Digital natives and streaming TV platforms: an integrated perspective to explain continuance usage of over-the-top services

Felix Friederich, Ramon Palau-Saumell, Jorge Matute and
Jan-Hinrich Meyer
IQS School of Management, Universitat Ramon Llull, Barcelona, Spain

Abstract

Purpose – Digital natives constitute a substantial part of consumers nowadays. Yet, a theoretical understanding of the factors driving their engagement with new-age digital services is lacking. This study therefore aims to examine digital natives' continuance usage of the proliferating over-the-top (OTT) services. To address these objectives, the study uses a comprehensive model that primarily integrates perceived value, cognitive absorption and customer brand engagement theories.

Design/methodology/approach – Data were collected using an online personal questionnaire targeting active digital natives OTT service users using the online software tool SurveyMonkey. A sample of 1,415 digital natives was analysed using structural equation modelling.

Findings – The findings indicated that continuance usage is predicted by all three theories. The results illustrate that cognitive absorption and customer brand engagement are the most critical in enhancing continuance usage. Gender effects on digital natives' value perceptions were found. The model explains 57% of the variance in users' continuance usage.

Originality/value – The study adds valuable contributions to the existing literature that are relevant to digital natives' engagement with new-age digital services. The proposed integrated model and the role of gender in value formations provide managers with novel insights when designing effective strategies to increase continuance usage for the largest consuming generation.

Peer review – The peer review history for this article is available at: https://publons.com/publon/10.1108/OIR-03-2022-0133

Keywords OTT-Services, Digital natives, Perceived value, Cognitive absorption, Customer brand engagement

Paper type Research paper

1. Introduction

Generation Z, often considered "digital natives", is the first generation to have grown up surrounded by digital communication. They are the latest generation born between 1995 and the early 2010s (Priporas *et al.*, 2020). Digital natives (DN) consume more content than any other age group, spending nearly 11 h a day across all their devices (Adobe, 2018). DN make up the largest generation now, constituting approximately 32% of the global population with a spending power of more than $145bn in 2020 (Moran, 2020). Overall, the existing body of research acknowledges that DN are different from other generations regarding their needs and preferences (Karadal and Abubakar, 2021; Priporas *et al.*, 2017). However, despite its

importance, limited research has been focussed on the interaction of DN with new-age digital technology services and the developmental psychology aspects of this process (Kesharwani, 2020; Priporas *et al.*, 2017).

Simultaneously to the increasing importance of this cohort, the rapid growth of the technology environment, shifts in consumer preferences and DN's withdrawal from traditional media enabled and encouraged a new age of content consumption (Chalaby and Plunkett, 2020), namely: Over-the-top (OTT) services. OTT services are services that provide streaming media to all devices in an online setting, such as Netflix, Amazon Prime Video and HBO (Palomba, 2022). These services offer hundreds of thousands of hours of content and thus are at the centre of the changes in video consumption patterns. OTT services have a significant economic impact, as shown, for instance, by the fact that the global OTT market size was valued at $121.61bn in 2019 and is forecast to reach $1,039.03bn by 2027, growing at a compound annual growth rate of 29.4% from 2020 to 2027. The number of users is expected to reach over 3.7bn by 2025 (Rake and Gaikwad, 2020). As companies, such as OTT service providers, increasingly compete to attract DN due to their economic power and high levels of content consumption (Davis, 2020), while also trying to prevent service failure by falling below the customers' expectations, it is crucial to explore how DN engage with OTT services. Notably, it is critical to understand the factors that stimulate users to continue using such services (e.g. Lin *et al.*, 2012; Palomba, 2022). This is specifically the case in the OTT marketplace, as the legacy OTT services such as Netflix, Amazon Prime Video and HBO have faced escalating competition with each other and with recent entrants such as Peacock and Disney+ (Palomba, 2022).

Extended expectation-confirmation models (ECM) have been widely used in post-consumer situations in technology contexts, adding pre- and post-adoption variables to improve the explanation of the original ECM, which assumes that satisfied users are more predisposed to continue using the technology (Pereira and Tam, 2021). In this line, the scarce research on OTT services has used extended ECM models (Pereira and Tam, 2021; Yousaf *et al.*, 2021), as the ECM has been found to be parsimonious in explaining the post-adoption effects of technology and requires additional variables to explain intentions to continue (Lin *et al.*, 2012). For example, Yousaf *et al.* (2021) studied the drivers of customer recommendation intention for OTT services using an extended ECM with constructs such as customer-to-customer interactions and perceived enjoyment. Furthermore, Pereira and Tam (2021) also applied an extended ECM to explore users' continuance usage (CU) of OTT services including perceived usefulness and enjoyment. However, prevalent literature does not consider a broader theoretical perspective on users' CU, specifically towards OTT services (e.g. Lin *et al.*, 2012; Pereira and Tam, 2021). For instance, the use of enjoyment as an intrinsic motivator is a very narrow perspective. Other motivators such as immersion, control or curiosity can influence motivations (Lowry *et al.*, 2013) and, most importantly, novel theoretical perspectives are needed when drawing on DN digital technology service engagement (Priporas *et al.*, 2017).

To overcome these shortcomings, the study uses a comprehensive model that primarily integrates perceived value (PV), cognitive absorption (CA) and customer brand engagement (CBE) theories to examine the CU of OTT services by DN. PV is included because it captures DN's trade-off for using OTT services, conceived as a second-order construct formed by DN's perceived benefits and sacrifices of OTT services. The study captures several benefits and sacrifices and thus provides an understanding of DN's value perceptions, going beyond incorporating singular constructs such as perceived content quality (Yousaf *et al.*, 2021). CA is included as it captures a broader view of DN's intrinsic motivations to use OTT services, thereby extending prior research (Pereira and Tam, 2021). Finally, DN spend considerably more time on social media networks than any older generation and brands increasingly try to motivate younger cohorts to engage with them (Florenthal, 2019), deducing the role of CBE.

Therefore, integrating the three theories is appropriate since all of them have been found to be critical in the service usage and post-consumption domain (Balakrishnan and Dwivedi, 2021; Lin *et al.*, 2012; McLean and Wilson, 2019), but not for OTT services.

Additionally, gender differences have been observed as an important factor in the field of digital services and purchase behaviours (González *et al.*, 2021). Recent literature has shown significant gender differences in millennials' price sensitivity, shopping and purchase behaviour (Ameen *et al.*, 2021). Nowadays, DN constitute the largest generation with a substantial economic impact. However, there is an absence of theoretical frameworks that examine differences according to the gender of DN related to digital technology service usage (Stavrianea *et al.*, 2020), such as OTT services. Therefore, investigating the pivotal role of gender differences of DN is important from both practical and theoretical perspectives.

Accordingly, this theoretical extension differs from prior literature exploring DN's engagement with digital technology services. The significance of these conceptual integrations is reinforced by the empirical results, which identified all theories as predictors of the CU of OTT services and explain a higher variance than previous scholars (Pereira and Tam, 2021). The findings provide novel theoretical and empirical perspectives on DN psychology with digital technology services because, for instance, they primarily show that PV predicts users' CA levels and gender differences exist in DN value formations. Notably, the study identifies essential leverage points that managers of OTT services could use to foster CU.

