

Case Number: NCCT107042

Digital Convergence Survey

Report Commissioned by:

National Communications Commission

Taiwan Institute of Economic Research

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I. Purpose

The rapid development in information and communications technologies has driven the overall digital economy to flourish. With the trend of convergence, the communications industry is vital to the national economy and development. In particular, how consumers use communications services in the communications market is not only closely related to the business operations and technological development in the overall communications industry, but its impact is also expanding to numerous other industries.

A survey on the communications provides an overview of the national development and consumer behavior. A mechanism of surveys and investigations on the market and consumer behavior has been established for a long time in many developed countries worldwide, such as Ofcom, the communications regulator in the UK, the Ministry of Internal Affairs and Communications in Japan, KCC in Korea and IMDA in Singapore. In these countries, related information is regularly collected and documented to provide important statistics about the communications industry. A regular survey can serve as a key indicator of overall national development on one hand and offer an understanding of the consumer behavior and the market on the other.

The National Communications Commission (NCC) of Taiwan conducted its first comprehensive communications market survey in 2017. The survey aims to obtain first-hand objective and detailed data on consumer behavior and the status of innovative applications through a comprehensive and in-depth investigation of the demand side. In addition, the obtained information will serve as an indicator of the development of Taiwan's digital economy, as well as the basis for the development of future policies and regulations.

II. Survey Methods

A. Questionnaire Design

The questionnaires used in this survey are designed with reference to the way Ofcom, the British communications regulator, has surveyed consumer behavior and trends in the communications market, and modified based on the latest development of Taiwan's convergence.

B. Population and Sampling Strategy

1. Survey population

The survey was conducted in Taiwan, Penghu, Kinmen and Matsu proper with people aged 16 and over (those who were born on and before December 31, 2003) being approached.

2. Sampling method

Using the principle of PPS (probabilities proportional to size) sampling, sampling was performed in three stages. In the first and second stages, samples were allocated based on the proportion of the population in the area; while in the third stage, samples were selected using convenience sampling.

The stratified sampling used in this research is based on the classifications established by Peichun Hou et al. (2008), where villages, towns, cities and districts are grouped into seven levels based on the development. Thus, Taiwan's 358 townships and districts are divided into seven levels. They are city cores, commercial and industrial areas, emerging cities and townships, traditional industry townships, less-developed townships, established townships and remote townships. The primary sampling units were townships, the secondary sampling units were villages, and the third sampling units were gathering places in the townships where an interview point was set up.

Table 1 Levels of Townships and Districts

Level Code	Names of Districts and Townships
1	Songshan District of Taipei City, Xinyi District of Taipei City, Da'an District of Taipei City, Zhongzheng District of Taipei City, Datong District of Taipei City, Wanhua District of Taipei City, Yonghe District of New Taipei City, Central District of Taichung City, West District of Taichung City, North District of Taichung City, East District of Tainan City, West Central District of Tainan City, Yancheng District of Kaohsiung City, Sanmin District of Kaohsiung City, Xinxing District of Kaohsiung City, Qianjin District of Kaohsiung City, Lingya District of Kaohsiung City
2	Zhongshan District of Taipei City, Wenshan District of Taipei City, Nangang District of Taipei City, Neihu District of Taipei City, Shilin District of Taipei City, Beitou District of Taipei City, Banqiao District of New Taipei City, Sanchong District of New Taipei City, Zhonghe District of New Taipei City, Xinzhuang District of New Taipei City, Tamsui District of New Taipei City, Luzhou District of New Taipei City, Linkou District of New Taipei City, Taoyuan City of Taoyuan County, Zhongli City of Taoyuan County, Zhubei City of Hsinchu County, East District of Hsinchu City, North District of Hsinchu City, South District of Taichung City, Xitun District of Taichung City, Nantun District of Taichung City, Beitun District of Taichung City, North District of Tainan City, Gushan District of Kaohsiung City, Zuoying District of Kaohsiung City, Fengshan District of Kaohsiung City

3	Xindian District of New Taipei City, Shulin District of New Taipei City, Yingge District of New Taipei City, Sanxia District of New Taipei City, Xizhi District of New Taipei City, Tucheng District of New Taipei City, Taishan District of New Taipei City, Yangmei City of Taoyuan County, Luzhu Township of Taoyuan County, Dayuan Township of Taoyuan County, Guishan Township of Taoyuan County, Bade City of Taoyuan County, Longtan Township of Taoyuan County, Pingzhen City of Taoyuan County, Zhudong Township of Hsinchu County, Hukou Township of Hsinchu County, Xinfeng Township of Hsinchu County, Qionglin Township of Hsinchu County, Baoshan Township of Hsinchu County, Xiangshan District of Hsinchu City, Zhunan Township of Miaoli County, Toufen Township of Miaoli County, Fengyuan District of Taichung City, Shalu District of Taichung City, Wuqi District of Taichung City, Tanzi District of Taichung City, Daya District of Taichung City, Wuri District of Taichung City, Longjing District of Taichung City, Taiping District of Taichung City, Dali District of Taichung City, Shanhua District of Tainan City, Rende District of Tainan City, Guiren District of Tainan City, Yongkang District of Tainan City, Annan District of Tainan City, Anping District of Tainan City, Nanzi District of Kaohsiung City, Xiaogang District of Kaohsiung City, Daliao District of Kaohsiung City, Dashe District of Kaohsiung City, Renwu District of Kaohsiung City, Niasong District of Kaohsiung City, Gangshan District of Kaohsiung City
4	Zhongzheng District of Keelung City, Qidu District of Keelung City, Nuannuan District of Keelung City, Renai District of Keelung City, Zhongshan District of Keelung City, Anle District of Keelung City, Xinyi District of Keelung City, Wugu District of New Taipei City, Shenkeng District of New Taipei City, Bali District of New Taipei City, Miaoli City of Miaoli County, East District of Taichung City, Changhua City of Changhua County, Yuanlin Township of Changhua County, Douliu City of Yunlin County, East District of Chiayi City, West District of Chiayi City, Xinying District of Tainan City, South District of Tainan City, Qianzhen District of Kaohsiung City, Qijin District of Kaohsiung City, Pingtung City of Pingtung County, Yilan City of Yilan County, Luodong Township of Yilan County, Hualien City of Hualien County, Ji'an Township of Hualien County
5	Ruifang District of New Taipei City, Sanzhi District of New Taipei City, Shimen District of New Taipei City, Jinshan District of New Taipei City, Wanli District of New Taipei City, Daxi Township of Taoyuan County, Xinwu Township of Taoyuan County, Guanyin Township of Taoyuan County, Xinpu Township of Hsinchu County, Guanxi Township of Hsinchu County, Hengshan Township of Hsinchu County, Beipu Township of Hsinchu County, Yuanli Township of Miaoli County, Tongxiao Township of Miaoli County, Houlong Township of Miaoli County, Gongguan Township of Miaoli County, Tongluo Township of Miaoli County, Touwu Township of Miaoli County, Sanyi Township of Miaoli County, Zaoqiao Township of Miaoli County, Sanwan Township of Miaoli County, Dajia District of Taichung City, Qingshui District of Taichung City, Houli District of Taichung City, Shengang District of Taichung City, Shigang District of Taichung City, Waipu District of Taichung City, Da'an District of Taichung City, Dadu District of Taichung City, Wufeng District of Taichung City, Lugang Township of Changhua County, Hemei Township of Changhua County, Xianxi Township of Changhua County, Shengang Township of Changhua County, Fuxing Township of Changhua County, Xiushui Township of Changhua County, Huatan Township of Changhua County, Fenyan Township

