

Streaming Vs. Download – Are They Similar Digital Goods? The Difference between Access–Based Digital Goods and Ownership–Based Digital Goods

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〈 ABSTRACT 〉

Numerous products have been created in a digital format in the era of digitization. At an early stage, such products were provided in the format of individual digital file, requiring the individuals to own products by downloading them on the personal devices. With the development of Internet network, people began to consume digital goods in a new mode called 'streaming.' Streaming is a service provided through access-based consumption mode based on Internet network. Rather than downloading each file, individuals can utilize such product and services by connecting the network to their own devices. Access-based digital goods are distinguished from traditional ownership-based digital goods such as downloaded contents, in that permanent ownership is not allowed. Taken this into account, this study attempts to investigate how individuals' perception toward digital goods, the psychological ownership, differs according to the consumption mode. The results show that individuals feel less psychological ownership toward access-based digital goods than ownership-based digital goods. Our study provides several avenues to both theory and practice.

Key Words: Digital goods, Access–based Consumption, Ownership–based Consumption, Psychological Ownership

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1. Introduction

In the digital era, the form of products has changed from physical form to digital form. Especially, for hedonic products like music, book, movie or video games, this transformation was salient (Shin and Lee 2016). Individuals can consume those products in a digital format by downloading digital files without purchasing physical copies (Park 2016). Digital goods exist without embodiment in a physical form, so this disembodiment of digital goods becomes a critical characteristic that distinguishes them with physical goods in the marketplace {Bhattacharjee, 2011 #397} (Bhattacharjee et al. 2011). Despite the growth of digital goods, physical goods still appear to retain certain amount of allure in spite of advantageous features of digital goods. Physical sales of videos (i.e. DVD, Blu-ray) has been following upward trend and the sales of print books still dominate the sales of e-books (Digital Entertainment Group 2016; Pew Research Center 2016). The materiality of physical goods makes easier for individuals to touch, manipulate, and appreciate compared to digital goods, and these largely help individuals feel more psychological ownership from physical goods (Peck and Shu 2009). In the aspect of psychological ownership, individuals still valued physical goods more than digital goods (Atasoy and Morewedge 2018). Beyond downloading, since late 2000s, digitized goods have been provided to consumers in an access-based mode, which is based on the Internet network. For example, individuals can watch movies or soap operas through Netflix without purchasing DVDs or videos and even downloading movie files. When individuals want to listen to music, they can just

subscribe Spotify streaming service without playing CDs purchased from record stores or downloading music files from iTunes. The introduction of access-based services in the digital goods market seemed to substitute the traditional physical goods market more than existing download-based services did. The sales of access-based digital goods is also occupying a significant part in the sales of digital goods, but the specific impact of these access-based digital goods needs further investigation. In consuming the access-based digital products, the permanent ownership is not ensured (Chen 2009; Lee et al. 2020), so the perceived control over access-based goods will be established less. Drawn from these findings, we conjecture that individuals may feel less psychological ownership toward access-based goods than they feel from ownership-based consumption products. This difference in psychological ownership among digital goods may influence the intention to have physical copies. Also, it has been argued that identity relevance leads individuals to establish psychological ownership toward goods (Morewedge and Giblin 2015; Weiss and Johar 2013). We therefore examine the moderating role of identity-relevance toward goods in the relationship between consumption mode and intention to purchase a physical copy.

To summarize, this study attempts to investigate how the consumption mode of digital goods is related to the consumer's intention to purchase physical goods in the concept of psychological ownership. There are few studies comparing these two types of digital products (access and ownership) and connect them to physical products. Through collecting survey data from individuals who have an experience of consuming digital goods in

either access-based or ownership-based mode, this study demonstrates the difference between access-based digital goods and ownership-based digital goods and analyzes how the experience in each digital product impact the purchase of physical goods.

