Who uses paid over-the-top services and why?

Cross-national comparisons of consumer demographics and life style values

Kyu Tae, Kwak (Dept. of Global Culture Industry, Soonchunhyang University, Korea)
Chae Ju, Oh(Graduate School of information, Yonsei University, Korea)
Sang Woo, Lee (Graduate School of Information, Yonsei University, Korea)

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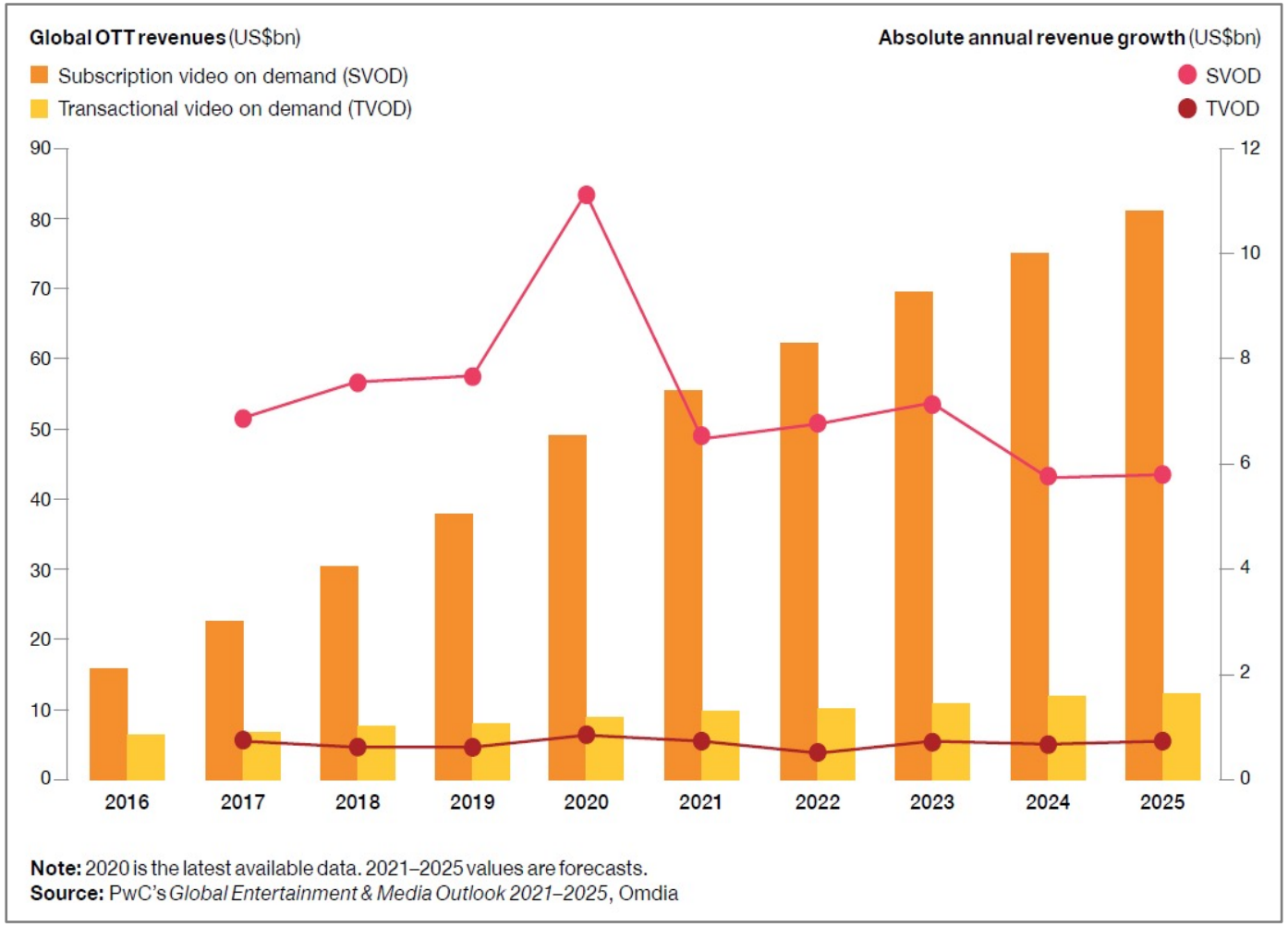
Introduction

Research background

- Global OTT revenues grow at a 10.6% CAGR through 2025
- OTT subscribers saturated/OTT termination easy (PwC, 2021)



Introduction

Research background

- Intensifying competition in the global OTT market with the launch of Disney+ & Apple TV
- Market segmentation strategies (demographic, geographic, psychological, & behavioral characteristics)
- Understanding the tastes and characteristics of target users
- Lack of studies explaining the characteristics of OTT service users and suggesting marketing strategies for service

