

Title: International Competition and Global Standards: Business Model for Standardization as seen in Case Studies

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Executive Summary

Implications for Business Strategy and Standardization

For business enterprises, the primary objectives for taking advantage of standardization include “market creation and expansion” and “cost reduction and improvement of production efficiency.” However, due to the nature of standardization as public goods, each player is equally able to capitalize on the standardized technology and enjoy its merits. In other words, while standardization expands profit-making opportunities for businesses, it does not necessarily promise a competitive advantage or ensure profits for individual companies. For businesses to eventually earn profits through standardization, the key lies in integrating standardization with corporate strategy or business strategy in accordance with the respective conditions for profit-making, while taking into account the nature and impact of standardization.

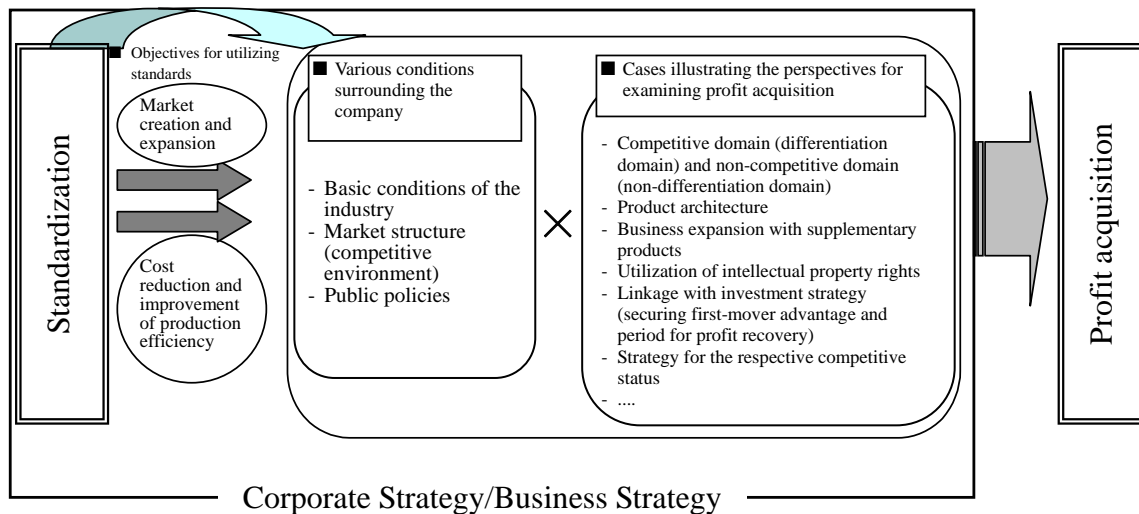
(1) Objectives of Standardization from the Corporate Viewpoint

- 1) Market creation and expansion (influence on the demand side)
- 2) Cost reduction and improvement of production efficiency (influence on the supply side)
 - ⇒ Increased opportunities to earn profits
 - ⇒ Does not necessarily result in competitive advantage or profit acquisition for individual companies

(2) Cases Illustrating the Perspectives for Examining Profit Acquisition

- 1) Competitive domain (differentiation domain) and non-competitive domain (non-differentiation domain)
- 2) Relationship with product architecture
- 3) Business expansion with supplementary products
- 4) Utilization of intellectual property rights
- 5) Linkage with investment strategy (securing first-mover advantage and period for profit recovery)

■ Nature and impact of standards



(1) Objectives of Standardization from the Corporate Viewpoint

1) Market creation and expansion (influence on the demand side)

For many companies, the primary objective for utilizing standardization would be to boost the demand for their products. In addition to creating markets by ensuring product quality and safety, the achievement of compatibility and interoperability can help expand markets when the network externality plays a significant role. Companies have the option of capitalizing on standardization to publicize on the market their high technological standards, toward promoting market creation and expansion. Also, businesses may embrace international standards ahead of others to gain a foothold in the global market. Faced with market expansion in this way, the adoption of an open standard tends to be predominant in the inter-standard competition. An increase in the number of new participants in a standard, in contrast, could lead to intensified intra-standard competition.

Examples in this case study:

DVD/electronic devices, suppliers in the semiconductor industry (manufacturers associated with transport systems), suppliers in the automobile industry (vehicle-mounted unit/parts manufacturers) and memory cards.

2) Cost reduction and improvement of production efficiency (influence on the supply side)

Another objective cited for taking advantage of standardization is the reduction of production cost. This is done in many ways, for instance, by standardization of parts, aimed at alleviating the state of monopoly by a parts supplier, standardization of portions that involved huge development costs to enhance the efficiency of the development project, or introduction of standardization to improve the efficiency of operation processes. However, as in the case of market expansion, the advantages of cost reduction apply to all

companies that adopt the standard, which means standardization merits the industry as a whole through cost reduction, but does not necessarily make any difference to the benefits to individual companies.