2. Theoretical background
2.1 An integrated approach to digital natives' continuance usage of OTT services
Understanding users' engagement and, especially, their CU behaviour with digital technology services is complex (Lee, 2018). Notably, the embryonic stage of literature dealing with DN digital service engagement suggests that an integrated approach, combining several theoretical perspectives, provides a better understanding than singular views (e.g. McLean and Wilson, 2019; Wu and Chen, 2017). Accordingly, this study identifies a new theoretical perspective by primarily integrating PV, CA and CBE theories to explore DN's engagement with OTT services.

2.1.1 Perceived value theories. Customers' value perceptions have received much attention from scholars in the service domain in the past few decades because more customers have become value-driven (Kuppelwieser *et al.*, 2021). The success and the adoption of digital services is based on specific values that consumers perceive or desire from them, especially for DN, as they are considered to be specifically value-driven (Yarimoglu, 2017). PV is the overall utility value of a product or service that a consumer perceives based on a cost-benefit trade-off (Zeithaml, 1988), and has been discussed in previous studies in relation to the CU of digital services (e.g. Singh *et al.*, 2021). Scholars have recently considered PV a multidimensional construct to explain consumers' CU of services (Singh *et al.*, 2021). However, assuming the maximisation of consumers' value in the economic and marketing domains, this study adopts the cost/benefit paradigm from the decision-making research stream on the basis that usage decisions are grounded on comparisons of the uncertain benefits of new services with the uncertain costs of using alternatives (Lin *et al.*, 2012). This is a thorough comparison of benefits (e.g. the content of OTT service platforms) and sacrifices (e.g. the fee for using OTT services) that DN derive from OTT services. This study applies PV as a second-order construct conceived on the basis of perceived benefits and sacrifices of OTT services (Lin *et al.*, 2012). Specifically, exploring the benefits and sacrifices of using such services and how they form DN value perceptions extends the current understanding of the CU of OTT services.

2.1.2 Cognitive absorption theories. The foundation of CA is grounded on the concept of cognitive engagement (Webster and Ho, 1997) and the theory of flow (Csikszentmihalyi, 1997). On the one hand, the notion of cognitive engagement originates from the principles of the theory of absorption. Based on Tellegen and Atkinson (1974), absorption is considered to be the traits and dispositions that lead to complete attention, where the object of attention consumes all the individual's resources. On the other hand, the theory of flow delivers an experiential comprehension of CA theory. Csikszentmihalyi (1990) described flow as a sensation that individuals feel when they act with total involvement. However, the conceptual construct of CA stems from Agarwal and Karahanna (2000). These authors referred to CA as a "state of deep involvement with software". It can be considered the state of engagement and involvement that users experience during OTT service consumption and, according to Agarwal and Karahanna (2000), it is determined by five dimensions. First, temporal dissociation, which captures individuals' engaged interaction without recognising the passage of time. Second, focussed immersion, which encapsulates individuals' immersed engagement when other critical attentions are ignored. Third, heightened enjoyment, which describes individuals' pleasurable interactions. Fourth, control, which captures individuals' perceived control that they possess during the interaction. And finally, curiosity, which captures an individual's expectation and cognitive curiosity to examine the interaction in greater depth. Scholars have shown that younger people have higher levels of CA, which extends to increased social media usage (Brooks and Longstreet, 2015) and it has been applied in the domains related to technology usage (Balakrishnan and Dwivedi, 2021). Therefore, the present study seeks to understand the effects of CA on the CU of OTT services by DN.

2.1.3 Customer brand engagement theories. In recent years, the CBE concept has been examined in the consumer behaviour domain (Dwivedi, 2015), as it is increasingly acknowledged that consumers and brands interact as partners in several ways. Recent studies illustrate the important role of brand engagement in younger cohorts as they actively engage with brands (Florenthal, 2019). It was found that DN's brand engagement plays a crucial role in predicting their brand loyalty (Ismail *et al.*, 2021). CBE focusses on the interactive experience of consumers and thus depicts consumers' cognitive, emotional and behavioural activity during or after a consumer/brand interaction (Hollebeek *et al.*, 2014). Therefore, it constitutes a significant predictor of consumers' behavioural outcomes such as brand usage intentions (McLean and Wilson, 2019). The cognitive dimension of CBE is "a consumer's level of brand-related thought processing and elaboration in a particular consumer/brand interaction". The affective dimension of CBE is "a consumer's degree of positive brand-related affect in a particular consumer/brand interaction", whereas the activation dimension of CBE depicts "a consumer's level of energy, effort and time spent on a brand in a particular consumer/brand interaction" (Hollebeek *et al.*, 2014, p. 154). As CBE seems particularly important for younger cohorts, the study attempts to enhance current knowledge by applying CBE to predict the CU of OTT services by DN.

3. Conceptual framework and hypotheses
Three research lines contribute to exploring the factors that shape the CU of OTT services by DN and, hence, to forming the conceptual model of the study. This conceptual model is shown in Figure 1 and the related hypotheses are outlined as follows.

3.1 The effect of perceived value on digital natives' continuance usage
As consumers intend to attain the maximum utility given their resource limitations, their behaviour is defined by their value assessments of services and they are more likely to use them when the PV is high (Kuppelwieser *et al.*, 2021). Scholars have suggested that PV
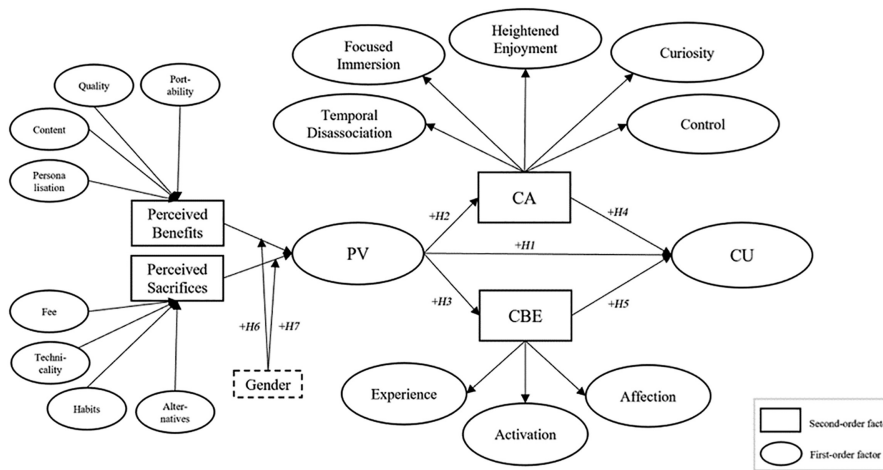
Note(s): Perceived Value(PV), Cognitive Absorption(CA), Customer Brand
Engagement(CBE) and Continuance Usage(CU)

Figure 1.
The conceptual model

positively impacts consumers' intention to use (Lin *et al.*, 2020), CU (Lin *et al.*, 2012) and, notably, Singh *et al.* (2021) recently established a significant effect of PV on the CU of streaming services. Therefore, this study proposes:

H1. Perceived value of OTT services positively relates to continuance usage towards OTT services.

3.2 The effect of perceived value on cognitive absorption and customer brand engagement
According to the flow theory (Csikszentmihalyi, 1990), nothing else seems to matter when users are deeply involved in an activity (i.e. using OTT services). However, before becoming deeply involved in OTT services, users are likely to derive a high value from such involvement because, otherwise, it would not seem rational. When users hold high-value perceptions of technology, they might show higher levels of absorption in it. Previous literature has shown that customers' value perceptions were found to impact their flow experience of using services in a tourism context (Kim and Thapa, 2018). Hence, when users derive a high value of OTT services, they are likely to experience higher levels of CA when interacting with them. This reasoning aligns with Yang and Lee (2018), suggesting that the benefits of streaming devices (i.e. portability) are positively associated with users' flow experience. Although the relationship between PV and CA has not yet been established, by drawing on the discussion above, this study proposes,

H2. Perceived value of OTT services is positively related to users' cognitive absorption.