Introduction

Purpose of this study

- ✓ Difference in the use of OTT services according to the demographic characteristics and consumer value
- Review lifestyle values still affecting the use of OTT services
- Predict the demographic characteristics and lifestyle values attracting potential users
- Examine the differences in the characteristics of OTT users according to nationality and culture

Theoretical Background

1. Demographic characteristics and OTT service usage

- Demographics or personal and pan-societal characteristics

  ⇒ basic factors explaining media selection and media use

  - Age (Morris, Goodman, & Brading, 2007; Perse, 1996; Teo, 2001)
  - Occupation (Donohew, Palmgreen, & Rayburn, 1987; Kang, Lee, & Lee, 2008)
  - Gender (Putzke, Fischbach, Schoder, & Gloor, 2014)
  - Education level (DiMaggio, Hargittai, Celeste, & Shafer, 2004)
  - Socio-economic status (Peter & Valkenburg, 2006)

  ⇒ affecting on the adoption and willingness to pay for new services

RQ1. How does paid OTT usage to differ based on user demographic characteristics?

2. Consumer values and OTT service usage

2.1. The concept of lifestyle values (1/2)

- Determinants of an individual's behavior
- A Criterion for analyzing and segmenting consumer behavior and media use
  - Lifestyle and its relationship to mobile phone usage (Wei, 2006)
  - Lifestyle and TV program preferences (Villani, 1975)
  - Lifestyle and internet usage (Sfchiffman, Sherman, & Long, 2003)
  - Lifestyle and online/offline news media usage (Chan & Leung, 2005)
- No studies focused on the relationship between OTT service use & lifestyle

2. Consumer values and OTT service usage

2.1. The concept of lifestyle values (2/2)

- ✓ AIO(Activities, Interest, and Opinions) → VALS(Values And Lifestyle Survey), LOV(List Of Value)
- ✓ LOV
- evaluating an individual's value system to explain behavior and attitude towards life
- 1) Self-respect, 2) Self-fulfillment, 3) Sense of accomplishment, 4) Sense of belonging, 5) Excitement, 6) Being well-respected, 7) Security, 8) Warm relationship with others, 9) Fun and enjoyment in life
- greater predictive ability than VALS in the area of consumer behavior trends (Kahle, Beatty & Homer, 1986)
- lower predictability than VALS when demographics are excluded (Novak & MacEvoy, 1990

⇒ Considering both LOV and demographic factors in this study

2. Consumer values and OTT service usage

2.2. Consumer values affecting OTT service use

✓ Lifestyle

- explaining media users' behavioral dimension in media usage
  - enjoying outside activities ⇒ using newspapers spending a lot of time at home ⇒ using cable TV
  - value a sense of accomplishment ⇒ using computers value the joy of life ⇒ using cable TV or VCR
- important variables explaining the use, choice, and purchasing behavior of media (considering users' tastes and preferences diversify)
- explain active media users' behavior reflecting users' intrinsic psychological characteristics

RQ2. How does OTT usage differ depending on user's consumer value?

3. OTT service usage and cross-national differences

- Individual value is affected by environment, society, and groups (Plummer, 1974)
- Individuals' cultural values affect the lifestyle, motivation, and product choices of the society to which they belong

⇒ Media usage behavior varies depending on what culture users belong to

· users from the US had more individualistic tendencies in SNS compared to those in Korea (Kwon and Kim, 2011)

· individualistic users have different behaviors online than collectivistic users (Jackson and Wang, 2013)

✓ Seven countries are selected having active use of OTT services

; the United States, Britain, France, Germany, Korea, Japan, and China

RQ3. Does the influence of user demographic attributes and consumer value on OTT usage differ by country?

Methods

Sample and data collection

- 2019. 11. 14 ~ 2019. 11. 27 (2 weeks)
- Subscribers of SVOD/TVOD (paid OTT services)
- the United States, Britain, France, Germany, Korea, Japan, China
- Quota Sampling (Country, Gender, Age) ⇒ 840 Samples

‘Consumer values’ measurements development (1/2)

- questionnaires were self-developed (some of them were modified from the LOV perspective)
- pre-test (three professors in the media and marketing fields)
- cognitive interviews (translation / 6-language)
- 4-day pilot test (60 paid users)

Methods

‘Consumer values’ measurements development (2/2)

- Applying the survey design and procedural remedies (Podsakoff et al., 2003)
  - Questionnaire design (questions were separated and randomized, simple explanation)
  - Differentiating the scale format of independent and dependent variables
  - Encouraging authentic responses with notification and reminder (via e-mail & mobile message)
  - Post-hoc Statistical verification

- Consumer values of OTT services were divided into six categories based on LOV
  - only six (SER, SEF, SOA, SOB, WRO, FEL) values were used in the final analysis
  - ‘Security’, ‘excitement’, ‘being well-respected’ were excluded
  - eighteen reflective questions related to six consumer values were measured on a 5-point Likert scale

Methods

Respondents characteristics (N=840)