Examples in this case study:

Device manufacturers in the semiconductor industry, OEM (Original Equipment Manufacturers) in the automobile industry (automobile manufacturers), and QR code.

(2) Cases Illustrating the Perspectives for Examining Profit Acquisition

1) Competitive domain (differentiation domain) and non-competitive domain (non-differentiation domain)

The areas subject to standardization would be, without exception, the company's non-competitive domain (non-differentiation domain). To promote cost reduction, investment should be concentrated in the competitive domain (differentiation domain), the source of added-values, to promote new product development and production efficiency. In market expansion efforts, the standardization domain should be established in ways that mask the proprietary technological know-how to avoid excessive price competition caused by product commoditization (lower pricing and product dissemination brought about by the loss of differentiation factors).

In making a judgment on the subject and degree of standardization in the competitive and non-competitive domains, the scale of network externality, the degree of users' experience and other requirements of the demand side, as well as the strengths and weaknesses of the supply side, become relevant. For this reason, the demarcation line varies according to the business and type of industry, making it difficult to draw a generalization. Because of deviations in the demarcation line, the establishment of a standard may result in some companies losing their competitive domain. Businesses will need to examine a mechanism of profit acquisition in the coming phases, including the setting of new competitive domains produced by technological innovation.

2) Relationship with product architecture

We have seen a transition in product architecture from "integrated" to "modular" types, reflecting the development of digital technology, distribution of parts and other factors, in line with the adoption of open standards geared toward market expansion. Modular-type products help create a large market but will eventually run into price competition. For this reason, manufacturers will need to either revert the product back into the integrated type, where a competitive advantage can be sustained through technological innovation, or build a mechanism to secure profits even after the product has moved into the modular type. One example is the combination strategy of "modular type on the exterior" and "integrated type on the interior," where the proprietary technological know-how is sealed inside the product, forming a kind of "black box." In this strategy, the manufacturer concentrates the technological know-how that would provide a competitive edge inside the product, while adopting external standards and performance standards. This strategy is relevant to the demarcation of the competitive domain (differentiation domain) and non-competitive domain (non-differentiation domain) mentioned in 1) of this section.

3) Utilization of intellectual property rights

While it is generally understood that intellectual properties are private assets and standards are public assets, there exists an approach of integrating intellectual property inside a standard. The strategy of capitalizing on standardization to intentionally let others use one's intellectual property can play an important role. This strategy is relevant to the mechanism of securing profits even after the product has shifted into the modular type as mentioned in 2) above. Still, it will be necessary to concurrently incorporate effective police functions for royalty recovery.

4) Business expansion with supplementary products

When a manufacturer's main business domain is standardized directly, the product will eventually run into price competition, making profit acquisition difficult. However, there is an alternative approach of expanding business using a supplementary product to the one that has become popular on the market by standardization. The manufacturer will be able to make profits if it has a competitive advantage on the supplementary product market, incorporates intellectual property, or has an edge in other aspects: for instance, launching the contents business after popularizing DVDs and turning out profits from core parts of a popular finished product on the market. A variation of this approach can be seen in the field of the QR code. The QR code was originally introduced by a manufacturer to slash its own supply chain costs. After promoting the adoption of the QR code in other industries as part of their infrastructure, the manufacturer then proceeded to launch the business of marketing code readers.

5) Linkage with investment strategy (securing first-mover advantage and period for profit recovery)

The strategy focused on the time axis to secure first-mover advantage before the competitors catch up also assumes an important role. When, for instance, standardization has succeeded in reducing production cost, manufacturers must lose no time in expanding business through large-scale investment. Lagging behind competitors means losing the first-mover advantage, making it difficult to recover the cost of investment in development associated with standardization. Manufacturers should at this point establish an investment strategy to incorporate the fruits of standardization ahead of others. Similarly, it is also important to examine the timing for formulating the next-generation standard to facilitate the recovery of ongoing investment in development.

These strategies depend on the positioning of management and business strategies in relation to the company's standardization activities, which are also associated with the functioning of in-house organizations involved in standardization.

6) Strategy for the respective competitive position (in the case of a leader, challenger, follower or nicher)

Business models and strategies designed for profit-making differ according to the company's competitive status -- as a leader, challenger, follower or nicher -- which is associated with the linkage with investment strategy outlined in 5) of this section. For instance, while leaders adopt standardization strategies, involving others in price

competition sometimes translates into an advantage for followers, because they are able to catch up with less investment. Leaders, on the other hand, need to rely on prompt investment and product innovation to launch new products one after another, to sustain the first-mover advantage.