

Social Consumption, Learning, and Product Completeness in TV Drama Live and Time-Shifted Viewing: Implications for Drama Producers and Advertisers

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Abstract

Despite its important implications for TV program producers and advertisers, few studies have investigated consumers' decisions in regard to live versus time-shifted viewing. In this paper, using unique individual-level data on TV serial dramas viewing behavior in Japan, we (1) study how consumers make decisions regarding TV viewing behaviors between live and time-shifted viewing, and (2) investigate the roles of potential behavioral factors such as social consumption, own/social learning, and product completeness in influencing consumers' decisions regarding drama viewing behavior over the course of drama.

To both drama producers and advertisers, how the availability of time-shifted viewing affects consumers' live viewing behaviors is difficult to understand. They are mainly concerned with consumers' live viewing because consumers may skip TV advertising in time-shifted viewing, and they think time-shifted viewing makes consumers less likely to watch TV dramas live. On the contrary, the availability of time-shift viewing allows consumers who missed an episode to catch up, which could result in a higher chance of live viewing for the next episode. Thus, it is an empirical question to study how the availability of time-shifted viewing affects consumers' live viewing behaviors.

Overall, we found consumers' decisions regarding live versus time-shifted viewing are affected by three important behavioral factors: social consumption, own/social learning, and product completeness. First, consumers derive utilities not just from watching dramas but also talking about dramas with friends/colleagues online and offline. Thus, consumers' decisions to watch a drama (and continue watching it) depend on how much they enjoy the content (own consumption), as well as talking about it with friends (social consumption). Second, dramas are experience goods, and consumers learn about how much they enjoy (own match value) via own consumption (own learning), and they may also become aware of or interested in a drama via others' consumption (learning from others). Last, watching all episodes (sequentially) is critical, and this suggests that consumers need to commit to watching all episodes to fully enjoy a drama. Learning from consuming the first few episodes can be important in deciding whether or not to commit to finishing the series.

To answer these questions, we develop a dynamic structural model of serial TV drama viewing behavior by forward-looking consumers, and apply it to 52 serial dramas broadcast in Japan between 2017 and 2018. Our key contribution is to incorporate the three key mechanisms (social consumption, learning, and product completeness) into the dynamic model. Particularly, we capture social consumption by looking at a difference in utility between live viewing and time-shifted viewing and model learning about a drama

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quality in a standard Bayesian framework. In addition, we assume that consumers are forward-looking and choose an option for each episode of a drama by maximizing the present discount value of current and future utilities. Because each drama has a finite number of episodes, the time horizon is finite. As a validity check, we also apply the proposed model to 9 language educational programs and find different roles of the behavioral factors.

Using the structural parameter estimates, we first examine how the availability of time-shifted viewing cannibalizes live viewing. At first sight, it appears that eliminating the option for time-shifted viewing increases live viewing via two channels: First, consumers no longer have an option for time-shifted viewing, so some consumers might switch to live viewing. Second, because consumers expect more of their fellow consumers to choose live viewing, those who experience a positive effect from social consumption are more likely to watch live. However, the lack of time-shifted viewing will also cause some consumers to not watch at all, and these consumers may not come back for the next episode because of the no learning effect and/or product completeness effect. As a result, although disabling the option for time-shifted viewing can have a positive temporal effect on live viewing, in the long run, it can have a negative impact. Which effect dominates in terms of overall live viewing across episodes is an empirical question. Our results provide managerial implications for TV drama producers and advertisers.

Keywords: TV Viewing, Social Consumption, Bayesian Learning, Product Completeness, Dynamic Programming