Variable (Mean±SD)	Item	Freq.	%
Age (37.85±10.89)	Under 30	245	29.17
	Thirties	245	29.17
	Forties	197	23.45
	Above Fifties	153	18.21
Gender	Male	439	52.26
	Female	401	47.74
Education (2.51±0.81)	1=High school	558	66.43
	2=College	150	17.86
	3=University	114	13.57
	4=Graduate school	18	2.14
Monthly disposable income (5.01±2.98, US$)	1=$1,000 or less	67	7.98
	2=$1,000 - $2,000	96	11.43
	3=$2,000 - $3,000	187	22.26
	4=$3,000 - $4,000	109	12.98
	5=$4,000 - $5,000	122	14.52
	6=$5,000 - $6,000	59	7.02
	7=$6,000 - $7,000	50	5.95
	8=$7,000 - $8,000	44	5.24
	9=$8,000 - $9,000	35	4.17
	10=$9,000 - $10,000	26	3.1
	11=$10,000 or more	45	5.36
Occupation	Jobless/Unemployed	159	18.93
	Non-desk jobs	299	35.60
	Desk jobs	382	45.48

Variable (Mean±SD)	Item	Freq.	%
Nationality	Korea	150	17.86
	China	115	13.69
	Japan	109	12.98
	USA	100	11.9
	Germany	118	14.05
	UK	138	16.43
	France	110	13.1
Monthly spending on SVOD (2.39±2.03, US$)	0=Don't pay	199	23.69
	1=$5 or below	97	11.55
	2=$5 ~ $10	212	25.24
	3=$10 ~ $15	110	13.1
	4=$15 ~ $20	91	10.83
	5=$20 ~ $25	37	4.4
	6=$25 ~ $30	53	6.31
	7=$30 or above	41	4.88
Monthly spending on TVOD (1.47±1.89, US$)	0=Don't pay	378	45
	1=$10 or below	140	16.67
	2=$10 ~ $20	148	17.62
	3=$20 ~ $30	56	6.67
	4=$30 ~ $40	38	4.52
	5=$40 ~ $50	35	4.17
	6=$50 ~ $60	23	2.74
	7=$60 ~ $70	9	1.07
	8=$70 or above	13	1.55

Measurement of consumer value items

Construct	Items	Mean (SD)
Warm relationship with others **(WRO)**	get along well with people (wro1) am sociable (wro2) am actively involved in various gatherings (wro3)	3.47 (0.83)
Sense of Belonging **(SOB)**	(will) support my aged parents/parents-in law (in future) (sob1) (will) sacrifice everything for my children (in future) (sob2) enjoy going out with my family (sob3)	3.68 (0.80)
Self-respect **(SER)**	think I am the most precious thing in the world (ser1) swear a brilliant future lay before me (ser2) respect my personality (ser3)	3.53 (0.80)
Self-fulfillment **(SEF)**	live my own way regardless of other people's judgments (sef1) do not care much about other people's assessment of me (sef2) think my criteria are the most important (sef3)	3.77 (0.68)
Fun & enjoyment in Life **(FEL)**	intent to buy a brand-new product before anyone else (fel1) am passionate about sports and pop music (fel2) am rooting for the sport team in the game of baseball/soccer (fel3)	3.28 (0.93)
Sense of accomplishment **(SOA)**	accomplish all I set out to do (soa1) intent to watch/know news every day (soa2) intent to complete my given task (soa3)	3.52 (0.75)

Methods

Dependent variables

- Average monthly fee paid for using the OTT services
  - ✓ [DV1] Monthly spending on TVOD
  - ✓ [DV2] Monthly spending on SVOD

Independent variables

- Six personal values combined with user demographic, which were used as predictors.
  - ✓ [Demographic var.] Gender, Age, Level of education, Monthly disposable income, Occupation, and Nationality.
  - ✓ [Consumer value var.] Self-respect (SER), Self-fulfillment (SEF), Sense of accomplishment (SOA), Sense of belonging (SOB), Warm relationship with others (WRO), and Fun and enjoyment in life (FEL)

Methods

Empirical models

- Four empirical models

✓ [Model 1] Constrained model that considers how subscriber demographic attributes affect the use of paid OTT services

✓ [Model 2] Controls the demographic variables in Model 1 using six consumer values as predictors

✓ [Models 3 & 4] Unconstrained models in which the influence of user demographics and consumer values on two dependent variables are classified by country

- Tobit regression model with Seemingly unrelated estimation (SUE) method

Methods

Empirical models

Model 1

$$TVOD_{1,i}^{*} = \beta_{1,0} + \sum_{n=1} \beta_{1,n} \cdot Demographics_i + e_{1,i} \{\beta_{1,i} \sim N(0, \sigma_1^2)\}$$

$$SVOD_{2,i}^{*} = \beta_{2,0} + \sum_{n=1} \beta_{2,n} \cdot Demographics_i + e_{2,i} \{\beta_{2,i} \sim N(0, \sigma_2^2)\}$$