Furthermore, PV relates to customer experience and value in context. That is, to engage customers in a service context, the PV should be improved. Therefore, the PV can be contextualised in a more holistic and experiential nature within the context of customer experiences (Kuppelwieser *et al.*, 2021). Recent research shows that customers' PV positively influences brand engagement behaviours (Leckie *et al.*, 2016) and that it shapes customers' engagement in the live-streaming context (Wongkitrungruenga and Assarut, 2020). Hence, if users possess high-value perceptions of OTT services, they are likely to engage with OTT

services cognitively (reason and think about OTT services), affectively (being excited about OTT services) and behaviourally (spend a lot of time with OTT services). Therefore, this study proposed,

H3. Perceived value of OTT services is positively related to users' customer brand engagement.

3.3 The effect of cognitive absorption and customer brand engagement on digital natives' continuance usage

The perspectives of digital service adoption are also extracted from the cognitive psychology domain (Abraham *et al.*, 2013). In fact, service involvement and cognitive developments are considered factors attributing to service-oriented behaviours. Specifically, involvement and cognition were found to influence technology-oriented product usage (Walsh *et al.*, 2010). Given that the construct of CA embraces deep involvement, it is likely that a higher CA, when using OTT services, translates into higher CU. Therefore, and in accordance with scholars who show the role of CA in predicting technology CU (Balakrishnan and Dwivedi, 2021), this study proposes,

H4. Cognitive absorption positively relates to continuance usage towards OTT services.

Additionally, as previously stated, CBE consists of the cognitive, affective and behavioural activities users experience during brand interactions. Such activities are likely to predict the CU of DN because they entail sustained interactions between consumers and brands, and this in turn leads to the formation of psychological bonds that consumers are likely to sustain in the future (Dwivedi, 2015). Therefore, consumers who engage with a brand are likely to develop attitudes from beliefs more quickly than those who are not engaged. Those attitudes are also more likely to be positive, leading to an enhanced brand usage intent (Harmeling *et al.*, 2017). This reasoning has previously been supported by scholars who demonstrated CBE's positive relation to brand loyalty and usage (De Silva, 2021; McLean and Wilson, 2019). Thus, based on this discussion, this study proposes,

H5. Customer brand engagement positively relates to continuance usage towards OTT services.

3.4 Gender effects on digital natives' value perceptions

Gender differences in DN's value perceptions of OTT services are likely to exist. In fact, previous literature has illustrated a significant difference between males and females in Millennials' value perceptions in the online shopping context (e.g. González *et al.*, 2021). Males and females in the DN cohort might perceive the benefits and sacrifices to a different extent, which in turn forms their overall value perceptions due to differences in both information processing and risk-taking (Fang *et al.*, 2016; Sharma *et al.*, 2012). For instance, for males, buying consumer goods involves mostly functional concerns (i.e. economics and efficiency) (Meyers-Levy and Loken, 2015). Males were found to conduct buying actions efficiently and showed more intolerance of high sacrifice purchase environments. Sharma *et al.* (2012) reported that the negative relationship between sacrifices and value is stronger for men than for women. However, these findings might be different for DN as recent reports show that DN are more risk-averse than the previous generation (Hockstein, 2021). Precisely, women were found to be more information-driven and show tendencies to actively seek information in purchase situations (Smith, 2019). From this, one may conclude that females are more concerned, for instance, about free alternatives to OTT services, and hence perceived sacrifices are more pronounced. Therefore, females might show greater risk aversion and

thus tend to focus more on the perceived sacrifices of OTT services compared to their counterparts. Hence, this study proposes,

H6. Gender moderates the positive relationship between perceived benefits and perceived value, such that this relationship is stronger for males than for females.

H7. Gender moderates the negative relationship between perceived sacrifices and perceived value, such that this relationship is stronger for females than for males.

4. Methodology
4.1 Measurement
PV is conceived as a second-order construct formed by perceived benefits and sacrifices. Given that OTT services are relatively new, and measurements of benefits and sacrifices of OTT services are absent, the determination of the final measurement was based on (1) literature in the streaming context (Lin *et al.*, 2012) and (2) interviews with OTT service users (mean age: 20 years). Consequently, the final scales for perceived benefits and sacrifices were developed based on Lin *et al.* (2012), Yang *et al.* (2016) and Okazaki and Mendez (2013). The scales for PV were derived from Lin *et al.* (2012). CA was conceptualised as a multidimensional reflective construct. The scales were derived from Wright *et al.* (2012), consistent with the original work by Agarwal and Karahanna (2000). Furthermore, CBE was conceptualised as a multidimensional reflective construct, applying the scales proposed by Hollebeek *et al.* (2014). The scales for CU were adapted from Lin *et al.* (2012) (see Appendix 1). All constructs were measured with seven-point Likert scales (from 1 = strongly disagree to 7 = strongly agree).

4.2 Sampling and data collection
The data were collected using an online personal questionnaire targeting active OTT service users. The questionnaire was designed using the online software tool SurveyMonkey. The population was defined based on age (born from 1995–2009 based on Priporas *et al.*, 2020) to meet the requirements of being "DN" as well as the requirement of being an active OTT service user. To meet these requirements, we selected undergraduate students as an appropriate population. Therefore, several students enrolled in courses on statistics were selected to participate in this research and to collect the data as a part of projects for these courses. The students then shared the link of the survey with their relatives/peers. The questionnaire was developed for Netflix, Amazon Prime Video, HBO and other (to be specified) users. Before sending out the main questionnaire, a pilot test was conducted using a sample of 37 students from a private university in Spain to ensure validity and reliability of the instruments. A total of 1869 questionnaires were obtained through voluntary response sampling. After discarding participants who had not met the requirements, a final sample of 1,415 users was obtained. The sample size is considered optimal since a statistical power analysis using G*Power 3.1 software revealed that the minimum sample size was 218 for an exigent small effect size of $f^2 = 0.05$, a statistical power level of 0.95, four predictors, and an alpha level of 0.05. The average time taken to complete the survey was between 10 and 12 min. Of the total sample, 72% were female. Additionally, 72% of the sample were aged between 18 and 21, and 28% were between 21 and 24 years old. Most participants (81%) used Netflix as a streaming platform and were from Spain (91%).

5. Results
A two-stage structural equation modelling (SEM) approach was used to validate the study's model and test its hypotheses. Particularly, the partial least squares structural equation

modelling (PLS-SEM) technique was applied, using SmartPLS 3.3.3 software. PLS is a distribution-independent method that is particularly useful in contexts where the theoretical body is not sufficiently developed. This study aimed to predict the CU of OTT services among DN using a comprehensive and complex model that integrates different views and theories. Consequently, the PLS-SEM technique was considered appropriate for the data analyses (Reinartz *et al.*, 2009).