	of Changhua County, Xihu Township of Changhua County, Tianzhong Township of Changhua County, Datsuen Township of Changhua County, Puyan Township of Changhua County, Puxin Township of Changhua County, Yongjing Township of Changhua County, Shetou Township of Changhua County, Beidou Township of Changhua County, Pitou Township of Changhua County, Nantou City of Nantou County, Puli Township of Nantou County, Caotun Township of Nantou County, Dounan Township of Yunlin County, Huwei Township of Yunlin County, Linnei Township of Yunlin County, Taibao City of Chiayi County, Minxiong Township of Chiayi County, Shuishang Township of Chiayi County, Zhongpu Township of Chiayi County, Yanshui District of Tainan City, Liuying District of Tainan City, Madou District of Tainan City, Xiaying District of Tainan City, Liujia District of Tainan City, Guantian District of Tainan City, Jiali District of Tainan City, Xuejia District of Tainan City, Xigang District of Tainan City, Qigu District of Tainan City, Jiangjun District of Tainan City, Beimen District of Tainan City, Xinhua District of Tainan City, Xinshi District of Tainan City, Anding District of Tainan City, Shanshang District of Tainan City, Guanmiao District of Tainan City, Linyuan District of Kaohsiung City, Dashu District of Kaohsiung City, Qiaotou District of Kaohsiung City, Yanchao District of Kaohsiung City, Alian District of Kaohsiung City, Luzhu District of Kaohsiung City, Hune District of Kaohsiung City, Jiading District of Kaohsiung City, Yongan District of Kaohsiung City, Mituo District of Kaohsiung City, Ziguan District of Kaohsiung City, Chaozhou Township of Pingtung County, Donggang Township of Pingtung County, Hengchun Township of Pingtung County, Wandan Township of Pingtung County, Changzhi Township of Pingtung County, Linluo Township of Pingtung County, Jiuru Township of Pingtung County, Neipu Township of Pingtung County, Xinyuan Township of Pingtung County, Su'ao Township of Yilan County, Toucheng Township of Yilan County, Jiaoxi Township of Yilan County, Zhuangwei Township of Yilan County, Yuanshan Township of Yilan County, Dongshan Township of Yilan County, Wujie Township of Yilan County, Taitung City of Taitung County
6	Shiding District of New Taipei City, Pinglin District of New Taipei City, Pingxi District of New Taipei City, Shuangxi District of New Taipei City, Gongliao District of New Taipei City, Emei Township of Hsinch County, Zhuolan Township of Miaoli County, Dahu Township of Miaoli County, Nanzhuang Township of Miaoli County, Xihu Township of Miaoli County, Shitan Township of Miaoli County, Tai'an Township of Miaoli County, Dongshi District of Taichung City, Xinshe District of Taichung City, Heping District of Taichung City, Ershui Township of Changhua County, Erlin Township of Changhua County, Tianwei Township of Changhua County, Fangyuan Township of Changhua County, Dacheng Township of Changhua County, Zhutang Township of Changhua County, Xizhou Township of Changhua County, Zhushan Township of Nantou County, Jiji Town of Nantou County, Mingjian Township of Nantou County, Lugu Township of Nantou County, Zhongliao Township of Nantou County, Yuchi Township of Nantou County, Guoshing Township of Nantou County, Shuili Township of Nantou County, Xinyi Township of Nantou County, Xiluo Township of Yunlin County, Tuku Township of Yunlin County, Beigang Township of Yunlin County, Gukeng Township of Yunlin County, Dapi Township of Yunlin County, Citong Township of Yunlin County, Erlun Township of Yunlin County, Lunbei Township of Yunlin County, Dongshi Township of