$TVOD_{1,i}^{*}, SVOD_{2,i}^{*} > 0$, then $TVOD_{1,i} = TVOD_{1,i}^{*}$ and $SVOD_{2,i} = SVOD_{2,i}^{*}$

$TVOD_{1,i}^{*}, SVOD_{2,i}^{*} = 0$, then $TVOD_{1,i} = 0$ and $SVOD_{2,i} = 0$

$$\begin{pmatrix} e_{1,i} \\ e_{2,i} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} (\sigma_1^2)^2 & \rho_1 \sigma_1^2 \sigma_2^2 \\ \rho_1 \sigma_2^2 \sigma_1^2 & (\sigma_2^2)^2 \end{pmatrix}\right]$$

Model 2

$$TVOD_{3,i}^{*} = \beta_{3,0} + \sum_{n=1} \beta_{3,n} \cdot ConsumerValue_i + \vec{K}_3 \cdot \overrightarrow{Controls_{3,i}} + e_{3,i} \{\beta_{3,i} \sim N(0, \sigma_3^2)\}$$

$$SVOD_{4,i}^{*} = \beta_{4,0} + \sum_{n=1} \beta_{4,n} \cdot ConsumerValue_i + \vec{K}_4 \cdot \overrightarrow{Controls_{4,i}} + e_{4,i} \{\beta_{4,i} \sim N(0, \sigma_4^2)\}$$

$TVOD_{3,i}^{*}, SVOD_{4,i}^{*} > 0$, then $TVOD_{3,i} = TVOD_{3,i}^{*}$ and $SVOD_{4,i} = SVOD_{4,i}^{*}$

$TVOD_{3,i}^{*}, SVOD_{4,i}^{*} = 0$, then $TVOD_{3,i} = 0$ and $SVOD_{4,i} = 0$

$$\begin{pmatrix} e_{1,i} \\ e_{2,i} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} (\sigma_3^2)^2 & \rho_1 \sigma_3^2 \sigma_4^2 \\ \rho_1 \sigma_4^2 \sigma_3^2 & (\sigma_4^2)^2 \end{pmatrix}\right]$$

Model 3

$$TVOD_{5,i}^{*(m)} = \alpha_{5,0}^{(m)} + \sum_{n=1} \beta_{5,n}^{(m)} \cdot Demographics_i + \sum_{k=1} \beta_{5,k}^{(m)} \cdot ConsumerValue_i + e_{5,i}^{(m)}$$

$TVOD_{5,i}^{*(m)} > 0$, then $TVOD_{5,i}^{(m)} = TVOD_{5,i}^{*(m)}$

$TVOD_{5,i}^{*(m)} = 0$, then $TVOD_{5,i}^{(m)} = 0$

$* for group "m" (m = Korea, USA, Germany, UK, France, Japan, China)$

Model 4

$$SVOD_{6,i}^{*(m)} = \alpha_{6,0}^{(m)} + \sum_{n=1} \beta_{6,n}^{(m)} \cdot Demographics_i + \sum_{k=1} \beta_{6,k}^{(m)} \cdot ConsumerValue_i + e_{6,i}^{(m)}$$

$SVOD_{6,i}^{*(m)} > 0$, then $SVOD_{6,i}^{(m)} = SVOD_{6,i}^{*(m)}$

$SVOD_{6,i}^{*(m)} = 0$, then $SVOD_{6,i}^{(m)} = 0$

$* for group "m" (m = Korea, USA, Germany, UK, France, Japan, China)$

Analysis & Results

Reliability and convergent validity of consumer value variables

Latent variable		Exploratory Factor Analysis			Confirmatory Factor Analysis *				
		Item	Loading	Eigenvalue (Variance) Cronbach-α	Coef.	SE	z	AVE	CR
LOV	Warm relationship with others (WRO)	wro1	0.77	2.13 (11.81)	0.76	0.02	43.26***	0.75	0.90
		wro2	0.70	α=0.84	0.79	0.02	49.03***		
		wro3	0.66		0.83	0.01	55.26***		
	Sense of belonging (SOB)	sob1	0.79	2.30 (13.00)	0.78	0.02	43.81***	0.73	0.89
		sob2	0.74	α=0.81	0.74	0.02	38.16***		
		sob3	0.72		0.78	0.02	42.74***		
	Self-respect (SER)	ser1	0.83	2.21 (12.29)	0.74	0.02	39.96***	0.76	0.90
		ser2	0.71	α=0.84	0.81	0.02	52.97***		
		ser3	0.67		0.84	0.02	58.21***		
	Self-fulfillment (SEF)	sef1	0.77	2.08 (11.58)	0.76	0.02	41.17***	0.69	0.87
		sef2	0.67	α=0.78	0.74	0.02	38.56***		
		sef3	0.63		0.70	0.02	33.15***		
	Fun & enjoyment in Life (FEL)	fel1	0.79	2.37 (13.17)	0.75	0.02	38.94***	0.72	0.88
		fel2	0.78	α=0.81	0.80	0.02	44.94***		
		fel3	0.70		0.73	0.02	36.37***		
	Sense of accomplishment (SOA)	Soa1	0.82	2.17 (12.05)	0.76	0.02	37.06***	0.70	0.87
		Soa2	0.76	α=0.79	0.74	0.02	35.43***		
		Soa3	0.67		0.73	0.02	34.82***		
Fit Indices	Normed- $\chi 2$	3.124 ($\chi 2$ =374.888***, df=120)			< 5 (Hair et al., 1998)				
	RMSEA	0.048			< 0.08 (Kline, 2015)				
	CFI	0.967			≥ 0.90 (Kline, 2015)				
	TLI	0.958			≥ 0.95 (Kline, 2015)				
	SRMR	0.031			< 0.08 (Kline, 2015)				