5.1 Measurement model assessment

First, CBE and CA are conceived as reflective second-order constructs in this study. The first-order model was checked regarding the reliability of the items and the composite reliability of the constructs, and convergent and discriminant validity. Standardised loadings exceeded the critical threshold of 0.70 and the composite reliability index was above the critical cut-off point of 0.70. The average variance extracted (AVE) metric was above 50%, which guarantees convergent validity. Finally, Fornell and Larcker's criterion (1981), as well as Heterotrait-Monotrait (HTMT) ratios (Henseler *et al.*, 2015), were dissected to verify the discriminant validity of the model (Appendix 2). Second, the perceived benefits and sacrifices are treated as second-order formative constructs. For these constructs, the variance inflation factor (VIF) of the indicators was below the critical threshold of 3.3. For perceived sacrifices, the fee (0.56, $p < 0.05$), habits (0.24, $p < 0.05$), technicality (0.48, $p < 0.05$) and free alternatives (0.41, $p < 0.05$) presented significant weights. For perceived benefits, portability (0.28, $p < 0.05$), quality (0.30, $p < 0.05$), content (0.37, $p < 0.05$) and the personalisation (0.35, $p < 0.05$) dimension showed significant weights too. Table 1 summarises the assessment of the measurement model.

Additionally, common method variance was assessed. This study applied statistical and procedural methods to identify potential bias (Podsakoff *et al.*, 2003). With respect to the

First-order construct	Indicator	Standardised loading/weight	Rho_A	Composite reliability index (CRI)	Average variance extracted (AVE)	Variance inflation factor (VIF)
Perceived sacrifices	Fee	0.56[*]	n/a	n/a	n/a	1.08
	Habits	0.24[*]				1.00
	Technicality	0.48[*]				1.07
	Alternatives	0.41[*]				1.03
Perceived benefits	Portability	0.28[*]	n/a	n/a	n/a	1.24
	Quality	0.30[*]				1.48
	Content	0.37[*]				1.65
	Personalisation	0.35[*]				1.82
CBE	Experience	0.79	0.78	0.82	0.60	n/a
	Affection	0.85				
	Activation	0.81				
CA	Temporal Di	0.70	0.77	0.85	0.52	n/a
	Focussed Imm	0.80				
	Heightened En	0.88				
	Control	0.85				
	Curiosity	0.74				
CU	Cont. Usage 1	0.88	0.93	0.95	0.78	n/a
	Cont. Usage 2	0.93				
	Cont. Usage 3	0.89				

Note(s): See acronyms in Figure 1; * = $p < 0.05$

Table 1.
Measurement model

statistical procedures, a full collinearity test based on VIF revealed no indication of the existence of common method bias as suggested by values below 3.3 (Kock, 2015). Regarding the procedural methods, to reduce the possibility of obtaining artificial or false responses, the survey assured respondents confidentiality and anonymity of the information provided. The order of the variables in the online survey was also introduced in such a way that made it impossible for respondents to infer the logic and causality of the model and its relationships.

5.2 Structural model analysis
In the second stage of SEM, the structural model was tested to verify the conceptual model and its hypotheses. To assess the statistical predictive power of the model, we followed the procedure suggested by Shmueli *et al.* (2019). The RMSE and MAE values were higher for the naïve linear benchmark model and lower in the PLS estimated model for all the indicators of CU, thereby suggesting that the model presents a high predictive power.

First, for hypothesis testing, a bootstrapping procedure with 8,000 subsamples was employed (Hair *et al.*, 2017). The R^2 values of PV (0.48), CA (0.27), CBE (0.28) and CU (0.57) showed reasonable variance explained. All the hypotheses were found to be significant ($p < 0.001$). The results showed that PV significantly relates to perceived benefits ($\beta = 0.72$ t-value = 29.65) and perceived sacrifices ($\beta = -0.21$, t-value = 8.97). Furthermore, PV has a strong positive impact on CU ($\beta = 0.49$, t-value = 17.27), supporting H1. Second, PV has a positive influence on CA ($\beta = 0.52$, t-value = 22.04) as well as on CBE ($\beta = 0.53$, t-value = 23.50), supporting H2 and H3. Finally, CA ($\beta = 0.20$, t-value = 6.08) and CBE ($\beta = 0.19$, t-value = 5.61) exhibit positive effects on CU, giving support for H4 and H5.

In addition, the mediation analysis showed that both CA and CBE indirectly mediate the relationship between PV and CU. Zhao *et al.* (2010) described this mediation as complementary mediation, in which both direct and indirect effects are significant. Table 2 provides the results of the structural model and mediation analysis.

Second, to analyse gender effects on the relationship between perceived sacrifices and benefits on PV, gender is considered a moderating factor and a multigroup analysis procedure was carried out. Before testing the moderating effect, a quantification of measurement invariance was conducted. The study has drawn on a MICOM (measurement invariance of composite models) procedure (Henseler *et al.*, 2016). Configural invariance and compositional invariance (c) was established. To assess compositional invariance, a MICOM

	β	t-value	p-value
Direct relationship			
Perceived benefits → perceived value	0.72	29.65	0.000
Perceived sacrifices → perceived value	−0.21	8.97	0.000
Perceived value → continuance usage	0.49	17.27	0.000
Perceived value → cognitive absorption	0.52	22.04	0.000
Perceived value → customer brand engagement	0.53	23.50	0.000
Cognitive absorption → continuance usage	0.20	6.08	0.000
Customer brand engagement → continuance usage	0.19	5.61	0.000
Indirect relationship			
Perceived value → cognitive absorption → continuance usage	0.10	5.87	0.000
Perceived value → customer brand engagement → continuance usage	0.10	5.69	0.000

Note(s): R^2adj.-Perceived Value = 47.6%; Q^2-Perceived Value = 0.40; R^2adj.-Cognitive Absorption = 26.4%; Q^2-Cognitive Absorption = 0.14; R^2adj.-Customer Brand Engagement = 27.7%; Q^2-Customer Brand Engagement = 0.16; R^2adj.-Continuance Usage = 56.7%; Q^2-Continuance Usage = 0.45

Table 2.
Results of the structural model and mediation analysis

procedure has been conducted involving a total of 7,500 permutations (Appendix 2). The results suggested that compositional invariance was established, supporting partial measurement invariance. The results of the multigroup analysis are shown in Table 3. As expected, the paths between perceived benefits, perceived sacrifices and PV differ significantly between genders ($p < 0.05$). The relationship between perceived benefits and PV is significantly stronger for males than for females. In contrast, the relationship between perceived sacrifices and PV is significantly stronger for females than for males, thus suggesting the existence of gender differences in DN when it comes to forming value perceptions.

6. Discussion and implications

6.1 Discussion

Drawing on the PV, CA and CBE theories this study proposes and tests a model to explain DN's CU of OTT services. This study principally integrates these theories and provides empirical evidence of their positive influence towards DN CU of OTT services. All relationships in the conceptual model – direct and indirect – were confirmed, thus highlighting the value of using integrated models to provide new theoretical perspectives (McLean and Wilson, 2019), in this case, on the psychology of DN concerning OTT services. The results confirm the potential of all three theoretical constructs in influencing consumers' usage of new digital services. The proposed model has strong predictive power, as it can explain a significant variance (57.0%) in DN's CU and thus theoretically extends current literature researching CU in the proliferating OTT service context (Pereira and Tam, 2021; Yousaf et al., 2021).