	Yunlin County, Baozhong Township of Yunlin County, Taixi Township of Yunlin County, Yuanchang Township of Yunlin County, Sihou Township of Yunlin County, Kouhu Township of Yunlin County, Shuilin Township of Yunlin County, Puzi City of Jiayi County, Budai Township of Jiayi County, Dalin Township of Chiayi County, Xikou Township of Chiayi County, Xingang Township of Chiayi County, Liujiao Township of Chiayi County, Dongshi Township of Chiayi County, Yizhu Township of Chiayi County, Lucao Township of Chiayi County, Zhuqi Township of Chiayi County, Meishan Township of Chiayi County, Fanlu Township of Chiayi County, Baihe District of Tainan City, Houbi District of Tainan City, Dongshan District of Tainan City, Danei District of Tainan City, Yujing District of Tainan City, Nanxi District of Tainan City, Nanhua District of Tainan City, Zuozhen District of Tainan City, Longqi District of Tainan City, Tianliao District of Kaohsiung City, Qishan District of Kaohsiung City, Meinong District of Kaohsiung City, Liugui District of Kaohsiung City, Jiaxian District of Kaohsiung City, Shanlin District of Kaohsiung City, Neimen District of Kaohsiung City, Ligang Township of Pingtung County, Yanpu Township of Pingtung County, Gaoshu Township of Pingtung County, Wanluan Township of Pingtung County, Zhutian Township of Pingtung County, Xinpi Township of Pingtung County, Fangliao Township of Pingtung County, Kanding Township of Pingding Township, Linbian Township of Pingtung County, Nanzhou Township of Pingtung County, Jiadong Township of Pingtung County, Checheng Township of Pingtung County, Manzhou Township of Pingtung County, Fangshan Township of Pingtung County, Huxi Township of Penghu County, Baisha Township of Penghu County, Xiyu Township of Penghu County, Wangan Township of Penghu County, Qimei Township of Penghu County, Sanxing Township of Yilan County, Fenglin Township of Hualien County, Yuli Township of Hualien County, Shoufeng Township of Hualien County, Guangfu Township of Hualien County, Fengbin Township of Hualien County, Ruisui Township of Hualien County, Fuli Township of Hualien County, Chenggung Township of Taitung County, Guanshan Township of Taitung County, Beinan Township of Taitung County, Luye Township of Taitung County, Chishang Township of Taitung County, Donghe Township of Taitung County, Changbin Township of Taitung County, Taimaili Township of Taitung County
7	Wulai District of New Taipei City, Fuxing Township of Taoyuan County, Jianshi Township of Hsinchu County, Wufeng Township of Hsinchu County, Renai Township of Nantou County, Mailiao Township of Yunlin County, Dapu Township of Chiayi County, Alishan Township of Chiayi County, Maolin District of Kaohsiung City, Taoyuan District of Kaohsiung City, Namaxia District of Kaohsiung City, Liuqiu Township of Pingtung County, Sandimen Township of Pingtung County, Wutai Township of Pingtung County, Majia Township of Pingtung County, Taiwu Township of Pingtung County, Laiyi Township of Pingtung County, Chunri Township of Pingtung County, Shizi Township of Pingtung County, Mudan Township of Pingtung County, Magong City of Penghu County, Datong Township of Yilan County, Nan'ao Township of Yilan County, Xincheng Township of Hualien County, Xiulin Township of Hualien County, Wanrong Township of Hualien County, Zhuoxi Township of Hualien County, Dawu Township of Taitung County, Ludao Township of Taitung County, Haiduan Township of Taitung County, Yanping Township of Taitung County, Jinfeng Township of Taitung County, Daren Township of Taitung County, Lanyu Township of Taitung County

Table 2 Geographic Stratifications

Geographic Area	Level Code	Combined Level Code
Taipei City, New Taipei City, Keelung, Yilan	1	1
	2	2
	3, 4	3
	5, 6, 7	4
Taoyuan, Hsinchu, Miaoli	1, 2	1
	3, 4	2
	5, 6, 7	3
Taichung, Changhua, Nantou	1, 2	1
	3, 4	2
	5	3
	6, 7	4
Yunlin, Chiayi, Tainan	1, 2, 3	1
	4, 5	2
	6, 7	3
Kaohsiung, Pingtung, Penghu	1, 2	1
	3, 4	2
	5, 6, 7	3
Hualien, Taitung	4, 5	1
	6, 7	2

(1) Pilot Test

A stratified three-stage probability proportional to size sampling was adopted for the pre-test interviews. Since not many completed samples were expected during the pretest, the stratification system used in this project's formal survey was adjusted in order to meet the project deadline and save survey costs. With the Hualien and Taitung area excluded, only one geographic stratum was sampled within each of the five geographic areas: "Taipei City, New Taipei City, Keelung, Yilan," "Taoyuan, Hsinchu, Miaoli," "Taichung, Changhua, Nantou," "Yunlin, Chiayi, Tainan," and "Kaohsiung, Pingtung, Penghu." Once the proportions of population in the geographic areas were calculated based on the demographic data provided by the Ministry of the Interior at the end of December 2018, the numbers of samples for all geographic areas were determined based on the proportions, with the numbers of townships and the expected number of completed samples within every township adjusted. The actual number of successful samples is 30.

(2) Formal survey

Prior to conducting the formal survey, the proportions of population in the geographic areas were calculated based on demographic data provided by the Ministry of the Interior at the end of December 2018, and the number of samples for all geographic areas were determined based on the proportions, with the number of townships and the expected number of completed samples within every township adjusted. Consequently, a total of 1,100 samples were expected to be completed in each of the four investigations. In view of the small population and extremely uneven distribution of population in the Hualien and Taitung area, stratified two-stage PPS (probabilities proportional to size) sampling was actually used, while stratified three-stage PPS sampling was used in other areas. During the third stage, a survey point was set up at gathering places (such as village office, activity center, and market) in the townships selected to conduct the survey with local residents.

The sampling units in each stage are explained as below.

- During two-stage sampling, the primary sampling units were “township” and then “people.” All of the “districts and townships” in the geographic stratum were included.
- During three-stage sampling, the primary sampling units were “townships,” and the second sampling units were “villages.” The last sampling units were “people.”

During the implementation of the survey, the gender and age structures of all communities were strictly controlled with the view to ensuring that the structure of the survey results is similar to that of the target population. In case of any inconsistency between obtained samples and the population, the results were weighted based on variables like gender, age, and community. The weighted sample number in every age group could not exceed the original sample number by 60 percent.

(3) Allocation of samples

To meet the request of the agency that commissioned this project, at least 1,100 valid samples were investigated in each questionnaire with a sampling error of within ± 3 percent at a 95 percent confidence level.