Note: Standardized CFA model (maximum likelihood estimation) is applied. (***p<0.001)

Analysis & Results

Correlations between variables and discriminant validity

Variable	VIF (max)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Spending on SVOD	-	1.00														
2 Spending on TVOD	-	0.54*	1.00													
3 Gender	1.06	-0.01	0.07*	1.00												
4 Age	1.04	-0.03	-0.13*	0.04	1.00											
5 Education	1.36	-0.07*	-0.09*	0.05	0.04	1.00										
6 Monthly income	1.15	0.20*	0.32*	0.12*	0.04	0.20*	1.00									
7 Occupation-1	1.80	-0.00	-0.09*	-0.12*	-0.03	-0.10*	-0.23*	1.00								
8 Occupation-2	2.14	0.04	0.14*	0.13*	-0.02	-0.21*	0.10*	-0.36*	1.00							
9 Occupation-3	1.35	-0.04	-0.06	-0.03	0.04	0.28	0.09	-0.45*	-0.47*	1.00						
10 WRO	2.40	0.25*	0.30*	0.00	-0.04	0.00	0.22*	-0.10*	0.03	0.04	0.87					
11 SOB	1.96	0.21*	-0.21*	0.04	0.03	-0.01	0.17*	-0.08*	0.01	0.05	0.63*	0.85				
12 SER	2.20	0.17*	0.27*	0.05	-0.04	0.10*	0.19*	-0.14*	0.05	0.07*	0.61*	0.55*	0.87			
13 SEF	2.41	0.16*	-0.17*	0.09*	0.07*	0.08*	0.19*	-0.09*	0.01	0.06	0.61*	0.60*	0.53*	0.83		
14 FEL	1.99	0.27*	0.37*	0.15*	-0.06	-0.07*	0.26*	-0.14*	0.13*	-0.01	0.59*	0.49*	0.54*	0.51*	0.85	
15 SOA	1.86	-0.15*	0.25*	0.07*	-0.03	-0.10*	0.13*	-0.05	0.12*	-0.08*	0.51*	0.45*	0.56*	0.59*	0.52*	0.84

Note: Occupation (1=jobless/unemployed, 2=non-desk jobs, 3=desk jobs), WRO (warm relationship with others), SOB (sense of belonging), SER (self-respect), SEF (self-fulfillment), FEL (fun & enjoyment in life), SOA (sense of accomplishment), Bold number shows the square roots of AVE for that construct (*p < .05, two-tailed test)

Analysis & Results

SUE results of Tobit analysis for user characteristics on paid-OTT usage

Variables	Model 1 (DV1)	(DV2)	Model 2 (DV1)	(DV2)
Constant	-0.950* (0.477)	-1.326** (0.402)	-2.584*** (0.782)	-2.770*** (0.646)
Gender	0.257 (0.214)	-0.038 (0.180)	0.141 (0.204)	-0.117 (0.177)
Age	-0.039*** (0.010)	-0.013 (0.009)	-0.028*** (0.010)	-0.009 (0.008)
Education	-0.479*** (0.129)	-0.397*** (0.109)	-0.309** (0.124)	-0.300** (0.108)
Monthly disposable income	0.336*** (0.039)	0.205*** (0.030)	0.249*** (0.038)	0.144*** (0.031)
Occupation_dummy1 (non-desk jobs)	0.734** (0.339)	-0.102 (0.270)	0.531* (0.329)	-0.228 (0.268)
_dummy2 (desk jobs)	0.313 (0.321)	-0.220 (0.258)	0.104 (0.310)	-0.361 (0.256)
Warm relationship with others (WRO)			0.402** (0.202)	0.372** (0.167)
Sense of belonging (SOB)			0.005 (0.174)	0.190 (0.161)
Self-respect (SER)			0.226 (0.184)	0.011 (0.158)
Self-fulfillment (SEF)			-0.641*** (0.245)	-0.045 (0.205)
Fun & enjoyment life (FEL)			0.825*** (0.168)	0.452*** (0.142)
Sense of accomplishment (SOA)			0.096 (0.178)	-0.270* (0.154)
Observations (left-censored Obs.)	840 (378)	840 (199)	840 (378)	840 (199)
χ^2 statistics	$\chi^2(6)=127.12$***	$\chi^2(6)=54.76$***	$\chi^2(12)=215.06$***	$\chi^2(12)=120.79$***
Sigma (σ)	2.74*** (0.10)	2.46*** (0.73)	2.57*** (0.92)	2.37*** (0.70)
Breusch-Pagan test (Correlation of residuals)	$\chi^2(1)=212.21$*** (0.5026)		$\chi^2(1)=186.18$*** (0.4708)	