2. Theoretical Background

2.1. Psychological Ownership toward Digital Goods vs. Physical Goods

Psychological ownership means a sense of possession that an individual feels toward an object that the individual view as an extended self (Peck and Shu 2018; Seo and Park 2018). A main antecedent of psychological ownership is perceived control that can be established by possessing, manipulating, or touching the goods (Peck and Shu 2009; Pierce et al. 2003; Reb and Connolly 2007). Therefore, individuals feel psychological ownership more toward physical goods than digital goods, because perceived control over physical products can be established more easily by holding or touching them than digital goods. There are a few studies addressing that individuals value digital goods and physical goods differently. In the context of movies and books, Atasoy and Morewedge (2018) found that individuals value physical goods more than digital goods as they feel more psychological ownership toward physical goods than digital goods. Giles et al. (2007) demonstrated that the larger social identity-signal found in physical recording goods increases the value of physical goods relative to that of digital recording goods (e.g. mp3 files). In

addition, individuals consider digital goods less stable and permanent than physical goods as digital goods are less tangible (Belk 2013; Petrelli and Whittaker 2010; Siddiqui and Turley 2006). Watkins and Molesworth (2012) also emphasized that digital virtual possessions appear to lack of characteristics that derive attachment from material possessions, so the psychological ownership towards digital possessions is lower than that from material possessions. However, Sinclair and Tinson (2017) addressed that individuals feel psychological ownership toward digital music while they spend creative effort in the production of contents, like playlists.

2.2. Access-based Consumption

The psychological ownership that individuals feel is greater for physical goods than digital goods as described above, but most of digital products described in previous studies are ownership-based products such as downloaded e-book, downloaded music files, or stored digital photos. The mode of consumption is divided into two different modes: accessed and purchased, and each corresponds to streaming and download in the digital goods context (Bardhi and Eckhardt 2012; Nguyen et al. 2014). Ownership-based consumption is the traditional way of digital goods consumption that allows consumers to download the digital files of book, music, or movie and save them permanently on their devices. Although some platforms limit the period for downloading, downloaded files can be played permanently once they are stored on devices. On the other hand, access-based consumption does not allow permanent ownership of products. Access-based consumption refers to transactions mediated

by market where the transfer of ownership does not take place (Bardhi and Eckhardt 2012). An exemplar application of access-based digital consumption is a streaming service (Lee et al. 2020), which allows consumers to access contents through Internet connection but not permanent ownership (Doerr et al. 2010). Digital products in access-based consumption platforms have not considered very much yet.

The concept of access-based consumption has received attention first among physical products and indicated as rising business model in various areas like book-rental (i.e. public library), car-sharing (i.e. Zipcar), or clothing-sharing (i.e. Rent the Runway). Previous studies on access-based consumption have focused on the access of physical products, such as books, cars, artworks, or toys (Bardhi and Eckhardt 2012; Chen 2009; Ozanne and Ballantine 2010). Historically, access-based consumption of physical goods has been considered as an inferior consumption mode (Ronald 2008). Individuals seemed to feel less psychological ownership to those rented products than purchased products, so they valued rented products less than owned products (Chen 2009). However, this seems to be different in the market of digitized goods. Access-based digital products are not seen as an inferior consumption than ownership-based digital products, because accessed digital goods are provided as clean as new products and the access to digital products are not limited to time and places. In the case of physical products, individuals cannot access products until others who came earlier return them in certain places. On the other hand, digital products are copied easily and unlimitedly, so individuals can access them regardless of time and places. In the context of music, Sinclair and

Tinson (2017) argued that individuals feel psychological ownership toward music streaming as they spend creative effort in the production of contents, like music playlists. They also addressed that individuals can feel psychological ownership through streaming service as they can present themselves by sharing their playlists with others through social network services. This is because individuals experience a perception of ownership over an object when they use that object to get control over their environment (Liu et al. 2012). Psychological ownership is garnered when the perceived control is established over the product, but the perceived control will be established less in access-based products because individuals cannot fully own and manipulate them (Peck and Shu 2009; Pierce et al. 2003; Reb and Connolly 2007).

2.3. Physical Goods and Access-based Digital Goods

Still, individuals seemed to want to own a physical copy of products as the sales volume of physical copies increased recently. Sales amount of physical copies of movie (i.e. DVD or Blu-ray) have kept increasing trend and the share of printed books have increased slightly as well (Digital Entertainment Group 2016; Pew Research Center 2016). Even in the recording industry, there has been a slight revival of physical recordings such as vinyl (IFPI 2017). This phenomenon has been observed since 2010s when the consumption mode of digital goods were prominently separated into two modes.

Bardhi and Eckhardt (2012) suggested that access-based consumption might lead to ownership of physical goods

in the context of car-sharing service. They showed that car-sharing users got used to driving cars, and began desiring buying their own cars. Similarly, digital access-based consumers may be used to consuming enormous numbers of contents as they can access unlimited number of them. Moreover, individuals may access digital contents more often than they did before the introduction of access-based services (i.e. streaming service, e-book rentals), because of the greater volume of contents available to them on digital platforms. As individuals get used to consuming digital products, they may find favorite digital contents and this will lead individuals to desire for owning those contents.