As expected, for DN, the overall value perceived when engaging with OTT services is an important factor in shaping CU (Singh et al., 2021; Yarimoglu, 2017). In line with previous findings (Balakrishnan and Dwivedi, 2021; De Silva, 2021), this study demonstrates that, to foster CU, OTT service providers must cognitively absorb as well as engage DN with the brand. In fact, this study demonstrates the mediating role of CA and CBE on the effects of PV on CU. Previous studies have suggested that PV promotes users' flow experience of using services (Kim and Thapa, 2018). However, the relationship to CA was not researched yet. On the other hand, the results extend Wongkitrungruenga and Assarut (2020) results by demonstrating value perceptions influence on CBE in the OTT service context. Finally, this study showed gender differences in DN value perceptions towards OTT services. A possible explanation for males' stronger relationship between perceived benefits and PV might be that women show higher tendencies to actively seek information in purchase situations (Smith, 2019), hence have deeper considerations for related sacrifice using OTT services. This result extends recent findings concerning genders value perceptions in an online setting (González et al., 2021).

	Female ($n = 1,025$)	Male ($n = 390$)	Absolute difference (female-male)	Parametric t-test (equal var.)	Parametric t-test (unequal var.)	MGA two-tailed	Permutation
PB → PV	0.590	0.722	0.132	0.011	0.007	0.007	0.009
PS → PV	−0.215	−0.025	0.190	0.001	0.003	0.003	0.006

Note(s): Perceived Benefits(PB), Perceived Sacrifices(PS). Analysis was run at a 5% significance level
[1] It was further tested for the remaining paths, although no significant differences between genders were found, except for PV and CA relationships

Table 3.
PLS multigroup analysis for perceived sacrifices and benefits[1]

6.2 Theoretical implications
This study offers several theoretical contributions to the literature concerned with understanding DN's OTT services consumer behaviour. First, the study primarily links the PV and CA of DN. Although scholars have previously related consumers' perceptions of service value with flow experience (Kim and Thapa, 2018), the positive effect of PV on CA has still not been established. This result demonstrates the specific properties of DN (Priporas *et al.*, 2017), that is, when they derive high value from digital services, they experience higher levels of absorption, as they might feel it is worth being completely immersed when using such services. This finding extends the current literature on extrapolating consumer engagement in OTT services (Pereira and Tam, 2021; Yousaf *et al.*, 2021) and on the application of CA theory in the service domain (Balakrishnan and Dwivedi, 2021). Furthermore, PV is an important factor when it comes to predicting the CU of OTT services. Therefore, DN are particularly value-driven, which extends previous findings that suggest differences between the value assessment of Generation Y and DN (Yarimoglu, 2017). This study primarily pointed out the specific benefits and sacrifices shaping DN's value perceptions and thus contributes to understanding differences in the generation's preferences and, subsequently, their digital service engagement (Kesharwani, 2020; Priporas *et al.*, 2017).

Second, by identifying CA as a significant predictor for the CU of OTT services, this study brings a new perspective to the literature dealing with DN psychology with regard to digital services. While scholars have focussed on the relation between CA and technology adoption (e.g. Walsh *et al.*, 2010), this study expands this knowledge to the CU of technology, particularly in a sample of DN. Hence, the ability of digital technology services to put DN in a state of deep immersion plays a critical role in retaining them. DN spend a substantial amount of time using several technologies (i.e. devices and gadgets) (Adobe, 2018). Thus, they must have the ability to put DN in a deep state of involvement as they frequently interact with several of them, and basic, non-involvement interactions are not enough to foster CU.

Third, the results offer empirical evidence that suggests that DN's cognitive, emotional and behavioural activity with OTT service brands is essential in predicting their continued engagement. The DN cohort is thus actively engaging with OTT service brands such as Netflix, Amazon Prime Video and HBO. Their ongoing interactions with OTT service brands are a fundamental characteristic of brand engagement that might be conceived as a value-in-use (e.g. providing pleasurable interactions) and OTT service brands are encouraged to reciprocate engagement with DN to foster CU. Similarly, brand engagement seems to offer relational benefits to DN relative to competitive offerings. Overall, the study shows that CBE is critical to DN in predicting CU and supports the nature of CBE as a deep level of bond between consumers and brands (Hollebeek *et al.*, 2014) and is consistent with the emergent group of studies suggesting that CBE has a multidimensional nature (Dwivedi, 2015).

The results further suggest that CA and CBE mediate the effect of PV on CU. DN's value perceptions significantly increase their immersion and brand engagement with OTT services, thus enhancing CU. This highlights the importance of users' deep involvement and engagement with OTT services as mediators in the relationship between PV and DN's CU.

Finally, this study reveals gender differences in DN's value formations. While previous studies emphasised that factors such as satisfaction or self-assessed knowledge differ from one gender of DN to the other (Stavrianea *et al.*, 2020), the findings show that DN differ significantly in forming their value perceptions of OTT services. These results build on prior studies that elucidated gender differences in Millennials' value perceptions (González *et al.*, 2021) by showing that the influence of perceived benefits on the PV of OTT services is significantly more substantial for male users than for female users. In contrast, the path coefficient between perceived sacrifices and PV is much larger for female users than for male users. Thus, DN females may consider the context of services more fully than males by, for instance, imagining the alternative ways in which their actions might play out (i.e. using

alternatives to OTT services) or ruminating about both the upsides and the downsides of potential outcomes (i.e. continuing to use OTT services) (Fang *et al.*, 2016; Meyers-Levy and Loken, 2015).

6.3 Managerial implications
The findings primarily offer implications for practice to target DN in the OTT service context appropriately. To determine the constructs to be prioritised in order to increase CU, an Importance-Performance Matrix Analysis (IPMA) was implemented [1]. Results showed that PV has the largest impact on DN's CU. Therefore, managers should focus on providing services that transmit high value by enhancing the benefits of OTT services while intending to decrease the perceived sacrifices. Managers should specifically attempt to enhance the content and improve the personalisation of the service as those have the strongest weightings while being prudent when it comes to increasing fees and the technicality of the services. Thus, managers may reconsider future changes in pricing policies and attempt to facilitate the search for content on OTT platforms as this may decrease users' technical effort. Furthermore, managers should concentrate on the CA and CBE levels, as they show relatively high importance, yet, relatively low performance. Hence, managers should improve DN involvement to create strong engagement with these services. This could be achieved, for instance, by making the OTT platforms highly intuitive and ensuring content can be consumed without any bugs. Also, managers should grasp recent users' sentiments by considering their content preferences from user data. Investing in new and preferable content is likely to enhance CA, which extends to CU. Moreover, managers may focus on brand engagement enhancement strategies. They could create communication activities on social media to encourage user-generated content or organise events related to the launching of new series. This facilitates OTT service providers' ability to deliver new and engaging content. Furthermore, it is vital for managers not to consider all customers as equal, because there is no "one-size-fits-all" strategy and they should target males and females differently for PV maintenance and enhancement. Managers could consider reducing the perceived sacrifices for females by, for instance, offering free cancellation models to overcome their perceptions of being tied to long-term fee payments.

7. Limitations and future research
This study has pinpointed crucial factors that shape CU of OTT services. However, other factors might affect CU, such as quality customer experience or online trust, specifically as DN are more risk-averse than the previous generation. Furthermore, DN are sustainability driven consumers. Hence, future studies should consider how their perceptions of brands' sustainability influence their CU of digital services. Moreover, the study identified several benefits and sacrifices. Nevertheless, future research should perform systematic studies to elucidate all the benefits and sacrifices of digital technology applications such as OTT services. Studies could explore gender differences among the benefits and sacrifices. This would provide a very deep interpretation of what is causing value for DN in the OTT service context. Future studies might explore boundary conditions affecting DN's continuance usage of digital technology services, such as personality traits (i.e. variety-seeking buying tendency) or the competitive advantage (i.e. offer attractiveness) and conduct field studies involving the collection of longitudinal data in order to reproduce the results with behavioural data. Finally, the study's sample consisted of Spanish users only, hence future studies may consider users from other countries to generalise the results.

