An Introduction to the Special Topic Forum on Platform Theory and the Perspective of Dynamic Capabilities

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This issue of JSMS features “platform strategy and the perspective of dynamic capabilities.” In accordance with the rise in importance of platform strategy and dynamic capabilities in the IoT/AI and GAFA/5G era, Vol. 10, No. 1 of JSMS featured platform strategy while Vol. 11, No. 1 featured dynamic capabilities. However, these two areas largely overlap. For example, while automobile manufacturers are pressed to cope with attacks of platformers including Google in the CASE area—namely, connected cars (C), autonomous vehicles (A), share driving (S), and electric cars (E)—by adjusting or changing their existing strategies, many companies are also concerned with the challenge of reconfiguring existing resources in order to realize new strategies. Examples of this are reconfiguring existing technologies or acquiring vital technologies from outside the company, which are challenges addressed by the perspective of dynamic capabilities.

Based on this recognition, this issue is launched to examine the issues concerning the areas where platform strategy and dynamic capabilities intersect, such as determining which strategies automobile manufacturers should pursue by modifying existing strategies and how to reconfigure existing resources to realize such strategies.

This introduction outlines three papers included in this issue. Since each paper is relevant to the business model of platformers including Google to varying degrees, a brief summary of Google’s business model follows.

Google’s Business Model

**FIGURE 1** is an illustration of a simplified business model of Google.\(^1\) The rectangle in the center shows that Google has its mainstay products Android OS (Operating System), Google Apps, Google Chrome (browser), and “Android Auto.” The ellipses represent Google’s stakeholders such as consumers, device/app manufacturers, system-on-chip (SoC) vendors, and the open source software (OSS) community, i.e., a consortium consisting of individuals and organizations who utilize and contribute to Android OS.

**FIGURE 1** shows firstly that Google’s business model consists of three two-sided platforms and one one-sided platform. The red triangle formed by Google, consumers, and device/app manufacturers represents one of the two-sided platforms. In this platform, Google sells (or provides) Google Apps/Chrome to consumers (one side) as well as “producing and selling rights” of relevant products to manufacturers (another side), meaning the company faces a two-sided market. The blue triangle, consisting similarly of Google, consumers, and device/app manufacturers, represents a second two-sided platform. Through this platform, Google sells Android Auto to consumers (one side) as well as “producing and selling rights” of relevant device/apps to manufacturers (another side). The green triangle represents the final two-sided platform, but this platform is formed between Google, SoC vendors, and device/app manufactures. In this platform, Google sells “producing and selling rights” of SoCs to SoC vendors (one side) and sells “producing and selling rights” of Android OS, Google Play Store, and the Chrome Web Store in the rectangle representing Google.

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1 A more accurate figure should include another red triangle formed between Google, consumers, and “advertisers” and place, Chrome OS, Google Play Store, and the Chrome Web Store in the rectangle representing Google.

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As for the one-sided platform mentioned above, it is the platform named “OSS Community,” which was supported and is maintained by Google. The OSS community is crucial to Google’s competitiveness because Google Apps/Chrome Browser and Android Auto depend on Android OS, which is supported by the OSS community.

FIGURE 1 secondly shows that there are two aspects to Google’s activities. One is “Strategy,” which concerns determining prices for various products as well as dealing with “producing and selling rights,” and is seen above the dotted crimson line. The other, “Resources,” concerns maintenance of competitiveness of Android OS and is seen below the dotted crimson line.

Next, we will introduce the positioning and contents of the three papers involved in this special topic forum.

Nakamura

The first paper we are introducing focuses on the platforms represented by the green triangle and the OSS community in FIGURE 1. Nakamura states that one of the major causes of recent downturn and low profitability seen by Japanese enterprises including small- to medium-sized enterprises (SME) is the lack of open source strategies or tools, which is further reduced to a certain degree of “psychological resistance” to use of open source tools. That is, while Japanese enterprises recognize that open source is desirable in terms of both cost reduction and effectiveness, they fear the risks of delivering lower quality products due to utilization of open source.