2.4. Identity Relevance

Identity relevance refers to establishing an association between goods and the self (Dommer and Swaminathan 2013). Identity relevance is a significant precursor for the associations between the object and the self, that relate to psychological ownership for goods (; Morewedge and Giblin 2015; Weiss and Johar 2013). Individuals are likely to enjoy positive perceptions of themselves, so the perceived value of the goods tend to increase when individuals consider those goods as part of themselves (Beggan 1992; Dommer and Swaminathan 2013; Shu and Peck 2011). Once individuals establish psychological ownership for a product, an attachment to the good is formed by associating the good with the self (Belk 1988; Morewedge and Giblin 2015; Weiss and Johar 2013). As a result of the attachment to the goods, individuals desire to own it because the ownership of objects helps individuals define themselves, express self-identity to

others, and maintain self-continuity across time (Cram and Paton 1993; Pierce et al. 2003). In summary, this kind of identity release will create a psychological ownership by forming a relationship between the object and the self, which will establish attachment to the object and individuals with this attachment will try to own it in real. Therefore, this paper considered identity reliability in measuring an intention to purchase the physical product. Considering the consumption mode, access-based goods do not allow individuals to own products permanently and this will decrease individuals' psychological ownership to the goods. To garner this psychological ownership more, individuals will desire to possess ownership-based goods that imbues them with greater psychological ownership.

3. Hypotheses Development

As noted above, prior studies have addressed that the materiality of physical goods inoculate consumers with a greater sense of perceived control over physical goods than equivalent digital goods and this results in a greater psychological ownership for physical goods than digital goods (Atasoy and Morewedge 2018; Peck et al. 2013; Peck and Shu 2009; Pierce et al. 2003). The expected ownership of goods becomes an antecedent of psychological ownership (Marzilli Ericson and Fuster 2011). In fact, individuals felt more psychological ownership toward purchased goods (cars, books) than rented goods as they do not expect to own the accessed goods (Bardhi and Eckhardt 2012; Chen 2009). Similarly, as access-based digital consumption (i.e. music streaming

services, video streaming services, e-book rentals) does not ensure the permanent access to products unless they pay for monthly subscription, psychological ownership toward streaming goods will be lower than downloaded digital files. On the other hand, Pierce et al. (2003) addressed that some individuals feel psychological ownership in a certain degree when they invest an effort in the creation of contents. Sinclair and Tinson (2017) added that individuals feel psychological ownership while they spend an effort in making playlists in streaming services. However, they can also make a similar effort in the creation of contents through ownership-based services (i.e. making playlists with mp3 files). Individuals can feel psychological ownership more when they create contents with ownership-based digital goods than with accessed digital goods, because they know that created contents with access-goods may be expired unless they repay for the streaming services. Thus, we propose that individuals who consume access-based digital goods feel less psychological ownership to them than individuals who consume ownership-based digital goods.

H1: Individuals feel less psychological ownership to access-based digital goods than ownership-based digital goods.

Due to the difference of psychological ownership between access-based consumption and ownership-based consumption, the relationship between digital goods and physical goods may also be different from the past. As Atasoy and Morewedge (2018) addressed, individuals value physical goods more than digital goods, because the materiality of physical goods inoculate them with a

greater psychological ownership. Due to this materiality and psychological ownership, some individuals are more likely to purchase physical goods than digital goods (Petit et al. 2019). If individuals who consume access-based digital goods feel less psychological ownership, the perceived value difference between physical goods and digital goods will be higher for them than others consuming ownership-based digital goods. When they want to feel greater psychological ownership toward goods, they may purchase physical goods because the psychological ownership is imbued by the materiality of the goods. Thus, we hypothesize that individuals who consume access-based digital goods (i.e. music/video streaming) are more likely to purchase physical copy of the goods than others who consume ownership-based digital goods (i.e. music/video download).

H2: Access-based digital goods users are more likely to purchase a physical copy of the goods than ownership-based digital goods users are.