8. Conclusion

The existing body of research acknowledges that DN are different from other generations regarding their needs and preferences. Although they possess a massive economic impact, theoretical perspectives concerning their engagement with new-age digital technology services are still nascent. Therefore, this research provides a comprehensive perspective on the factors that shape DN and CU towards the growing OTT services, as well as highlights DN gender differences using a large sample of 1415 DN. The results shed new light on DN's growing interaction with OTT services and add value to the nascent literature regarding theoretical and empirical perspectives on the psychology of DN and new-age digital technology services. Consequently, this study encourages future research on this growing and emerging cohort.

Note

1. The IPMA extends the results of PLS estimations by taking into account the performance and the importance of each construct to explain an endogenous construct (Ringle and Sarstedt, 2016). Appendix 3 shows all the outcomes of the IPMA analysis.

References

Abraham, C., Boudreau, M.C., Junglas, I. and Watson, R. (2013), "Enriching our theoretical repertoire: the role of evolutionary psychology in technology acceptance", *European Journal of Information Systems*, Vol. 22 No. 1, pp. 56-75.

Adobe (2018), "Adobe experience manager 6.4: defining the next wave of content driven experiences", available at: https://blogs.adobe.com/digitaleurope/digital-marketing/adobe-e xperience-manager-6-4-defining-the-next-wave-of-content-driven-experiences/ (accessed 12 December 2021).

Agarwal, R. and Karahanna, E. (2000), "Time flies when you're having fun: cognitive absorption and beliefs about information technology usage", *MIS Quarterly*, Vol. 24 No. 4, pp. 665-694.

Ameen, N., Tarhini, A., Hussain Shah, M. and Nusair, K. (2021), "A cross cultural study of gender differences in omnichannel retailing contexts", *Journal of Retailing and Consumer Services*, Vol. 58, p. 102265.

Balakrishnan, J. and Dwivedi, Y.K. (2021), "Role of cognitive absorption in building user trust and experience", *Psychology and Marketing*, Vol. 38, pp. 643-668.

Brooks, S. and Longstreet, P. (2015), "Social networking's peril: cognitive absorption, social networking usage, and depression", *Journal of Psychosocial Research on Cyberspace*, Vol. 9 No. 4, pp. 1-19.

Chalaby, J.K. and Plunkett, S. (2020), "Standing on the shoulders of tech giants: media delivery, streaming television and the rise of global suppliers", *New Media and Society*, Vol. 23 No. 11, pp. 3206-3228.

Csikszentmihalyi, M. (1990), "Flow", in *The Psychology of Optimal Experience*, Harper & Row.

Csikszentmihalyi, M. (1997), *Flow and the Psychology of Discovery and Invention*, Harper Perennial, New York.

Davis, D. (2020), "Gen Zers have a spending power of over $140 billion, and it's driving the frenzy of retailers and brands trying to win their dollars", available at: https://www.businessinsider.com/retail-courts-gen-z-spending-power-over-140-billion-2020-1 (accessed 30 November 2021).

De Silva, T.M. (2021), "The role of customer engagement in cultivating relationships with automotive Facebook brand pages", *Online Information Review*, Vol. 45 No. 7, pp. 1362-1380.

Dwivedi, A. (2015), "A higher-order model of consumer brand engagement and its impact on loyalty intentions", *Journal of Retailing and Consumer Services*, Vol. 24, pp. 100-109.

Fang, J., Wen, C., George, B. and Prybutok, V.R. (2016), "Consumer heterogeneity, perceived value, and repurchase decision-making in online shopping: the role of gender, age, and shopping motives", *Journal of Electronic Commerce Research*, Vol. 17 No. 2, pp. 116-131.

Florenthal, B. (2019), "Young consumers' motivational drivers of brand engagement behavior on social media sites: a synthesized U&G and TAM framework", *Journal of Research in Interactive Marketing*, Vol. 13 No. 3, pp. 351-391.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, pp. 39-50.

González, E.M., Meyer, J.-H. and Paz Toldos, M. (2021), "What women want? How contextual product displays influence women's online shopping behavior", *Journal of Business Research*, Vol. 123, pp. 625-641.

Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2017), *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*, 2nd ed., Sage, Thousand Oaks, CA.

Harmeling, C.M., Moffett, J.W., Arnold, M.J. and Carlson, B.D. (2017), "Toward a theory of customer engagement marketing", *Journal of the Academy of Marketing Science*, Vol. 45, pp. 312-335.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modelling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2016), "Testing measurement invariance of composites using partial least squares", *International Marketing Review*, Vol. 33 No. 3, pp. 405-431.

Hockstein, K. (2021), "Risk averse but tech savvy Gen Zs pose major challenge to financial institutions", available at: https://www.collagegroup.com/2018/11/05/risk-averse-tech-savvy-gen-zs-pose-major-challenge-financial-institutions/ (accessed 30 November 2021).

Hollebeek, L.D., Glynn, M.S. and Brodie, R.J. (2014), "Consumer brand engagement in social media: conceptualization, scale development and validation", *Journal of Interactive Marketing*, Vol. 28 No. 2, pp. 149-165.

Ismail, A.R., Nguyen, B., Chen, J., Melewar, T.C. and Mohamad, B. (2021), "Brand engagement in self-concept (BESC), value consciousness and brand loyalty: a study of generation Z consumers in Malaysia", *Young Consumers*, Vol. 22 No. 1, pp. 112-130.

Karadal, H. and Abubakar, A.M. (2021), "Internet of things skills and needs satisfaction: do generational cohorts' variations matter?", *Online Information Review*, Vol. 45 No. 5, pp. 898-911.

Kesharwani, A. (2020), "Do (how) digital natives adopt a new technology differently than digital immigrants? A longitudinal study", *Information and Management*, Vol. 57 No. 2, p. 103170.

Kim, M. and Thapa, B. (2018), "Perceived value and flow experience: application in a nature-based tourism context", *Journal of Destination Marketing and Management*, Vol. 8, pp. 373-384.

Kock, N. (2015), "Common method bias in PLS-SEM: a full collinearity assessment approach", *International Journal of E-Collaboration*, Vol. 11 No. 4, pp. 1-10.

Kuppelwieser, V.G., Klaus, P., Manthiou, A. and Hollebeek, L.D. (2021), "The role of customer experience in the perceived value-word-of-mouth relationship", *Journal of Services Marketing*, Vol. 36 No. 3, pp. 364-378.

Leckie, C., Nyadzayo, M. and Johnson, L.W. (2016), "Antecedents of consumer brand engagement and brand loyalty", *Journal of Marketing Management*, Vol. 32, pp. 558-578.

Lee, S. (2018), "Enhancing customers' continued mobile app use in the service industry", *Journal of Services Marketing*, Vol. 32 No. 6, pp. 680-691.

Lin, T., Wu, S., Hsu, J.S. and Chou, Y. (2012), "The integration of value-based adoption and expectation-confirmation models: an example of IPTV continuance intention", *Decision Support Systems*, Vol. 54 No. 1, pp. 63-75.

