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Keep it, shave it, cut it: A closer look into consumers' video viewing behavior

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Abstract The convergence of communications, information, entertainment, commerce, and computing—combined with a rising number of new services—has caused changes in the way people access and consume media. In recent months, the phenomenon of viewing audiences shifting wholly or partially from cable TV providers to over-the-top (OTT) media, also known as cord cutting or cord shaving respectively, has gained much attention. Despite anecdotal evidence of cord cutting and cord shaving presented in the trade press and industry conferences, there has been little rigorous examination of the true effect that cord cutting or cord shaving may have on TV networks and the media industry at large. In this article, we use behavioral data from a leading cable operator in the U.S. to identify and describe the key viewer segments. We also conduct simulations to examine the effects and implications of cord cutting and cord shaving from a customer lifetime value perspective for content providers, content distributors, and advertisers.

1. The cord-cutting phenomenon

Broadband, mobile technology, and networks have transformed previous occasional connections to the internet into 24/7 interconnectivity (Bradley & Bartlett, 2011). As a result, the value and impact of the broadband network has increased, resulting in the convergence of communications, information, entertainment, commerce, and computing (Shankar & Balasubramanian, 2009). This convergence, combined with a rising number of new services and demographics, has changed the way people access and consume media. As a result, we now live in the age of the connected consumer: one who accesses content on multiple devices and whose internet usage might soon surpass traditional media such as TV, which have typically dominated media consumption in the past. These changes,

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along with the increasing digitization of the media ecosystem, have led to the emergence of cord cutting, a phenomenon that has and will continue to raise concerns among executives in the telecommunications and media industries across the globe.

The phenomenon of cord cutting first emerged in the telecommunications industry. It was meant to describe the substitution of fixed-line phones in favor of mobile phones. To distinguish it from other forms, it is often called audio cord cutting. The large scale penetration of high-speed internet (HSI) and smartphones has now led to the second wave of audio cord cutting, and mobile operators face a reduction in voice calls due to internet calling services and smartphone applications (Shin, 2012).

The TV industry is not immune to this phenomenon. In the past few years, traditional cable companies referred to as Multiple System Operators (MSOs) have faced growing competition from Netflix, Amazon Prime, and other video streaming providers. Furthermore, content providers such as HBO have started offering streaming services that bypass traditional cable packages. Such services are referred to as over-the-top (OTT) media or online video distributors (OVD) and are defined as services that generally cover all regions capable of receiving HSI service.

The phenomenon of viewing audiences shifting from cable TV providers to OTT media has been referred to as video cord cutting, "the process of switching from traditional cable, IPTV, or a satellite video subscription to video services accessed through a broadband connection, the so called over-the-top (OTT) video" (Alleman, Fontaine, Katz, & Le Champion, 2013, p. 9). Online video is accessible via multiple internet-enabled devices including computers, smartphones, tablets, gaming consoles, television sets, and other equipment (FCC, 2015). The widespread availability of HSI and the growing number of OTT media have led to changes in media usage patterns and video viewing behavior (Cha, 2013a; Crawford, 2015; Kim, Kim, & Nam, 2016). A recent survey by Digitalsmiths found that 8.2% of subscribers plan to cut the cord, while over 45% intend to reduce the level of service or decrease the number of channels. In terms of revenues, it is expected that global OTT television and video revenues will reach $51.1 billion in 2020—a substantial increase from the $4.2 billion recorded in 2010 and the $26.0 billion in 2015 (Research & Markets, 2015). Despite these reports, many remain skeptical of the true effect cord cutting may have on the industry.

There is a limited number of studies published in scholarly journals addressing the cord cutting phenomenon (e.g., Banerjee, Alleman, & Rappoport, 2013; Banerjee, Rappoport, & Alleman, 2014; Cha, 2013b; Ganuza & Viecens, 2014). The main objectives of our study are as follows. First, using behavioral data from one of the leading MSOs in the U.S., we investigate the extent to which viewing behaviors such as cord cutting and cord shaving are actually prevalent. Second, we use a Markov Chain Model (MCM) to examine the effects of behaviors on content providers and MSOs. Third, simulations are also carried out to further investigate these effects in the event that these behaviors become even more significant in the future. Based on these results, we explain the implication of changing video consumption patterns for various stakeholders in the media industry.

2. The keepers, shavers, cutters, and nevers

In order to assess the full effect of cord cutting, we first need to understand the key consumer segments, their size, and potential. Banerjee et al. (2014) and Strangelove (2015) suggested that consumers tend to fall into four segments based on their video-viewing behavior: (1) cord loyalists, (2) cord couplers, (3) cord cutters, and (4) cord nevers.

Banerjee et al. (2014) defined *cord loyalists* as households who will continue to use pay TV and are not interested in OTT options. These consumers are older, not as tech savvy as the younger consumers, prefer to maintain a status quo regarding their TV subscription, and do not provide a threat to existing MSO business models. The second segment is *cord couplers* (also referred to as *cord shavers*), who use both pay TV and OTT services depending on their needs and lifestyle (Banerjee et al., 2013, 2014). *Cord cutters* are those users who stopped using pay TV in favor of OTT services. These are predominantly younger, tech-savvy consumers (Banerjee et al., 2013, 2014). Because these consumers have lower income but are tech savvy, the internet seems a perfectly viable cost-cutting option, so they cancel their cable subscriptions in favor of various OTT services. The last segment is *non-pay TV* users (also known as *cord nevers*) who have never even used pay TV, and use OTT services exclusively (Banerjee et al., 2013, 2014). Banerjee et al. (2014) argued that most consumers will fall into the cord-coupler segment, trying to get the most of both services.

Prior anecdotal and academic work has primarily focused on these four segments of video consumers. However, as this study reveals (see Section 4), the different patterns of video choice and consumption result in many more segments.