As noted above, psychological ownership refers to a sense of possession that an individual feels toward an object that the individual view as an extended self (Peck and Shu 2018). The effect of psychological ownership on the goods is related to the association created between the good and the self (Morewedge and Giblin 2015). Between ownership-based digital goods and physical goods, individuals showed a higher intention to purchase for a physical copy than a digital copy and this effect was moderated by the identity relevance of goods (Atasoy and Morewedge 2018). Individuals who identified more with the subject of goods exhibited a higher intention to

purchase physical copy of products than digital copy of products. In a similar way, individuals may feel a different psychological ownership between access-based digital goods and ownership-based goods according to the identity relevance to the given products. Therefore, we propose that the effect of consumption mode (access vs. ownership) of digital products is more pronounced among individuals with higher level of identity-relevance to the goods.

H3: The effect of consumption mode of digital goods on the intention to purchase a physical copy will be positively moderated by the identity-relevance to the goods.

4. Experiment

4.1. Method

Participants. One hundred twenty Amazon Mechanical Turk workers (Gender (40 Women), Race(66 Caucasians, 38 Asians, 8 African Americans), Education (41 Bachelor's Degree, 15 Master's degree, 16 High school graduate, 13 Associate degree, 21 College credit, 3 High school credit, 3 Technical Training), Age ($M_{age} = 33.5$, $SD_{age} = 8.03$), and Income ($M_{income} = \$40,416$, $SD_{income} = 29,588.09$)) completed the experiment for \$0.50. The experiment was conducted on Amazon Mechanical Turk in the US for two days from December 4 to 5, 2017.

Procedure. All participants were asked to measure their psychological ownership toward a given content; an access-based or ownership-based goods. The participants

were offered either a digital music (i.e. Latest album of Taylor Swift: Apple Music Streaming or iTunes) or a digital TV-series (i.e. Latest series of Game of Thrones; Amazon Prime Video Streaming or iTunes) (Atasoy and Morewedge 2018; Peck and Shu 2009; Shu and Peck 2011). We select those two contents (digital music and TV-series) as experimental items because streaming service (access-based consumption) is widely spread in those two areas. They indicated the extent to which they would “feel like I own it” on seven-point scales with endpoints of “strongly disagree” (1) and “strongly agree” (7). Each participant also reported how much they are likely to purchase physical copy for the given products by indicating the extent to which they would “be likely to purchase a physical copy” on seven-point scales with endpoints of “very unlikely” (1) and “very likely” (7). Then, participants completed measures of permanence of given products (adapted from Pena-Marín and Bhargava (2016)) by reporting the extent that they agreed with four statements describing that the particular format or consumption of the music or TV-series was “permanent,” “stable,” “durable” and “lasting” on seven-point scales with the endpoints “strongly disagree” (1) and “strongly agree” (7) ($\alpha = 0.922$).

Participants were also asked to report their identity relevance (adapted from Atasoy and Morewedge (2018)) to each products of music or TV-series by indicating how much each artists or TV-series below is felt as part of themselves on seven-point scale with the endpoints “not at all part of myself” (1) and “very much part of myself (7).” Ten different artists and ten different TV-series were selected according to fanside.com website where offers ultimate ranking of fandoms from sports to entertainment,

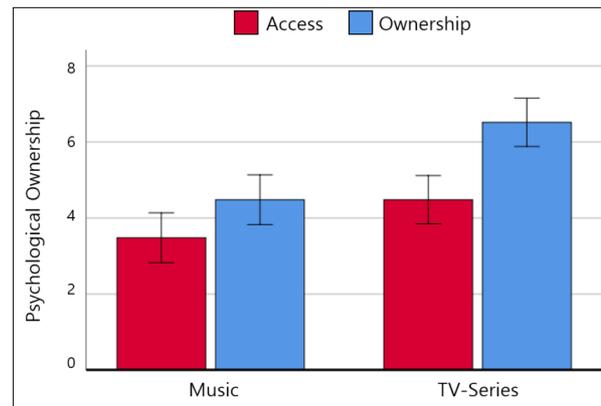
celebrities to brands: Music products included *Adele*, *Ariana Grande*, *Drake*, *Ed Sheeran*, *Justin Timberlake*, *Katy Perry*, *Lady Gaga*, *Maroon 5*, *Rihanna* and *Taylor Swift*. TV-series products included *American Horror Story*, *Community*, *Doctor Who*, *Downton Abbey*, *Game of Thrones*, *Mr. Robot*, *Orange is the New Black*, *Sherlock*, *Supernatural* and *The Walking Dead*. If the participants answered that they feel relatively high identity relevance to Taylor Swift (for participants in music content group) or Games of Throne (for participants in TV-series group), they are considered as showing high identity relevance and interest to those given contents.