Note: **DV1(Monthly spending on TVOD), DV2(Monthly spending on SVOD)**. Numbers in parentheses are robust standard errors and, the base of occupation dummy is 'jobless/unemployed'. *p<0.05, **p<0.01, ***p<0.001.

Analysis & Results

☞ **(RQ1) Demographic factors affecting paid OTT use**

- Age ↑ ⇒ TVOD spending ↓
- Education level ↑ ⇒ TVOD & SVOD spending ↓
- Income ↑ ⇒ TVOD & SVOD spending ↑
- Non-desk jobs ⇒ TVOD spending ↑
- Gender ⇒ No significant effect

Analysis & Results

☞ **(RQ2) Consumer value factors affecting paid OTT usage**

- Warm relationship with others(WRO) ⇒ TVOD & SVOD spending ↑
- Fun & enjoyment life(FEL) ⇒ TVOD & SVOD spending ↑
- Self-fulfillment(SEF) ⇒ TVOD spending ↓
- Sense of accomplishment(SOA) ⇒ SVOD spending ↓
- Self-respect(SER), Sense of belonging(SOB) ⇒ No significant effect

Analysis & Results

Summary statistics by countries (mean, SD)

Variables	Korea	USA	Germany	Britain	France	Japan	China	Equal var. (F-statistics)
Spending on TVOD	0.78	2.38	1.84	1.61	1.33	1.35	1.30	No (8.87***)
	(1.04)	(2.66)	(2.09)	(1.74)	(1.91)	(1.80)	(1.58)	
Spending on SVOD	1.80	3.74	2.58	2.20	2.44	2.01	2.31	No (11.33***)
	(1.69)	(2.27)	(2.20)	(1.66)	(2.18)	(1.87)	(1.89)	
Age	39.19	36.72	38.05	37.95	38.45	36.22	37.71	Yes (ns)
	(11.60)	(11.94)	(11.16)	(10.41)	(10.66)	(9.91)	(10.36)	
Education	3.01	2.27	2.14	2.12	2.07	2.34	2.23	No (414.44***)
	(0.49)	(0.45)	(0.34)	(0.33)	(0.26)	(0.48)	(0.43)	
Monthly disposable income	5.12	5.95	4.95	5.08	5.17	5.10	3.56	No (6.25***)
	(2.51)	(3.48)	(2.75)	(2.75)	(3.22)	(2.76)	(2.00)	
Warm relationship with others (WRO)	3.34	3.68	3.61	3.80	3.15	3.47	3.25	No (10.61***)
	(0.74)	(1.03)	(0.77)	(0.62)	(0.89)	(0.82)	(0.78)	
Sense of belonging (SOB)	3.59	3.83	3.94	3.92	3.38	3.54	3.56	No (9.20***)
	(0.68)	(1.05)	(0.78)	(0.57)	(0.74)	(0.81)	(0.81)	
Self-respect (SER)	3.57	3.63	3.32	4.02	3.26	3.43	3.35	No (14.92***)
	(0.64)	(1.08)	(0.88)	(0.51)	(0.78)	(0.80)	(0.68)	
Self-fulfillment (SEF)	3.75	3.91	3.77	4.03	3.74	3.70	3.45	No (9.18***)
	(0.57)	(0.88)	(0.77)	(0.49)	(0.56)	(0.68)	(0.66)	
Fun & enjoyment in life (FEL)	2.99	3.52	3.24	3.76	3.17	3.28	3.04	No (11.94***)
	(0.75)	(1.14)	(1.03)	(0.64)	(0.88)	(0.96)	(0.91)	
Sense of accomplishment (SOA)	3.27	3.78	3.53	3.71	3.54	3.57	3.30	No (8.30***)
	(0.62)	(0.93)	(0.77)	(0.70)	(0.63)	(0.76)	(0.69)	

Note: Monthly spending on TVOD (0=don't pay, 1=$10 or below, 10-dollar interval scale), Monthly spending on SVOD (0=don't pay, 1=$5 or below, 5-dollar interval scale), Education (1=High school, 2=College, 3=University, 4=Graduate school), Monthly disposable income (1=$1,000 or less, 1,000-dollar interval scale), Numbers in brackets are standard deviation. ***p<0.001, **p<0.01, *p<0.5, ns: not significant in 0.05 level.

