceeds the break-even point, it is often easier to secure profits thereafter.

As for the cost of acquiring new subscribers, the more competition for acquiring new contracts, the heavier the commissions and other fees paid to sales agents. Some services require the payment of tens of thousands of yen for each subscriber. Due to this characteristic, particularly when a new service is launched and new subscribers are aggressively being sought, the subscriber acquisition cost precedes any profitability and the service may operate in the red for a period. The subscriber acquisition cost, however, is recouped by profits from subsequent subscriptions, and the profitability of the service thus needs to be analyzed from a somewhat long-term perspective.

(iv) Risk associated with policy

Many telecommunications businesses require government approval or authorization. The industry includes the NTT Group, which has massive infrastructure and scale. NTT East and West, in particular, are subject to a range of regulations designed to promote competition. These regulations must be monitored, as they can influence the services offered by industry players or even shape the competitive landscape. In the mobile telecommunications business, new frequencies are sometimes assigned to a new telecommunications carrier. The assignment may alter the competitiveness of each company. The nature of government approval or authorization and regulations must be observed from a medium- to long-term perspective.

(2) Important factors in market position and competitiveness

(i) Market position

Telecommunications services require a substantial capital expenditure, and cost cutting may be achieved through large orders in construction, equipment purchases, and other areas. In the mobile telecommunications business, the larger the company, the more cellphone devices it is able to purchase, and this may reduce the purchasing cost per unit. Since, in general, economies of scale can be achieved easily in this industry, market positions and shares are important in the rating decision.

Market shares may change, albeit gradually, with disparities in net increase associated with subscriber acquisition and churn of each company. Changes in market shares are considered one indicator of the current competitiveness of each company, and must be confirmed.

(ii) Advances of telecommunications services

Advances in telecommunications technology makes new services available. The policy of introducing new technology may vary, however, depending on the strategy and situations of the companies, and may affect their competitiveness. Technological advances in the telecommunications business tend to be more rapid than in other industries, and the introduction of new technologies requires attention. Especially in mobile telecommunications, heavier volumes of data tend to be transmitted with greater speed as technology evolves. Technology, therefore, has become one of the criteria for consumers when selecting a carrier.

### (iii) Service fees

Service fees present one aspect for consumers to consider when selecting a carrier or service. A company actively working to attract new subscribers may introduce a structure of fees that are comparatively lower than those of its competitors. Other companies, however, eventually adopt a similar fee structure to reduce the gap, and the effect of acquiring subscribers often does not last long. Yet the effect of price changes on the profitability of each company may not be uniform. A company with a small number of existing subscribers to the service, for instance, can expect growth in revenue because of the significant effect from the acquisition of new subscribers, regardless of fee discounting. Meanwhile, a company with a large number of existing subscribers may suffer an overall loss, as the decline in the revenue from the existing subscribers is larger than the increase from new subscribers. In this case, adequate competitive action cannot be taken and the gap in competitiveness may remain for some time. Understanding the effect of changes in fee structures on the profitability and competitiveness of each company is therefore essential.

### (iv) Status of Infrastructure Development

Infrastructure development is important for carriers to be able to provide stable telecommunications services. Particularly for mobile telecommunications, the extent of service areas, channel capacity and speed affect the service quality, indicating that infrastructure development has a substantial impact on the level of user satisfaction. The expansion of service areas requires an increased number of base stations to broaden the reach of radio waves. Increased channel capacity requires higher density base stations and better efficiency of frequency use through the introduction of large-capacity technology. While both cases need infrastructure development, the cost effectiveness varies depending on the characteristics of the frequencies used, the number of users within the area, and other factors, and the status of infrastructure development may vary depending on the situations and policies of each company. This sometimes causes differences in service areas, channel capacities and speed, and the responses of each company must be confirmed.

### (v) Expansion of non-telecommunications fields

The penetration rate of telecommunications services has reached a fairly high level, and the market has matured to some extent. Therefore, each company is working to strengthen non-telecommunications fields. Specifically, these include content services (e.g., video distribution), point services, and financial and settlement services (e.g., payments, credit cards, investments, and insurance). By utilizing the large customer bases of telecommunications services, each company is able to develop its services more efficiently. Compared to telecommunications services, it is easier for each company to demonstrate its unique characteristics, and this could be a factor in differentiation.

## 2. Financial base

### (1) Business size

The industry can easily achieve economies of scale in capital expenditure, equipment purchase, marketing, and other aspects, and JCR focuses on the number of subscribers and shares in the industry.

Key financial indicators:

- Number of subscribers
- Market share

### (2) Earnings strength

Since revenue from telecommunications services is calculated by multiplying the number of subscribers by average revenue per user (ARPU), it is necessary to pay attention to these trends. The number of subscribers in the overall market is determined by the service penetration, and the number of subscribers of each company varies depending on measures such as fees, phone devices, marketing, communications quality, etc. In terms of ARPU fluctuations, price reductions and reduced frequency of service use are factors for the decrease, while the use of new services and higher frequency of service use are factors for the increase. Movements in these factors must be confirmed to understand trends in earnings.

Key financial indicators:

- Number of subscribers
- ARPU
- Operating income

### (3) Cash flow generating ability

The telecommunications industry requires ongoing capital investment to introduce new technologies and services and to deal with the increased number of subscribers. Companies need an ability to generate adequate cash flow to finance this capital investment. External funds are borrowed in some cases as funds for capital investment, and the balance between cash flow and interest-bearing debt is an important indicator.

Key financial indicators:

- EBITDA
- EBITDA margin
- Ratio of interest-bearing debt to EBITDA

### (4) Safety

New technologies are continuously being introduced in the telecommunications business, and they often result in new services. Maintaining financial health is vital for being able to keep pace with these changes.

Key financial indicators:

- Shareholders' equity
- Debt equity ratio
- Equity ratio

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