Last, all the participants indicated whether they already had “a physical copy (i.e. a DVD of Game of Thrones series or an Album of Taylor Swift) of given contents” and whether they have an experience of each digital consumption mode (streaming or download services). Then, they answered the demographic questions such as sex, age and ethnicity.

4.2 Results

Psychological Ownership. Psychological ownership was examined in a 2 (product type: music, TV-series) × 2 (consumption mode: access-based, ownership-based) between-subjects ANOVA, which revealed main effects of both consumption mode ($M_{\text{access}} = 4.00$, $SD_{\text{access}} = 1.91$; $M_{\text{ownership}} = 5.53$, $SD_{\text{ownership}} = 1.97$; $F(1,116) = 21.715$, $p < 0.001$; $\eta_p^2 = 0.16$) and product type ($M_{\text{music}} = 3.98$, $SD_{\text{music}} = 2.09$; $M_{\text{TVseries}} = 5.50$, $SD_{\text{TVseries}} = 1.80$; $F(1,116) = 21.747$, $p < 0.001$; $\eta_p^2 = 0.16$). There was no significant interaction between consumption mode and product type ($F(1,116) = 2.517$, $p > 0.05$, $\eta_p^2 = 0.02$). Our first

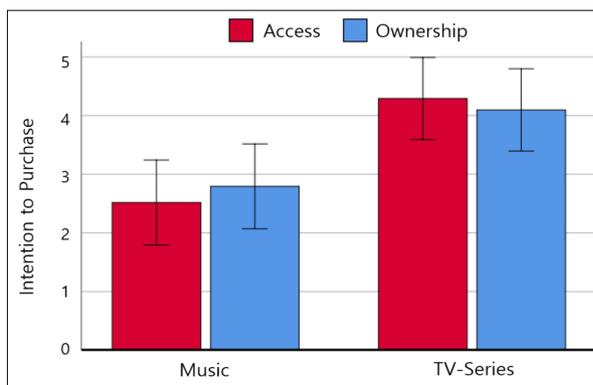
hypothesis (H1) was supported, so we could say that individuals feel less psychological ownership to access-based digital goods than ownership-based digital goods.



(Figure 1) Psychological Ownership according to Consumption Modes

Intention to Purchase a Physical Copy. Likelihood to purchase physical copy of given contents was examined in a 2 (product type: music, TV-series) × 2 (consumption mode: access-based, ownership-based) between-subjects ANOVA, which revealed no main effects of consumption mode ($M_{\text{access}} = 3.43$, $SD_{\text{access}} = 1.99$; $M_{\text{ownership}} = 3.47$, $SD_{\text{ownership}} = 2.21$; $F(1,116) = 0.013$, $p > 0.05$; $\eta_p^2 = 0.00$). But, ANOVA revealed significant main effects of product type ($M_{\text{music}} = 2.66$, $SD_{\text{music}} = 1.89$; $M_{\text{TVseries}} = 4.19$, $SD_{\text{TVseries}} = 2.02$; $F(1,116) = 18.32$, $p < 0.001$; $\eta_p^2 = 0.14$). There was no significant consumption mode by product type interaction ($F(1,116) = 0.426$, $p > 0.05$; $\eta_p^2 = 0.004$). For TV-series, participants with access-based digital consumption reported higher intention to purchase the physical copy than others with ownership-based digital consumption did ($M_{\text{TV-access}} = 4.29$, $SD_{\text{TV-access}} = 1.87$; $M_{\text{TV-ownership}} = 4.10$, $SD_{\text{TV-ownership}} = 2.18$). However,