Nakamura proceeds to examine the case of Google and reveals that Google ambidextrously uses both open and closed strategies, realizing high performance while avoiding psychological resistance because of the following reasons. The open strategy allows Google to utilize contributions of participants in the OSS community in a thorough manner, which in turn provides a mechanism by which stakeholders can reduce costs and use Google Apps without transferring money along the supply chain. The closed strategy clarifies the elements that can be differentiated to maintain competitiveness of products and acquire resultant profits.

Nakamura then suggests that companies should
maintain clear policies when distinguishing which areas are “open” and “closed.” This means that management decisions, including decisions on which pillars to pursue for SMEs and how to design systems to support those pillars, influence open strategy.

Finally, Nakamura states that Google’s business model for Android OS is a useful case study on the integration of platform and DC strategies because Google’s platform strategy combines dynamic resource capabilities (DRC) and dynamic strategy capabilities (DSC). To clarify, Google’s management of the OSS community (through the execution of DRC) contributes to producing quality-guaranteed Android-based devices, which in turn enables Google’s strategy (through execution of DSC) of providing Android OS ‘for free’ to SoC vendors and obtaining revenue from device makers.

Kawai

The second paper is written by Kawai. Kawai states that automobile manufacturers including Toyota Motor Corporation (Toyota) are struggling to not only change their strategies but also reconfigure their resources in order to survive the “war” against GAFA—specifically against Google—in facing a once-in-a-century stage of innovation in the automotive industry called CASE. Based on this thought, Kawai assesses the progress of Toyota’s survival strategy concentrating on connected cars (C) based on the theory of dynamic managerial capabilities (DMC) developed in Kawai (2018) and the framework of dynamic platform strategy developed in Kawai (2019).

First, Kawai deduces a typology of the possible defense strategies of Toyota based on examination of existing research concerning the theme. He then proceeds to sketch the locus of Toyota’s efforts for defense and assess the company’s intermediary performance in reference to the above typology. Finally, Kawai’s evaluation shows that Toyota’s performance assessed by the extent of progress in measures taken is not necessarily poor as of today albeit there are substantial concerns, but it is too difficult to predict a final outcome.

The implications Kawai presents concerning future research are as follows. First, the effectiveness of the theory of DMC in analyzing the conditions of survival for companies stricken by changes in environment and prescribing solutions for those companies is exemplified. While the fundamental assertion of the theory of DMC is that companies must change not only their strategy but also resources in order to survive, Toyota’s efforts in connected cars are shown to involve both.

Second, as part of the above point, the effectiveness of the framework of dynamic platform theory, i.e., the crossing-type framework, is also verified. Kawai exhibits that the crossing-type framework is useful in analyzing the defense strategies of Toyota regarding attacks by platformers against connected electric control unit(s) (ECU) and integrated electric control system(s) (ECS).

It is expected that both empirical research applying the theory of DMC to similar phenomena dealt with in this paper and theoretical research elaborating upon theory based on empirical research will accelerate in order to contribute to the survival of companies in the era of GAFA and 5G.

Takakuwa

The final paper, written by Takakuwa, concerns competition between platformers in two-sided markets and calls for a substantially different analytical framework from that of the existing theory from Porter about one-sided markets. Takakuwa uses Nintendo as a case, through which he states that the company’s high-cost structure for maintaining software quality involved the elimination of smaller companies. The elimination of these companies resulted in a lack of software and decline in Nintendo’s market share in the late 1990’s. Takakuwa shows that certain platform operators harm their ecosystem through rational strategic decisions like this.

Based on this recognition, Takakuwa discusses the conditions that lead platform operators to harm their ecosystem as his build-up to developing a competitive, long-term strategy for platforms. Takakuwa considers in his paper two complements with one-way indirect network effect, namely durable and non-durable complements. Durable complements, like smartphone devices or PCs, impart a negative indirect network effect to another side. For example, too much variety in hardware swells optimization
costs for software developers. Takakuwa demonstrates that, under these conditions, if two-platform operators intend to maximize their market share, they will have to decrease the diversity of one type of complement. Accordingly, the profit structure of the platforms should be developed to exploit simultaneously the potential of multi-complement markets.

Takakuwa succeeds in constructing a model applicable for deducing useful implications in realistic situations concerning inter-platform competition, and his paper is a promising start toward developing a competitive, long-term strategy for platforms that remains uncultivated despite its practical importance for businesses’ survival in the GAFA era.

REFERENCES


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