



The Relationship between M&A and Innovation



Gu Sang Kang

Ph.D., Associate Research Fellow, Americas and Europe Team
Korea Institute for International Economic Policy

Innovation has attracted much attention among firms as well as researchers. First, firms allocate a huge amount of funds to R&D expenditure for their innovation in products and production processes because firms' long-run growth depends on innovation. Second, researchers have investigated diverse factors affecting firms' innovation in order to answer fundamental questions on sustainable innovation. As Schumpeter suggests in his seminal work, *Capitalism, Socialism, and Democracy* (1950), firm size plays an important role in firms' innovation. For example, large firms can easily realize innovation because they are more likely to possess many useful resources such as more skilled scientists and high-quality equipment than small firms. In this regard, mergers and acquisitions (M&As) have been used as one of the most preferable strategies for firm growth through innovation.

The motivations for M&A have changed mainly because the nature of technologies is changing. In other words, while one of the traditional motives of M&A was to achieve economies of scale by simply purchasing other firms with similar products and related technologies, reducing costs via scale economies is not the main driver for recent M&A waves. Rather,

these waves are more likely to originate from unanticipated shocks to the existing industry structure suggested in Andrade, Mitchell, and Stafford (2001). In conjunction with the flow of the 4th industrial revolution, innovations have been realized in diverse technologies such as the Internet of Things (IoT) or artificial intelligence (AI). Due to the complicated nature of these technologies, as well as their rapid pace of change, firms buy innovative startups that already deal with the cutting-edge technologies rather than investing in in-house R&D. For instance, Alphabet (the parent company of Google) purchased DeepMind for \$0.5 billion, Apple acquired Beats Electronics for \$3 billion, and Facebook bought WhatsApp for \$19 billion.

Then, what are the implications of these changes in the nature of recent M&A waves? At present, firms and academics in South Korea are mostly concerned with the lack of workers with expertise in areas related to the 4th industrial revolution. By acquiring firms with high-skilled experts, existing firms can save the time and costs necessary not only to educate workers without technological background but also to catch up with cutting-edge and promising businesses. Clearly, the main objective of these M&As is not achieving economies of scale. This is supported by the fact that these firms acquire smaller innovative firms, paying a relatively cheap price for these M&As compared against deals for scale economies. As a case in point, the number of acquisitions made by the big 4 (Google, Apple, Facebook, Amazon) among the top 10 IT firms during 1991-2018 was 445 over 1,258 (35%), while the total amount spent on these acquisitions was about \$82 billion over \$388 (21%). These relatively small deals contribute to realizing innovation in large IT acquirers rather than achieving scale economies. For example, Google is poised to become a leading company in the area of smart healthcare, treating patients based on their clinical big data, due to its acquisition of DeepMind, which specializes in AI and machine learning.

Moreover, the new paradigm associated with recent technologies requires firms to change their motives for M&A. The paradigm is summarized by the platform economy. In particular, digital platforms provided by major IT firms will become a big part of our lives. This implies that network effects are a key factor for firms' sustainable growth. The more users these platforms have, the higher profits the firms earn. In this regard, acquiring innovative firms with diverse technologies and services can attract more customers, meaning this could be the best strategy for existing digital platform firms seeking profit-maximization through innovation. Facebook's purchase of WhatsApp is a good example of this M&A strategy. With the acquisition of client applications such as WhatsApp Messenger and WhatsApp Business, Facebook became able to connect a number of customers to other users as well as business owners, encouraging communication between them.

To sum up, firms have difficulty in achieving innovation because the latest technologies are constantly changing. For this reason, firms may find themselves unable to catch up with technological trends while investing in in-house R&D. Furthermore, they cannot achieve long-run growth without continuous innovation. Therefore, acquiring innovative firms can be an option to tackle these issues. Even though the number of M&As in South Korea have been increasing, this is still too few when compared to those in other advanced economies seeking innovation-led growth. Once policy support for technological M&A and deregulation are combined, we will be able to play an important role again in the era of the 4th industrial revolution. **KIEP**

References

Schumpeter, J. A. 1950. *Capitalism, Socialism and Democracy*. New York: Harpers and Brothers Publishers.

Andrade, G., Mitchell, M. and E. Stafford. 2001. "New Evidence and Perspectives on Mergers," *Journal of Economic Perspectives*, Vol. 15, No. 2, pp. 103-120.