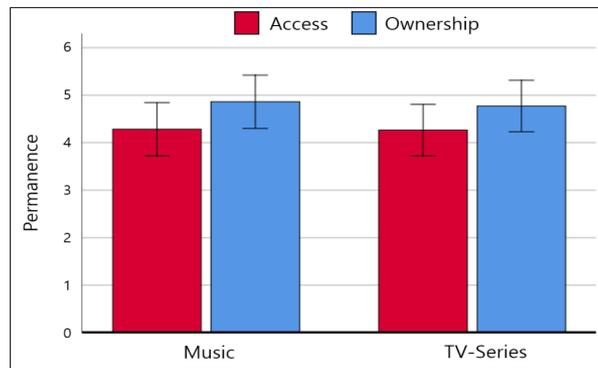
for music, participants with access-based digital products reported lower intention to purchase physical copies than others with ownership-based digital products did ($M_{\text{music-access}} = 2.52$, $SD_{\text{music-access}} = 1.72$; $M_{\text{music-ownership}} = 2.79$; $SD_{\text{music-ownership}} = 2.06$). Overall, participants were more likely to purchase physical copies for TV-series products than for music products. Ultimately, our second hypothesis (H2) was not supported.



〈Figure 2〉 Intention to Purchase a Physical Copy

Permanence. Permanence of products was calculated by averaging extent scores of four different items (permanent, stable, durable and lasting). We examined this measure in a 2 (product type: music, TV-series) × 2 (consumption mode: access-based, ownership-based) between-subjects ANOVA. The result revealed significant main effects of consumption mode ($M_{\text{access}} = 4.28$, $SD_{\text{access}} = 1.51$; $M_{\text{ownership}} = 4.82$, $SD_{\text{ownership}} = 1.52$; $F(1,116) = 3.789$, $p < 0.05$; $\eta_p^2 = 0.03$), but no significant main effects of product type ($M_{\text{music}} = 4.57$, $SD_{\text{music}} = 1.57$; $M_{\text{TVseries}} = 4.52$, $SD_{\text{TVseries}} = 1.51$; $F(1,116) = 0.036$, $p > 0.05$; $\eta_p^2 = 0.00$). There was no significant interaction between consumption mode and product type ($F(1,116) = 0.02$, $p > 0.05$, $\eta_p^2 = 0.00$). Simple contrasts revealed

that participants reported ownership-based digital music ($M_{\text{music-ownership}} = 4.86$, $SD_{\text{music-ownership}} = 1.56$) to be more permanent than access-based digital music ($M_{\text{music-access}} = 4.28$, $SD_{\text{music-access}} = 1.55$) and reported ownership-based digital TV-series ($M_{\text{TV-ownership}} = 4.77$, $SD_{\text{TV-ownership}} = 1.49$) to be more permanent than access-based digital TV-series ($M_{\text{TV-access}} = 4.27$, $SD_{\text{TV-access}} = 1.50$).



〈Figure 3〉 Perceived Permanence according to Consumption Modes

Identity-relevance. To calculate the identity relevance of a given content for each participants, its rank among 10 different artists or TV-series was used (adapted from Atasoy and Morewedge (2018)). If a participant considered Taylor Swift or Game of Thrones to be most relevant to him/herself among 10 items, that participant's rank for Taylor Swift or Game of Thrones was coded as 10. This participant's rank for least relevant item was coded as 1. Mean rank numbers were tied with each other, and the score was averaged. This calculated identity relevance score was used as a moderating variable and the moderating effect of identity relevance was analyzed by regression. Consumption mode, product type, identity relevance and interaction between consumption type and identity relevance were included as

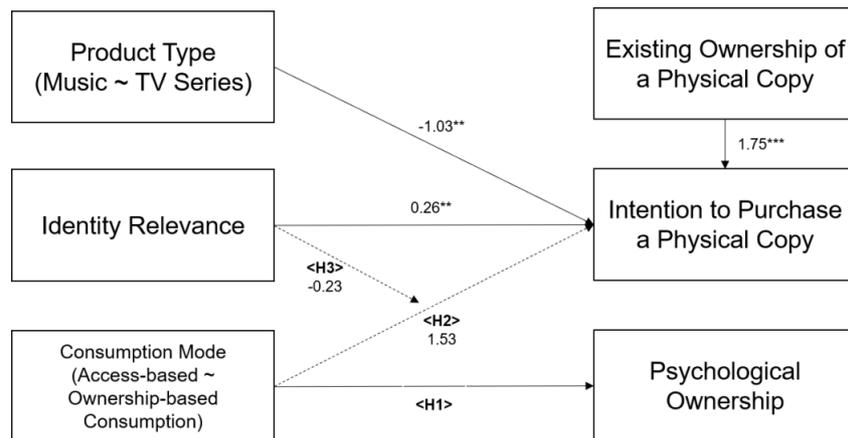
explanatory variables and existing ownership of physical copy, gender, and age was included as statistical control variables. Consumption mode was coded as 1 for access-based consumption and 0 for ownership-based consumption. Product type was coded as 1 for music and 0 for TV-series.