Table 3 Plan for Allocation of Samples at Survey Sites in All Communities

Geographic stratum	Level	No. of People Aged 16 and above	Population Percentage	Planned Allocation of Samples	No. of Townships and Districts Selected	No. of Villages Selected	Expected No. of Samples by Village	Total No. of Samples by Village
Taipei City, New Taipei City, Keelung, Yilan	Level 1	1,229,181	18.98%	67	3	2	11	6
	Level 2	3,193,854	49.32%	174	7	2	12	14
	Level 3	1,648,552	25.46%	90	4	2	11	8
	Level 4	404,406	6.24%	22	1	2	11	2
	Subtotal	6,475,993	32.10%	353	14			30
Taoyuan, Hsinchu, Miaoli	Level 1	1,157,116	36.61%	63	3	2	11	6
	Level 2	1,480,087	46.83%	81	3	2	13	6
	Level 3	523,555	16.56%	29	1	2	14	2
	Subtotal	3,160,758	15.67%	172	7			14
Taichung, Changhua, Nantou	Level 1	914,020	23.40%	50	2	2	12	4
	Level 2	1,276,263	32.68%	70	3	2	12	6
	Level 3	1,278,250	32.73%	70	3	2	12	6
	Level 4	437,235	11.19%	24	1	2	12	2
	Subtotal	3,905,768	19.36%	213	9			18
Yunlin, Chiayi, Tainan	Level 1	926,449	31.73%	51	2	2	13	4
	Level 2	1,215,361	41.63%	66	2	2	17	4
	Level 3	777,832	26.64%	42	2	2	11	4
	Subtotal	2,919,642	14.47%	159	6			12
Kaohsiung, Pingtung, Penghu	Level 1	1,132,289	34.97%	62	2	2	15	4
	Level 2	989,921	30.57%	54	2	2	13	4
	Level 3	1,115,675	34.46%	61	2	2	15	4
	Subtotal	3,237,885	16.05%	177	6			12
Hualien, Taitung	Level 1	251,882	52.86%	14	1	1	14	1
	Level 2	224,652	47.14%	12	1	1	12	1
	Subtotal	476,534	2.36%	26	2			2
Total		20,176,580	100.00%	1,100				88

Since the original allocation of the survey site sampling is based on proportions of the entire population, calculated decimal numbers had to be rounded to the nearest integers when the survey was actually performed. Moreover, to meet a specific requirement this year that the number of weighted samples in every age group must not exceed the original number of samples by 60 percent, the samples were allocated and adjusted accordingly in this project. The adjusted allocation of survey site sampling is shown in the table below.

Table 4 Plan for Allocation of Samples at Survey Sites in All Communities after Adjustment by Age

				Originally Planned Allocation of Samples at Survey Sites					First adjustment		Adjustment of Site Allocation Based on Age Distribution in the Population (Expected No. by Site)							
Geographic stratum	Level	No. of People Aged 16 and above	Population Percentage	Planned Allocation of Samples	No. of Townships and Districts Selected	No. of Villages Selected	Expected No. of Samples by Village	Total No. of Samples by Village	Expected No. of Samples by Level	Expected No. of Samples by Level	Expected No. of Samples with Ages 16-25	Expected No. of Samples with Ages 26-35	Expected No. of Samples with Ages 36-45	Expected No. of Samples with Ages 46-55	Expected No. of Samples with Ages 56-65	Expected No. of Samples with Ages 66 and Above	Expected No. of Samples by Village	Expected No. of Completed Samples in Each Level by Age Group
Taipei City, New Taipei City, Keelung, Yilan	Level 1	1,229,181	18.98%	67	3	2	11	6	66	66	1	2	2	2	2	2	11	66
	Level 2	3,193,854	49.32%	174	7	2	12	14	168	170	2	2	2	2	2	2	12	168
	Level 3	1,648,552	25.46%	90	4	2	11	8	88	88	2	2	2	2	2	1	11	88
	Level 4	404,406	6.24%	22	1	2	11	2	22	24	2	2	2	3	2	1	12	24
	Subtotal	6,475,993	32.10%	353	14			30	344	348								346
Taoyuan, Hsinchu, Miaoli	Level 1	1,157,116	36.61%	63	3	2	11	6	66	66	2	2	2	2	2	1	11	66
	Level 2	1,480,087	46.83%	81	3	2	13	6	78	78	3	3	2	2	2	1	13	78
	Level 3	523,555	16.56%	29	1	2	14	2	28	28	3	3	2	3	2	1	14	28
	Subtotal	3,160,758	15.67%	172	7			14	172	172								172
Taichung, Changhua, Nantou	Level 1	914,020	23.40%	50	2	2	12	4	48	48	2	2	2	3	2	1	12	48
	Level 2	1,276,263	32.68%	70	3	2	12	6	72	72	2	2	2	2	2	2	12	72
	Level 3	1,278,250	32.73%	70	3	2	12	6	72	72	2	2	2	2	2	2	12	72
	Level 4	437,235	11.19%	24	1	2	12	2	24	24	2	3	2	2	2	1	12	24
	Subtotal	3,905,768	19.36%	213	9			18	216	216								216
Yunlin, Chiayi, Tainan	Level 1	926,449	31.73%	51	2	2	13	4	52	52	3	3	2	2	2	1	13	52
	Level 2	1,215,361	41.63%	66	2	2	17	4	68	68	2	3	3	3	3	3	17	68
	Level 3	777,832	26.64%	42	2	2	11	4	44	44	1	1	2	3	2	2	11	44
	Subtotal	2,919,642	14.47%	159	6			12	164	164								164
Kaohsiung, Pingtung, Penghu	Level 1	1,132,289	34.97%	62	2	2	15	4	60	60	3	3	2	3	2	2	15	60
	Level 2	989,921	30.57%	54	2	2	13	4	52	54	2	3	3	2	2	2	14	56
	Level 3	1,115,675	34.46%	61	2	2	15	4	60	60	3	3	3	2	2	2	15	60
	Subtotal	3,237,885	16.05%	177	6			12	172	174								176
Hualien, Taitung	Level 1	251,882	52.86%	14	1	1	14	1	14	14	2	3	3	3	2	1	14	14
	Level 2	224,652	47.14%	12	1	1	12	1	12	12	2	3	2	2	2	1	12	12
	Subtotal	476,534	2.36%	26	2			2	26	26								26
Total		20,176,580	100.00%	1,100				88	1,094	1,100								1,100

3. Survey period

The interviews took place in the selected areas between June 1 and July 31, 2019.