Lin, K.Y., Wang, Y.T. and Huang, T.K. (2020), "Exploring the antecedents of mobile payment service usage. Perspectives based on cost–benefit theory, perceived value, and social influences", *Online Information Review*, Vol. 44 No. 1, pp. 299-318.

Lowry, P., Gaskin, J., Twyman, N., Hammer, B. and Roberts, T. (2013), "Taking 'fun and games' seriously: proposing the hedonic-motivation system adoption model (HMSAM)", *Journal of the Association for Information Systems*, Vol. 14 No. 11, pp. 617-671.

McLean, G. and Wilson, A. (2019), "Shopping in the digital world: examining customer engagement through augmented reality mobile applications", *Computers in Human Behavior*, Vol. 101, pp. 210-224.

Meyers-Levy, J. and Loken, B. (2015), "Revisiting gender differences: what we know and what lies ahead", *Journal of Consumer Psychology*, Vol. 25 No. 1, pp. 129-149.

Moran, G. (2020), "Gen Z and millennials 2020 report. Drapers online", available at: https://www.drapersonline.com/insight/drapers-bespoke/gen-z-and-millennials-2020-report (accessed 10 December 2021).

Okazaki, S. and Mendez, F. (2013), "Perceived ubiquity in mobile services", *Journal of Interactive Marketing*, Vol. 27 No. 2, pp. 98-111.

Palomba, A. (2022), "Building OTT brand loyalty and brand equity: impact of original series on OTT services", *Telematics and Informatics*, Vol. 66, p. 101733.

Pereira, R. and Tam, C. (2021), "Impact of enjoyment on the usage continuance intention of video-on-demand services", *Information and Management*, Vol. 58 No. 7, p. 103501.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.

Priporas, C.V., Stylos, N. and Fotiadis, A.K. (2017), "Generation Z consumers' expectations of interactions in smart retailing: a future agenda", *Computers in Human Behavior*, Vol. 77, pp. 374-381.

Priporas, C.V., Stylos, N. and Kamenidou, I.E. (2020), "City image, city brand personality and generation Z residents' life satisfaction under economic crisis: predictors of city-related social media engagement", *Journal of Business Research*, Vol. 119, pp. 453-463.

Rake, R. and Gaikwad, V. (2020), "Over-the-top-market. Allied market research", available at: https://www.alliedmarketresearch.com/over-the-top-services-market (accessed 10 December 2021).

Reinartz, W., Haenlein, M. and Henseler, J. (2009), "An empirical comparison of the efficacy of covariance-based and variance-based SEM", *International Journal of Research in Marketing*, Vol. 26, pp. 332-344.

Ringle, C.M. and Sarstedt, M. (2016), "Gain more insight from your PLS-SEM results: the importance-performance map analysis", *Industrial Management and Data Systems*, Vol. 116 No. 9, pp. 1865-1886.

Sharma, P., Chen, I. and Luk, S. (2012), "Gender and age as moderators in the service evaluation process", *Journal of Services Marketing*, Vol. 26 No. 2, pp. 102-114.

Shmueli, G., Sarstedt, M., Hair, J.F., Cheah, J.-H., Ting, H., Vaithilingam, S. and Ringle, C.M. (2019), "Predictive model assessment in PLS-SEM: guidelines for using PLSpredict", *European Journal of Marketing*, Vol. 53 No. 11, pp. 2322-2347.

Singh, S., Singh, N., Kalinic, Z. and Liébana-Cabanillas, F.J. (2021), "Assessing determinants influencing continued use of live streaming services: an extended perceived value theory of streaming addiction", *Expert System with Applications*, Vol. 168, p. 114241.

Smith, K.T. (2019), "Mobile advertising to digital natives: preferences on content, style, personalization, and functionality", *Journal of Strategic Marketing*, Vol. 27 No. 1, pp. 67-80.

Stavrianea, A., Kamenidou, I. and Zoi Bara, E. (2020), "Gender differences in satisfaction from hotel room attributes and characteristics: insights from generation Z", Kavoura, A., Kefallonitis, E. and Theodoridis, P. (Eds), *Strategic Innovative Marketing and Tourism*, Springer Proceedings in Business and Economics, pp.139-149.

Tellegen, A. and Atkinson, G. (1974), "Openness to absorbing and self-altering experiences (absorption), a trait related to hypnotic susceptibility", *Journal of Abnormal Psychology*, Vol. 83 No. 3, pp. 268-277.

Walsh, S.P., White, K.M. and Young, R.M. (2010), "Needing to connect: the effect of self and others on young people's involvement with their mobile phones", *Australian Journal of Psychology*, Vol. 62 No. 4, pp. 194-203.

Webster, J. and Ho, H. (1997), "Audience engagement in multi-media presentations, data base for the advances", *Information Systems*, Vol. 28, pp. 63-77.

Wongkitrungruenga, A. and Assarut, N. (2020), "The role of live streaming in building consumer trust and engagement with social commerce sellers", *Journal of Business Research*, Vol. 117, pp. 543-556.

Wright, R.T., Campbell, D.E., Thatcher, J.B. and Roberts, N. (2012), "Operationalizing multidimensional constructs in structural equation modeling: recommendations for IS research", *Communications of the Association for Information Systems*, Vol. 30 No. 23, pp. 367-412.

Wu, B. and Chen, X. (2017), "Continuance intention to use MOOCs: integrating the technology acceptance model (TAM) and task technology fit (TTF) model", *Computers in Human Behavior*, Vol. 67, pp. 221-232.

Yang, H. and Lee, H. (2018), "Exploring user acceptance of streaming media devices: an extended perspective of flow theory", *Information Systems and E-Business Management*, Vol. 16 No. 1, pp. 1-27.

Yang, H., Yu, J., Zo, H. and Choi, M. (2016), "User acceptance of wearable devices: an extended perspective of perceived value", *Telematics and Informatics*, Vol. 33 No. 2, pp. 256-269.

Yarimoglu, E.K. (2017), "Demographic differences on service quality and perceived value in private online shopping clubs", *Journal of Strategic Marketing*, Vol. 25 No. 3, pp. 240-257.

Yousaf, A., Mishra, A., Taheri, B. and Kesgin, M. (2021), "A cross-country analysis of the determinants of customer recommendation intentions for over-the-top (OTT) platforms", *Information and Management*, Vol. 58 No. 8, p. 103543.

Zeithaml, V.A. (1988), "Consumer perceptions of price, quality, and value: a means–end model and synthesis of evidence", *The Journal of Marketing*, Vol. 52, pp. 2-22.

Zhao, X., Lynch, J.G. Jr and Chen, Q. (2010), "Reconsidering Baron and Kenny: myths and truths about mediation analysis", *Journal of Consumer Research*, Vol. 37 No. 2, pp. 197-206.