Analysis & Results

Differences in effects of 'Spending on TVOD' by countries

Variables	Model 3 (Unconstrained model) Korea	USA	Germany	Britain	France	Japan	China	Constrained (Pooled)
Constant	-4.839***	-4.734**	-2.980*	-6.243***	-5.109*	-2.453*	-5.160***	-3.511***
	(1.620)	(2.013)	(1.432)	(1.755)	(2.657)	(2.195)	(1.920)	(0.730)
Education	-0.598*	-1.313*	1.215**	0.131	0.472	-1.803**	0.834	-0.333***
	(0.326)	(0.724)	(0.572)	(0.583)	(1.118)	(0.768)	(0.636)	(0.124)
Monthly income	0.070	0.239**	0.347***	0.215***	0.239**	0.380**	0.255**	0.247***
	(0.064)	(0.104)	(0.081)	(0.080)	(0.121)	(0.148)	(0.113)	(0.038)
Occupation dum1 (non-desk jobs)	0.586	2.365***	-0.818	0.778	-0.655	-0.193	1.319**	0.638*
	(0.658)	(0.911)	(0.763)	(0.794)	(1.246)	(0.908)	(0.635)	(0.327)
Occupation dum2 (desk jobs)	0.307	0.702	-0.462	0.197	-0.201	-0.497	0.341	0.083
	(0.455)	(0.907)	(0.765)	(0.759)	(1.244)	(0.973)	(0.693)	(0.309)
Warm relations with others (WRO)	0.681*	0.371	0.020	0.988**	0.079	0.047	1.178**	0.430**
	(0.291)	(0.644)	(0.600)	(0.467)	(0.585)	(0.664)	(0.528)	(0.202)
Sense of belonging (SOB)	-0.384	0.121	-0.113	-0.806*	0.564	1.176*	-0.196	-0.039
	(0.281)	(0.519)	(0.455)	(0.422)	(0.683)	(0.659)	(0.400)	(0.173)
Self-respect (SER)	0.182	0.091	1.628***	-0.019	-0.436	0.235	-0.141	0.165
	(0.389)	(0.586)	(0.506)	(0.541)	(0.550)	(0.494)	(0.615)	(0.186)
Self-fulfillment (SEF)	-0.124	-1.381*	-1.528**	0.629	-0.273	-1.422*	-0.561	-0.721***
	(0.373)	(0.858)	(0.749)	(0.536)	(0.770)	(0.844)	(0.560)	(0.246)
Fun & enjoyment in life (FEL)	0.724***	2.072***	0.861***	0.204	1.152**	0.669	0.068	0.861***
	(0.264)	(0.534)	(0.327)	(0.396)	(0.487)	(0.665)	(0.399)	(0.170)
Sense of accomplishment (SOA)	0.022	0.120	-0.462	0.537	0.121	-0.344	0.541	0.113
	(0.321)	(0.571)	(0.494)	(0.336)	(0.672)	(0.686)	(0.516)	(0.180)
Observations	150	100	118	138	110	109	115	840
Sigma (σ)	1.77*** (0.16)	2.75*** (0.24)	2.23*** (0.23)	1.89*** (0.15)	2.98*** (0.30)	2.95*** (0.28)	2.19*** (0.24)	2.59*** (0.09)
χ^2 statistics	χ2(10)=43.19***	χ2(10)=66.60***	χ2(10)=63.67***	χ2(10)=47.68***	χ2(10)=21.63**	χ2(10)=27.48**	χ2(10)=31.94***	χ2(10)=205.68***
LR-test / Wald-test				χ2(72) =146.96*** / χ2(66) =152.25***				

Note: Numbers in parentheses are robust standard errors and, the base of occupation dummy is 'jobless/unemployed'. *p<0.05, **p<0.01, ***p<0.001.