Results indicate that there is no significant main effect of consumption mode ($b=1.53, t = 1.54, p = 0.126, 95\% \text{ CI } [-0.43, 3.48]$), but significant effect of identity relevance ($b=0.26, t=2.49, p = 0.014, 95\% \text{ CI } [0.05, 0.48]$) and product type ($b=-1.03, t=-2.90, p = 0.005, 95\% \text{ CI } [-1.73, -0.32]$). The interaction between consumption mode and identity relevance was not significant ($b=-0.23, t = -1.54, p = 0.126, 95\% \text{ CI } [-0.53, 0.07]$). Our third hypothesis (H3) is not supported. Among the statistical controls, existing ownership of a physical copy of the given contents significantly predicted purchase intention ($b = 1.75, t = 4.31, p < 0.001, 95\% \text{ CI } [0.94, .2.55]$). There was no significant effect of age and sex. Adding two control variables did not change main results. The results are summarized in Figure 4.

5. Discussion

5.1. Theoretical Implications

This study provides several implications to prior literature. First, our study adds to literature on psychological ownership by considering the role of consumption mode. Previous studies on psychological ownership have revolved around investigating the impact of product type on individual’s psychological ownership (Atasoy and Morewedge 2018). However, as subscription-based marketing is getting popularity, scholars and practitioners are concentrating on the impact of access-based consumption (Calvo-Porrall and Lévy-Mangin 2015; Lin et al. 2013). Also, consumption mode is closely related to individual’s perception toward the product. We therefore examined the difference in individual’s psychological ownership toward products when consuming contents by access-based mode and ownership-based mode. We found that an individual’s psychological ownership is more pronounced in case of ownership-based digital goods



Note. * < 0.05, ** < 0.01, *** < 0.001

<Figure 4> Results of the Research Model

consumption compared to the access-based consumption. In addition, the result showed that individuals feel more perceived permanence to ownership-based digital goods. These findings together indicate that individuals have higher psychological ownership through increased perception of product permanence. Second, the findings regarding the difference in the intention to purchase the physical copy of products between TV-series and music provides insights to the studies on media consumption. Comparing the purchase intention between physical copy of TV-series and music, we found that individuals are more likely to purchase a physical copy for TV-series than for music. It can be inferred that the difference in sensory perception toward the product affects physical product purchase. TV-series and music is differentiated by the number and type of sensory experience the product provides. That is, TV-series provides multi-sensory experiences whereas music brings uni-sensory experience. Individuals only use auditory sense when they listen to music, while they use both visual and auditory sense for watching TV-series. Visual sense usually affects consumption behavior much more importantly than auditory sense, and multisensory is more effective in advertising or brand-marketing or attracting consumers (Hultén 2011). The results shed light on how the characteristics of media contents, the provided sensory experience, as well as the consumption mode affect the desire for purchasing physical goods. Third, our study also contributes by finding that in case of physical goods consumption, identity relevance of product matters. We found that the intention to purchase a physical copy does not change according to the consumption mode, but it changes by identity relevance of the products. The

moderating effect of identity relevance on the purchase intention has been investigated from prior literature (Atasoy and Morewedge 2018), however, its direct effects have not been explored. In this perspective, this study fulfills the gap from identity relevance literature by showing the direct impact of identity relevance on purchase intention. Combined with other implications, the findings provides insight that it is important to lead consumers to build psychological relationship between the goods and self to increase the intention to purchase a physical copy.

5.2. Managerial Implications

Our study provides several managerial implications for practitioners. First, managers can design a strategy that incentivizes access-based consumers when they purchase physical goods. Our study implies that among digital goods consumers, consumers utilizing access-based product are more likely to purchase a physical copy compared to those using ownership-based product. Take this into account, companies would be much better strengthening their sales strategy targeting for access-based consumers. Second, our result helps practitioners decide whether to release a physical copy or not according to product type. According to the result, it seems that the physical copy of TV-series is more likely to be sold than that of music, indicating it would be better to focus more on releasing TV contents rather than music. Third, the study reveals that consumers having identity relevance toward contents or having an experience of purchasing a physical copy are more likely to purchase physical goods. Thus, in order to maximize the sales revenue, managers may consider the

potential consumers' identity relevance toward the contents or the artists before releasing and creating a physical copy.