Table 5 Implementation of Formal Sampling

Sampling Frame		Selected	By Survey Site	
Area	Level	District or Township for Survey	No. of Expected Samples (1,160 samples in total)	No. of Completed Samples (1,167 samples in total)
Taipei City, New Taipei City, Keelung, Yilan	Level 1	Yonghe District of New Taipei City	22	23
		Wanhua District of Taipei City	22	23
		Songshan District of Taipei City	22	22
	Level 2	Sanchong District of New Taipei City	24	24
		Banqiao District of New Taipei City	24	24
		Beitou District of Taipei City	24	24
		Neihu District of Taipei City	24	24
		Shilin District of Taipei City	24	24
		Zhonghe District of New Taipei City	24	23
		Zhongshan District of Taipei City	24	25
	Level 3	Renai District of Keelung City	22	24
		Bali District of New Taipei City	22	22
		Xinyi District of Keelung City	22	24
		Xindian District of New Taipei City	22	23
	Level 4	Dongshan Township of Yilan County	24	23
	Subtotal		346	352
Taoyuan, Hsinchu, Miaoli	Level 1	Zhubei City of Hsinchu County	22	22
		Zhongli City of Taoyuan County	22	21
		Taoyuan District of Taoyuan City	22	23

Sampling Frame		Selected	By Survey Site	By Survey Site
Area	Level	District or Township for Survey	No. of Expected Samples (1,160 samples in total)	No. of Completed Samples (1,167 samples in total)
	Level 2	Bade City of Taoyuan County	26	26
		Xiangshan District of Hsinchu City	26	26
		Zhudong Township of Hsinchu County	26	26
	Level 3	Shitan Township of Miaoli County	28	31
		Subtotal	172	175
Taichung, Changhua, Nantou	Level 1	Xitun District of Taichung City	24	22
		West District of Taichung City	24	23
	Level 2	Dali District of Taichung City	24	24
		Fengyuan District of Taichung City	24	24
		Daya District of Taichung City	24	29
	Level 3	Fuxing Township of Changhua County	24	24
		Shengang District of Taichung City	24	22
		Xianxi Township of Changhua County	24	24
	Level 4	Yuchi Township of Nantou County	24	23
		Subtotal	216	215
Yunlin, Chiayi, Tainan	Level 1	Anping District of Tainan City	26	27
		East District of Tainan City	26	25
	Level 2	East District of Chiayi City	34	34
		Dounan Township of Yunlin County	34	34
	Level 3	Dalin Township of Chiayi County	22	20
		Xiluo Township of Yunlin County	22	22
		Subtotal	164	162
	Level 1	Qianzhen District of Kaohsiung City	30	30

Sampling Frame		Selected	By Survey Site	By Survey Site
Area	Level	District or Township for Survey	No. of Expected Samples (1,160 samples in total)	No. of Completed Samples (1,167 samples in total)
Kaohsiung, Pingtung, Penghu		Zuoying District of Kaohsiung City	30	30
	Level 2	Renwu District of Kaohsiung City	28	28
		Niaosong District of Kaohsiung City	28	28
	Level 3	Chaozhou Township of Pingtung County	30	30
		Magong Township of Penghu County	30	30
	Subtotal		176	176
Hualien, Taitung	Level 1	Hualien City of Hualien County	14	14
	Level 2	Luye Township of Taitung County	12	12
	Subtotal		26	26
Kinmen, Matsu	Kinmen County		30	31
	Lianjiang County		30	30
	Subtotal		60	61
Grand total			1,160	1,167

The differences between the actual number of completed samples and the planned number of samples at survey sites are explained as below:

- (1) This survey was completely implemented as planned in terms of sites and allocation of samples. However, due to reasons like age control and people's willingness to be interviewed at different sites, fewer survey samples were completed than expected at several sites.
- (2) Although fewer samples were collected than planned at some sites, samples of all areas were verified to represent the population in terms of distribution, through a test prior to weighting (See Table 6).
- (3) Table 6 shows the planned numbers of samples and the actual numbers of valid samples completed by interviewers at selected sites. These numbers are representative prior to weighting. However, the survey analysis and results adopted by this report were tested and weighted based on the registered domicile of interviewees and the data of the entire population. Since the survey did not limit the interviewees to those with their domicile registered where they received the interview and the survey was simultaneously conducted in Taiwan proper, Kinmen and Matsu this year, all the data were consolidated, tested, weighted and grouped based on the registered domicile of the interviewees.

Table 6 Contingency Table for Digital Convergence Survey Site before Weighting

Allocation of Survey Site No.	Allocation of Samples		No. of Samples before Weighting		Chi-Square Test before Weighting
	No. of People	Percentage	No. of People	Percentage	
Total	1,100	100.0%	1,106	100.0%	The Chi-square value is 0.000, and p-value (= 0.999) is below the accepted significance level of 5%, meaning no significant difference between the distribution of samples and the original allocation of samples.
Survey Site					
Taipei City, New Taipei City, Keelung, Yilan	346	31.5%	352	31.8%	
Taoyuan, Hsinchu, Miaoli	172	15.6%	175	15.8%	
Taichung, Changhua, Nantou	216	19.6%	215	19.4%	
Yunlin, Chiayi, Tainan	164	14.9%	162	14.6%	
Kaohsiung, Pingtung, Penghu	176	16.0%	176	15.9%	
Hualien, Taitung	26	2.4%	26	2.4%	

C. Implementation of Survey

1. Timeline

Before the survey was formally launched, preparations for questionnaires and related affairs were undertaken from April. After the questionnaires were modified based on the conclusions from the meeting with the agency that commissioned this study, the survey formally began on June 1, 2019. The timeline was:

- (1) Preparation period: April 1 to May 24, 2019
- (2) Survey period:
 - Phase 1: May 20 to May 23, 2019.
 - Phase 2: June 1 to July 31, 2019.
- (3) Review period: July 30 to August 4, 2019

2. Survey method

Face-to-face interviews were employed for this survey; a computer-assisted interview survey system was used during the interview, and was supplemented with printed questionnaires.

