

System Dynamics Analysis of Network Externalities in Complex Market Structures, Part II: Basic Strategy for Re-entry and New Product Distribution

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In the previous conference, we proposed the existence of network externalities in both product and its complementary goods, and the archetype signifying the market share process when two products with such attributes compete. As a case study of this archetype, two major Japanese home video game players, SONY PlayStation and NINTENDO 64 were considered. It was shown that the hardware

together with its complementary goods, software titles, and the corresponding distribution dynamics contributed to the market dominance of the PlayStation.

In this paper, the research is expanded, proposing a model that represents and forecasts the process of market share increase by a new entrant into the market characterized by the market "Lock-in" by a single product possessing network externalities. In the Japanese market, Sega initiated the market re-entry with the introduction of its new product, DreamCast in Nov. 1998. Due to the re-newed advertisement, distribution, and product development, the first lot of 150,000 units were sold out within a few hours. The achievement of 1 million units sales is expected in a short period of time. Sony, to maintain its market dominance, has initiated a price reduction of PlayStation.

In this paper, using the re-entry of Sega as the case, the feasibility of the effects of advertisement, spread of re-newed purchase decision standard to the potential needs layer, pricing strategy, and Sony's competitive strategy, in addition to the network externalities, are discussed on the model.