5.3. Future Research Opportunities and Limitations

As other studies, our research has some limitations. First, we limited our products to popular artists and popular TV-series in the USA. There are plenty of musical or media contents in the world that attracts many global consumers. In the future, we can expand our research by adding more global contents or artists to check whether our research works similarly on non-US contents or artists. Second, we did not consider access-based physical product together. The example of access-based physical consumption is renting CDs or DVDs from the rental shop or renting a book from libraries. However, in the era of digital and subscription economics, most of individuals utilize digital rental service and not many consumers use this way of consumption any more. Thus, excluding access-based physical consumption may not affect our results significantly. Access-based physical consumption can be applied in the context of physical products rather than digital products. It would be interesting to expand our research considering other global contents or products in the context of consumption mode and tangibility of products.

6. Conclusion

Our research sheds a light on the issue of consuming

modes in the digital platforms. The difference of psychological ownership among physical products has been addressed according to its consumption mode (Marzilli Ericson and Fuster 2011). This consumption mode has also applied to digital goods, but the difference between them has not been studied very much. Atasoy and Morewedge (2018) demonstrated the difference in psychological ownership between products according to their tangibility or materiality (Lee et al. 2020). Products here were digital goods and physical goods, but both of them were consumed in ownership-based way. Only Sinclair and Tinson (2017) found that individuals still feel psychological ownership to access-based digital consumption through qualitative interviews in the context of music streaming services. However, they did not quantitatively compare the difference of psychological ownership. Our results elucidate that individuals feel less psychological ownership toward access-based digital goods than ownership-based digital goods and feel more perceived permanence to ownership-based digital goods. These findings will contribute to marketers in positioning the digital goods differently according to its consumption mode. Furthermore, the intention to purchase physical copy was measured to indicate the different purchase intention to a physical copy according to the consumption mode, but the result showed no significant effect of consumption modes to the intention to purchase a physical copy. As the psychological ownership is related to the identity relevance to products, we attempted to check the moderating effect of identity-relevance on the effect of consumption mode, but it was not significant.

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KAIST 경영대학 박사과정에 재학 중이다. 주요 관심분야는 디지털 콘텐츠, 공유경제, 비즈니스 애널리틱스, 녹색 IT 등이다. 지금까지 Decision Support System 등 주요 학술지에 논문을 발표하였다.



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KAIST 경영대학 박사과정에 재학 중이다. 주요 관심분야는 프라이버시, 정보 보안, 공유경제, 정보 시스템의 사회적 효과 및 비즈니스 애널리틱스 등이다. 지금까지 Decision Support System, Security Journal 등 주요 학술지에 논문을 발표하였다.

〈 국문초록 〉

접속 기반 디지털 제품과 소유 기반 디지털 제품의 차이에 관한 연구

이민형*, 최한별**

디지털 시대를 맞아 다양한 제품들이 디지털 형태로 출시되어 왔다. 디지털 제품 등장 초기에는 개별 디지털 파일 형태의 제품들이 등장하였고 사용자들은 각각의 제품을 개인 디바이스에 다운로드하는 방식으로 소비하였다. 네트워크 기술의 발전으로 소비자들은 ‘스트리밍’이라는 형태의 디지털 제품을 소비하기 시작했다. 스트리밍은 인터넷 네트워크를 통해 소비하는 ‘접속 기반 소비 형태’로 제공되는 서비스이다. 스트리밍 서비스의 등장으로 소비자들은 개별 파일을 다운로드하지 않고 개인 디바이스에 네트워크를 연결하여 제품과 서비스를 사용할 수 있게 되었다. 영구적인 소유가 불가능하다는 점에서 접속 기반의 디지털 제품들은 다운로드 기반 콘텐츠와 같은 전통적인 소유 기반 디지털 제품과 구별된다. 이에 본 연구에서는 개인들의 디지털 제품에 심리적 소유감이 소비 방식에 따라 어떻게 달라지는지 분석하였다. 분석 결과 개인들은 소유 기반 디지털 제품에 비해 기반 디지털 제품에 더 낮은 심리적 소유감을 느낀다는 사실을 확인하였다. 본 연구는 관련 분야에 이론적 실무적 함의를 제공한다.

주제어: 디지털 제품, 접속 기반 소비, 소유 기반 소비, 심리적 소유감

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