3. Statistical analysis method

(1) Sample representativeness and weighting

After the survey results were reviewed, the NPAR Chi-square test was used to examine the difference between the allocation of samples and the structure of the population in terms of age, gender, and population percentage, to enhance the representativeness and reliability of the survey so that these samples could reflect the population structure. In case a significant difference in structure was identified between the samples and the population. Weighting was used to make the sample structure identical to that of the population.

About weighting, the raking method was used to adjust the sampling weights based on variables in the order of gender, age and area of registered household until no significant difference existed between the allocation of samples and the population in every variable.

All the data in the results were multiplied by the adjustment weight. $\frac{N_i}{N} / \frac{n'_i}{n}$, N_i and n'_i represent the number of the population and the number of sample population weighted in the Cross Group i , while N and n represent the number of the total population and the number of the total sample population weighted. This way, the sampling distribution was completely the same as the population distribution after weighting. The last weight was gained by multiplying all the adjustment weights.

(2) Reliability analysis

Reliability refers to trustworthiness or consistency of a survey. Namely, when the survey is performed under the same or similar conditions, consistent or stable results can be obtained. Cronbach's (1951) α reliability coefficient is currently the most used reliability indicator. Nunnally (1967) suggests that a reliability of 0.7 or higher, also known as high reliability, is acceptable.

(3) Frequency

How people understand and rate each of the aspects can be realized through the data presented in allocation of frequencies and percentages in all questions.

(4) Cross analysis and Chi-square test

A cross analysis table was established with the basic data for "all the issues" to realize whether a difference existed between the respondents with different backgrounds in all the issues. Pearson's Chi-square test was used in the cross table. The Chi-square test value (W) is defined as below:

$$W = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \sim \chi^2((r-1)(c-1))$$

, wherein

O_{ij} is the observed frequency from Row j, Column i, and

E_{ij} is the expected frequency from Row j, Column i.

When p-value in the Chi-square test is less than 0.05, the two variables are not independent at a 95% confidence level. That is, a significant statistic difference exists between the respondents with different backgrounds in the issue.

(5) Analysis of variance (ANOVA)

The total variation can be divided into the variation between groups and the variation within groups. Analysis of variance is used to calculate the rate of variation between groups to variation within groups. If the variation between groups is significantly greater than the variation within groups, significant differences among group means exist between two or more groups. If the variation between groups is not highly different from the variation within groups, few differences exist among groups. The ANOVA F-test calculations are as below.

$$F = \frac{MS_b}{MS_w} = \frac{SS_b / k - 1}{SS_w / n - k}$$
, where n represents the number of samples and k represents the number of groups,

$$SS_b = n \sum_{i=1}^k (\bar{X}_i - \bar{X})^2$$
 is the total sum of squared deviations of group means from grand mean, and

$$SS_w = \sum_{i=1}^k \sum_{j=1}^{n_i} (X_{ij} - \bar{X}_i)^2$$
 is the total sum of the squared deviations within groups.

4. Sample structure

As of August 4, 2019, the survey for this research has been implemented and reviewed by the research team, with 1,115 questionnaires completed¹ as valid samples. The sample structure is shown in Table 7.

¹ This survey was conducted in Taiwan, Penghu, Kinmen and Matsu. Since Kinmen's and Matsu's populations are too small for analysis, the samples of Taiwan proper (including Penghu) were separated from those of Kinmen and Matsu. The numbers were weighted by city or county, and samples were regrouped according to where interviewees register their domicile. (Namely, an interviewee who registered his domicile in Kinmen or Matsu and received the interview in Taiwan would be classified as a valid sample of Kinmen and Matsu; while an interviewee who registered his domicile in Taiwan proper and received the interview in Kinmen or Matsu would be processed as a valid sample of Taiwan proper.) This led to a slight difference between the final numbers of valid samples and the numbers of completed samples shown in Tables 5 & 6, which were sorted by "survey site."

Table 7 Contingency Table for Digital Convergence Survey Samples

Population variables	Population		No. of Samples before Weighting		No. of Samples after Weighting		Chi-Square Test before Weighting	Chi-Square Test after Weighting
	No. of People	Percentage	No. of People	Percentage	No. of People	Percentage		
Total	20,176,580	100.0%	1,115	100.0%	1,115	100.0%		
Gender							The Chi-square value is 0.577, and p-value (= 0.448) is below the accepted significance level of 5%, meaning no significant difference between samples and the target population in distribution of gender.	The Chi-square value is 0.000, and p-value (= 0.999) is below the accepted significance level of 5%, meaning no significant difference between samples and the target population in distribution of gender.
Male	9,940,336	49.3%	562	50.4%	549	49.3%		
Female	10,236,244	50.7%	553	49.6%	566	50.7%		
Age							The Chi-square value is 28.651, and p-value (= 0.000) is below the accepted significance level of 5%, meaning significant difference between samples and the target population in distribution of age.	The Chi-square value is 0.000, and p-value (= 1.000) is below the accepted significance level of 5%, meaning no significant difference between samples and the target population in distribution of age.
Age 16-25	2,946,481	14.6%	214	19.2%	163	14.6%		
Age 26-35	3,281,796	16.3%	202	18.1%	181	16.3%		
Age 36-45	3,877,239	19.2%	200	17.9%	214	19.2%		
Age 46-55	3,618,661	17.9%	190	17.0%	200	17.9%		
Age 56-65	3,326,481	16.5%	174	15.6%	184	16.5%		
Age 66 and above	3,125,922	15.5%	135	12.1%	173	15.5%		
City or County							The Chi-square value is 269.662, and p-value (=0.000) is below the accepted significance level of 5%, meaning significant difference between samples and the target population in distribution of city and county.	The Chi-square value is 0.000, and p-value (=1.000) is below the accepted significance level of 5%, meaning no significant difference between samples and the target population in distribution of city and county.
New Taipei City	3,468,998	17.2%	151	13.5%	192	17.2%		
Taipei City	2,282,576	11.3%	134	12.0%	126	11.3%		
Taoyuan City	1,862,558	9.2%	72	6.5%	103	9.2%		
Taichung City	2,369,481	11.7%	133	11.9%	131	11.7%		
Tainan City	1,636,231	8.1%	54	4.8%	90	8.1%		
Kaohsiung City	2,415,699	12.0%	127	11.4%	133	12.0%		
Yilan County	396,388	2.0%	28	2.5%	22	2.0%		
Hsinch County	459,988	2.3%	35	3.1%	25	2.3%		
Miaoli County	474,519	2.4%	33	3.0%	26	2.4%		
Changhua County	1,097,895	5.4%	48	4.3%	61	5.4%		
Nantou County	438,392	2.2%	27	2.4%	24	2.2%		
Yilan County	600,275	3.0%	53	4.8%	33	3.0%		
Chiayi County	454,426	2.3%	36	3.2%	25	2.3%		
Pingtung County	729,662	3.6%	30	2.7%	40	3.6%		
Taitung County	191,014	0.9%	13	1.2%	11	0.9%		
Hualien County	285,520	1.4%	17	1.5%	16	1.4%		
Penghu County	92,524	0.5%	34	3.0%	5	0.5%		
Keelung City	328,031	1.6%	39	3.5%	18	1.6%		
Hsinch City	363,693	1.8%	23	2.1%	20	1.8%		
Chiayi City	228,710	1.1%	28	2.5%	13	1.1%		