Analysis & Results

Differences in effects of 'Spending on SVOD' by countries

Variables	Model 4 (Unconstrained model) Korea	USA	Germany	Britain	France	Japan	China	Constrained (Pooled)
Constant	-2.903*	-3.307**	-2.862*	-3.317**	-0.839	-2.865*	-2.816*	-3.505***
	(2.014)	(1.296)	(1.616)	(1.390)	(1.761)	(1.628)	(1.459)	(0.584)
Education	-0.033	-0.274	-1.320**	0.271	-1.739*	-1.283*	0.855	-0.512***
	(0.408)	(0.544)	(0.576)	(0.443)	(0.645)	(0.638)	(0.539)	(0.108)
Monthly income	0.147**	0.004	0.278***	0.092	0.153**	0.150	0.125	0.141***
	(0.071)	(0.071)	(0.078)	(0.062)	(0.071)	(0.117)	(0.088)	(0.031)
Occupation dum1 (non-desk jobs)	-0.539	0.181	1.187	0.918	-0.845	-0.884	-0.118	-0.251
	(0.689)	(0.565)	(0.734)	(0.489)	(0.826)	(0.735)	(0.607)	(0.265)
Occupation dum2 (desk jobs)	-0.497	-0.392	0.699	0.632	-0.072	-1.142	-0.187	-0.375
	(0.459)	(0.661)	(0.771)	(0.468)	(0.812)	(0.803)	(0.689)	(0.256)
Warm relations with others (WRO)	0.296	1.459***	0.928*	0.573*	0.196	0.228	-0.192	0.396**
	(0.313)	(0.477)	(0.650)	(0.294)	(0.407)	(0.455)	(0.505)	(0.166)
Sense of belonging (SOB)	-0.460	0.374	0.487	0.071	-0.120	0.535	0.441	0.178
	(0.336)	(0.371)	(0.425)	(0.305)	(0.582)	(0.454)	(0.486)	(0.159)
Self-respect (SER)	0.603	0.446	0.461	-0.052	-0.251	-0.375	-0.053	0.029
	(0.387)	(0.434)	(0.359)	(0.400)	(0.443)	(0.421)	(0.670)	(0.158)
Self-fulfillment (SEF)	0.010	-0.241	-0.882	-0.025	-0.027	-0.666	-0.021	-0.080
	(0.402)	(0.589)	(0.663)	(0.404)	(0.584)	(0.600)	(0.596)	(0.205)
Fun & enjoyment in life (FEL)	0.926***	0.013	0.444	0.752*	1.248***	-0.112	0.269	0.447***
	(0.282)	(0.330)	(0.326)	(0.304)	(0.407)	(0.448)	(0.408)	(0.141)
Sense of accomplishment (SOA)	-0.789*	-1.028***	-1.166**	0.138	0.044	0.540	-0.005	-1.066*
	(0.347)	(0.347)	(0.473)	(0.254)	(0.448)	(0.527)	(0.504)	(0.155)
Observations	150	100	118	138	110	109	115	840
Sigma (σ)	2.13*** (0.16)	2.17*** (0.16)	2.43*** (0.19)	1.61*** (0.13)	2.37*** (0.19)	2.54*** (0.23)	2.19*** (0.18)	2.38*** (0.07)
χ^2 statistics	χ2(10)=35.68***	χ2(10)=32.31***	χ2(10)=46.42***	χ2(10)=27.69**	χ2(10)=37.94**	χ2(10)=20.34*	χ2(10)=17.44*	χ2(10)=108.91***
LR-test / Wald-test				χ2(72) =150.34*** / χ2(66) =160.99***				

Note: Numbers in parentheses are robust standard errors and, the base of occupation dummy is 'jobless/unemployed'. *p<0.05, **p<0.01, ***p<0.001.

Analysis & Results

☞ **(RQ3) Cross country Comparison – TVOD**

- Education level ↑ ⇒ TVOD spending ↓ (Korea, US, Japan)
- Income ↑ ⇒ TVOD spending ↑ (all countries except Korea)
- Non-desk jobs ⇒ TVOD spending ↑ (China, US)

- Warm relationship with others(WRO) ⇒ TVOD spending ↑ (China, Korea, UK)
- Fun & enjoyment life(FEL) ⇒ TVOD spending ↑ (France, Germany, Korea, US)
- Self-fulfillment(SEF) ⇒ TVOD spending ↓ (Germany, Japan, US)

Analysis & Results

☞ **(RQ3) Cross country Comparison – SVOD**

- Income ↑ ⇒ SVOD spending ↑ (France, Germany, Korea)
- Education level ↑ ⇒ SVOD spending ↓ (France, Germany, Japan)

- Warm relationship with others(WRO) ⇒ SVOD spending ↑ (Germany, UK, US)
- Fun & enjoyment life(FEL) ⇒ SVOD spending ↑ (France, Korea, UK)
- Sense of accomplishment(SOA) ⇒ SVOD spending ↓ (Germany, Korea, US)

Discussion & Conclusion

- **Theoretical Implications**

  1) Investigating the effect of demographic characteristics on paid OTT services

  2) Examining which values and psychological characteristics affect the use of OTT services

  3) Comparing the effect of demographic attributes and consumer value on the use of OTT services between countries

- **Practical Implications**

  1) Different service strategies & Rate strategies

  2) Strengthen strategies to attract target users

  3) Consideration of demographic variables as well as cultural characteristics of different regions

Discussion & Conclusion

Limitations

- Cultural variables such as religion and language are excluded
- Does not cover all geographic and cultural areas(e.g., Middle East, South America, and Africa)
- Does not consider economic conditions of each country/ OTT ARPU(Average Revenue Per User)

Q&A