Constructs	Items	
PV	PV1	Compared to the sacrifices/benefits I need to consider the use of the platform offers good value for money
	PV2	Taking all the pros and cons into consideration, the use of the platform is beneficial to me
	PV3	The use of the platform is worthwhile for me
	PV4	Overall, the use of the platform gives me good value
CBE-experience	EX1	Using the platform gets me to think about the platform
	EX2	I think about the platform a lot when I am using it
	EX3	Using the platform stimulates my interest to learn more about the platform
CBE-affection	AF1	Using the platform makes me happy
	AF2	I feel very enthusiastic when I use the platform
	AF3	I feel very excited when I use the platform
CBE-activation	AC1	Compared to other TV streaming service providers I spend a lot of time with the platform
	AC2	When I use a TV streaming service, I usually use the platform
	AC3	The platform is one of the platforms I usually use when using a TV streaming service
CA-temporal dissociation	TD1	Time seems to pass quickly when I use the platform
	TD2	Sometimes I forget the time when I use the platform
	TD3	Time flies very fast when I use the platform
CA-focussed immersion	FI1	I am able to block out most other distractions when I am using the platform
	FI2	I am absorbed in what I am doing when I am using the platform
	FI3	I feel I am immersed in what I am seeing when I am using the platform
	FI4	When I am using the platform, my attention does not get diverted very easily
CA-heightened enjoyment	HE1	I have fun interacting with the platform
	HE2	Using the platform provides me with a lot of enjoyment
	HE3	I enjoy using the platform
CA-control	CN1	When using the platform, I feel in control
	CN2	I feel that I have control over my interaction with the platform
CA-curiosity	CR1	Using the platform excites my curiosity
	CR2	Interacting with the platform makes me curious
	CR3	Using the platform arouses my imagination
CU	CU1	I continue to use the platform rather than discontinue its use
	CU2	I will use the platform in the future
	CU3	I recommend others to use the platform
	CU4	I plan to use the platform in the future
Formative constructs		
PS-fee		The fee is
	FE1	Very high
	FE2	For the services and additional functions very high
	FE3	Unaffordable
PS-habits	HA1	There is some content that I like on traditional TV and cannot be found on the platform
	HA2	The programs I see on traditional television are different from those on the platform
	HA3	The way to watch on the platform is quite different from the way to watch traditional TV

(*continued*)

Table A1.
Items of reflective and formative constructs (first-order reflective measures)

18

Constructs	Items	
PS-technicality	TE1	The operation interface of the platform is difficult to use
	TE2	At times it is difficult for me to search for content I like to watch
	TE3	It is difficult for me to become skilful at using the platform
PS-free alternatives	FA1	I can find free alternatives to the platform
	FA2	There are many free alternatives to the platform
	FA3	Free alternatives to the platform meet my needs
PB-quality		The platform
	QU1	Provides content with high image quality
	QU2	Provides high-definition content
	QU3	Provides content with high signal quality
PB-content		The platform
	CO1	Offers varied content
	CO2	Offers up-to-date content
	CO3	Offers sufficient content
PB-personalisation		The platform
	PE1	Allows me to discover content that matches my taste, thanks to the recommender system
	PE2	Allows me to quickly choose the content I like to watch
	PE3	Allows me to find content that I like, thanks to the recommender system
PB-portability	PO1	I can easily use the platform wherever I am
	PO2	The use of the platform outside my home or workplace is not a problem for me
	PO3	I find it convenient to use this platform because it does not make me dependent on a fixed installation

Table A1.

Appendix 2
Measurement model information and MICOM procedure

	AC	AF	CU	CO	CN	CR	HE	EX	FE	FI	FA	HA	PV	PE	PO	QU	TE	TD
AC																		
AF	0.486																	
CU	0.628	0.523																
CO	0.362	0.363	0.563															
CN	0.303	0.274	0.360	0.254														
CR	0.317	0.572	0.367	0.322	0.287													
HE	0.491	0.667	0.608	0.464	0.413	0.509												
EX	0.292	0.627	0.296	0.216	0.168	0.541	0.410											
FE	0.092	0.043	0.161	0.076	0.037	0.035	0.035	0.053										
FI	0.403	0.557	0.412	0.244	0.326	0.406	0.522	0.382	0.027									
FA	0.052	0.083	0.042	0.156	0.037	0.103	0.091	0.110	0.115	0.060								
HA	0.105	0.062	0.174	0.085	0.165	0.101	0.137	0.031	0.142	0.103	0.112							
PV	0.546	0.477	0.748	0.646	0.330	0.327	0.564	0.279	0.278	0.314	0.050	0.099						
PE	0.404	0.281	0.533	0.608	0.337	0.234	0.445	0.121	0.059	0.210	0.113	0.286	0.587					
PO	0.347	0.298	0.418	0.425	0.255	0.242	0.312	0.228	0.085	0.227	0.059	0.205	0.485	0.426				
QU	0.411	0.314	0.477	0.513	0.266	0.285	0.398	0.197	0.049	0.255	0.216	0.272	0.511	0.577	0.363			
TE	0.160	0.033	0.228	0.222	0.059	0.039	0.136	0.116	0.279	0.031	0.053	0.036	0.233	0.311	0.218	0.224		
TD	0.488	0.581	0.509	0.357	0.243	0.424	0.586	0.372	0.029	0.614	0.139	0.168	0.428	0.330	0.304	0.370	0.114	

Note(s): Activation(AC), Affection(AF), Continuance Usage(CU), Content(CO), Control(CN), Curiosity(CR), Heightened Enjoyment(HE), Experience(EX), Fee(FE), Focussed Immersion(FI), Free Alternatives(FA), Habits(HA), Perceived Value(PV), Personalisation(PE), Portability(PO), Quality(QU), Technicality(TE), Temporal Dissociation(TD)

**Table A2.**
Discriminant validity
(HTMT-ratio)

	Original correlation	Correlation permutation mean	5.00%	Permutation p-values
CBE	1.000	0.999	0.997	0.701
CA	0.998	0.999	0.997	0.118
CU	1.000	1.000	1.000	0.096
PB	0.995	0.990	0.975	0.690
PS	0.840	0.927	0.828	0.063
PV	1.000	1.000	1.000	0.080

Note(s): See acronyms in Table A2
[1] The results of correlation c between the composite scores of the first (female) and second (male) group with 5% quantile were compared, which revealed that the quantile was smaller than (or equal to) correlation c for all constructs. This result was corroborated by the permutation's p-values that were larger than 0.05

Table A3.
Compositional
invariance[1]

Appendix 3
Results of IPMA

IPMA Matrix
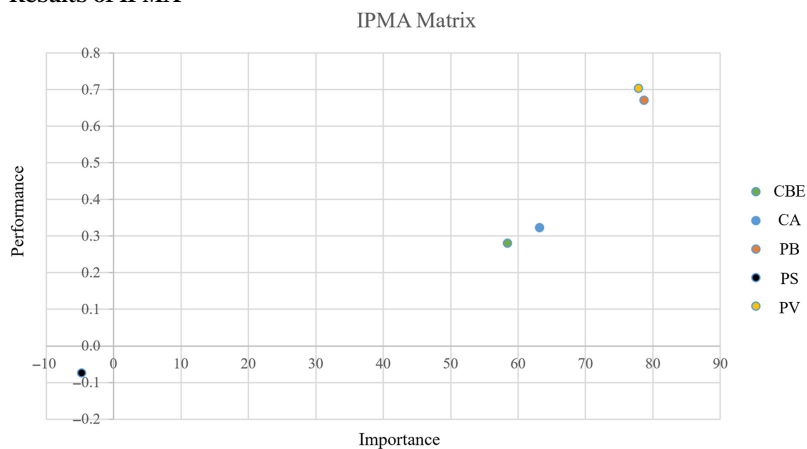
Corresponding author
Felix Friederich can be contacted at: FelixFriederich@iqs.url.edu