Note: The source of the population data is the 2018 December Demographic Data of Households in Each Village provided on the Open Data platform by the Ministry of the Interior.

Note: The numbers of samples by county or city shown in Table 7 were weighted based on the registered domicile and the consistency between numbers of samples before and after weighting was tested.

The change rate of the numbers of sample in all age groups after weighting is shown in Table 8. They are all in compliance with the requirement that no number of sample in any age group shall increase or reduce by more than 60% after weighting.

Table 8 Change Rate of the Numbers of Sample by Age Group after Weighting

Population variables	No. of Samples before Weighting		No. of Samples after Weighting		Change Rate of the No. of Sample by Age Group after Weighting
	No. of People	Percentage	No. of People	Percentage	
Total	1,115	100.0%	1,115	100.0%	
Age					
Age 16-25	214	19.2%	163	14.6%	0.76
Age 26-35	202	18.1%	181	16.3%	0.90
Age 36-45	200	17.9%	214	19.2%	1.07
Age 46-55	190	17.0%	200	17.9%	1.05
Age 56-65	174	15.6%	184	16.5%	1.06
Age 66 and above	135	12.1%	173	15.5%	1.28

D. Research Limitations

To keep on top of how Taiwanese people use communications in the digital economic era, a survey on the Broadband Usage trends in the communications industry was implemented by means of interviews with people aged 16 and over (those who were born on and before December 31, 2003) in Taiwan proper (exclusive of Kinmen County and Lian jiang County), at the request of the NCC. However, the following study limitations exist when actually performing the survey:

1. Sample frame limitations

Based on the requirements of the NCC, at least 1,100 successful samples were to be completed with the allocation of samples proportional to the population of every county or city.

In order to undertake rigorous sampling, research was conducted with reference to the sample structure used in Taiwan Social Change Survey by Academia Sinica. Nonetheless, it may be worth noting that this research differed from Taiwan Social Change Survey, where household registrations were used as a sampling frame. With no access to Taiwan's household registration database, a household survey seemed impossible. Instead, interviews were carried out at gathering places in townships or cities.

2. Sample recovery restrictions

The survey questionnaires contained 102 questions. In order to meet the

requirement of at least 1,100 successful sample responses, groups of two interviewers were arranged at busy locations, such as parks and crossroads, to perform interviews.

During this survey, the average number of those who did not comply was 8.6. Among the aged 55 and over groups, the average number of refusals was 12.22, making it much harder to achieve the planned number of interviews when compared with young people. Even so, the interviewers were urged to obtain the required number of samples by gender and age, so the weighted number of all age groups would not exceed the original number of samples by 60%.

3. Sample Inference Restrictions

After weighting, the sample number of young people, such as ages 16-25, was 0.76 times greater; the sample number of ages 26-35 was 0.9 times greater; the sample number of ages 36-45 was 1.07 times greater; the sample number of middle-aged people such as ages 46-55 was 1.05 times greater; the sample number of ages 56-65 was 1.06 times greater; and the sample number of ages 66 and above was 1.28 times greater.

Non-probability sampling was employed in this research; therefore, care should be taken when using the resulting statistical inferences.

III. Results

A. The Owning and Use of Home Equipment

The Owning and Use of Home Equipment Q3

1. Overall Analysis

According to the results, 91.2% of people in Taiwan aged 16 and over own a smart phone, while 76.4% have a television set (not connected to internet), and 55% have desktop computers. 49.8% of the interviewees own laptops and 37.7% own tablets (see Figure 1).

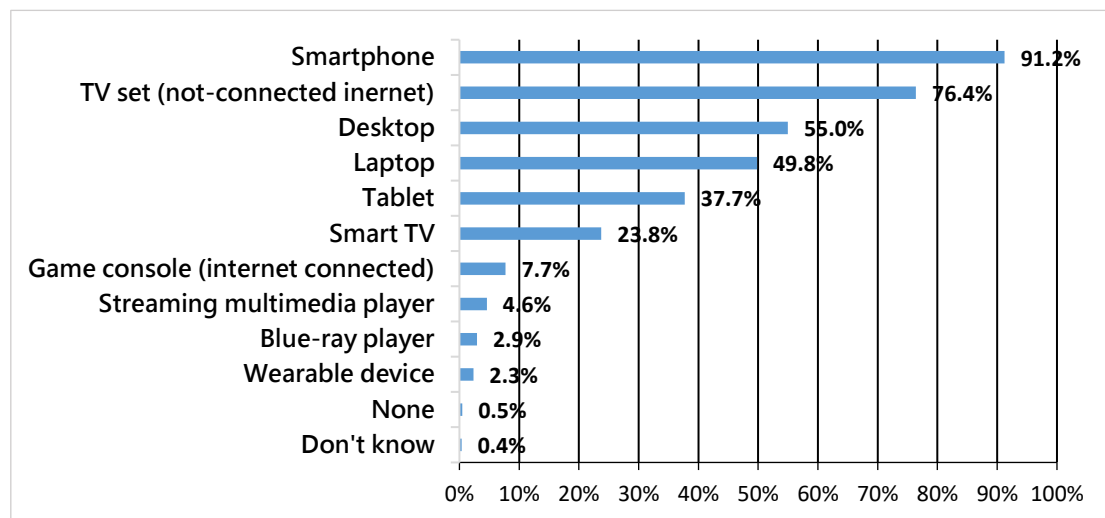


Figure 1 Which Equipment Having at Home

Base : N= 1,115, multiple-choice

2. Comparative Analysis

(1) Analysis of regional differences

The cross analysis finds that the proportion owning smart phones in the areas of Taipei City, New Taipei City and Keelung, Taoyuan, Hsinchu and Miaoli, Kaohsiung, Pingtung and Penghu and Yilan, Hualien and Taitung are all over 90%; the other areas are 80%. In terms of TV (not connected to internet) ownership, 69.2% own a TV in Taoyuan, Hsinchu and Miaoli, the other areas are all above 70%. Except for Taoyuan, Hsinchu and Miaoli (46.8%), the those who own a desktop computer are all above 50%, with the highest rate 59.2% in Yunlin, Chiayi, and Tainan.

(2) Analysis of basic differences

When analyzed by gender, in terms of owning smartphones, 92.5% of women and 89.8% of men own a smartphone.

When analyzed by age, except for those aged 66 and over, who have the highest proportion of TV ownership (not connected to internet), the highest rates for the other age groups is for smart phone ownership.

When analyzed by marital status, those who own a smart phone are a majority, regardless of marital status, with the highest rate 92.6% of those unmarried and the lowest rate 83.7% of those widowed or separated.

Devices Most Frequently Used for Viewing the Video Content Q7

1. Overall Analysis

Smartphones (50.7%) and television sets (not connected to internet) (30.7%) are the devices most frequently used for viewing the video by people aged 16 and over and 5.6% use desktop computers; 5.6% also used smart televisions (see Figure 2).

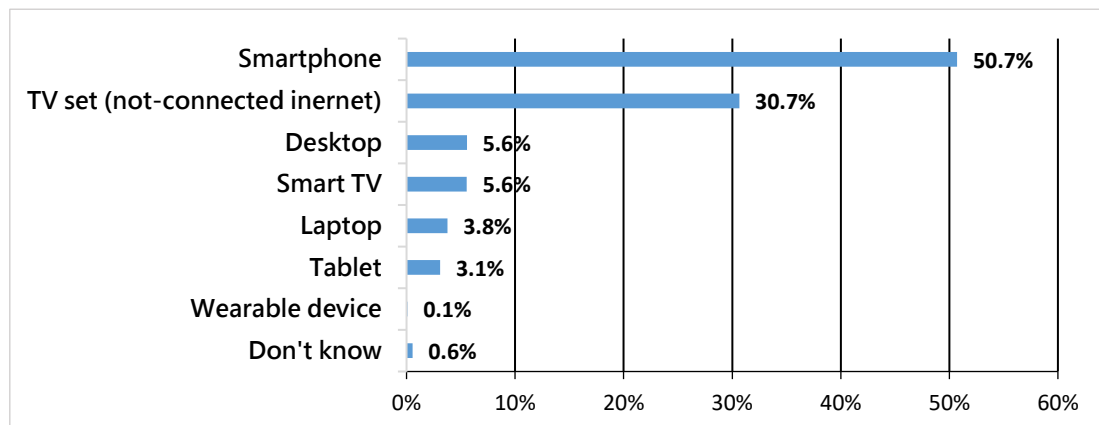


Figure 2 Devices most frequently used for viewing the video content

Base: N = 1,092, single-choice (respondents who have filled out the device used for viewing the video content)

2. Comparative Analysis

(1) Analysis of regional differences

The result from cross analysis finds that with respect to devices most frequently used for viewing the video by respondents, except for people in Taipei City, New Taipei City and Keelung (43.3%) who primarily use television set (not connected to internet), the majority of people in the other use smartphones. the highest rate in Kaohsiung, Pingtung and Penghu (the highest proportion), and the lowest rate 46.5% in Taoyuan, Hsinchu and Miaoli.

(2) Analysis of basic differences

The result of Chi-square tests indicate that, people who use devices most frequently to view video vary substantially by gender, age, and marital status.

When analyzed by gender, 51.8% of women and 49.6% of men most frequently use smartphones to view video. However, 32.3% of men use a television set (not connected to internet) most frequently compared to 29.1% of women.

When analyzed by age, the devices most frequently used for viewing video are smartphones for those aged 16–25, 26–35, and 36–45, whereas televisions (not connected to internet) are most frequently used for viewing the video by 46–55 year-olds, 56–65 year-olds, and 66 year-olds and over. In addition, the proportion using

smartphones decreases by age group with the highest rate 71.1% of 16–25 year-olds and the lowest rate 14.7% of 66 year-olds and over, whereas the proportion using television sets (not connected to internet) increases by age group with the highest rate 65.6% of 66 year-olds and over and the lowest rate 8% of 16–25 year-olds.

Those unmarried most frequently (40.4%) use smartphones to view video, whereas the majority of those married or widowed or separated primarily use television sets (not connected to internet). 41.5% of those married most frequently use a television set not connected to internet, a figure which is not significantly different from the 40.4% of those unmarried who use a smartphone.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that people who use devices most frequently to view the video vary significantly by housing tenure.

When analyzed by housing tenure, used to view video are home owners (48.2%) and house renters (58.9%) most frequently use smartphones. However, the share of home owners who most frequently use a television set (not connected to internet) and who most frequently use smart television are both greater than those who rent. More house renters (7.7%) than home owners (2.7%) use a laptop most frequently.

B. On-Line Streaming Video Watching

On-Line Streaming Video Watching Q8 Q9 Q10 Q11

1. Overall analysis

45.1% have watched online streaming video (including paid for and free video services) (see Figure 3). The main reasons for viewing are flexibility of viewing time (59.9%), recommendations from family and friends (38.2%), and recommendations from social media (37.1%) (see Figure 4).

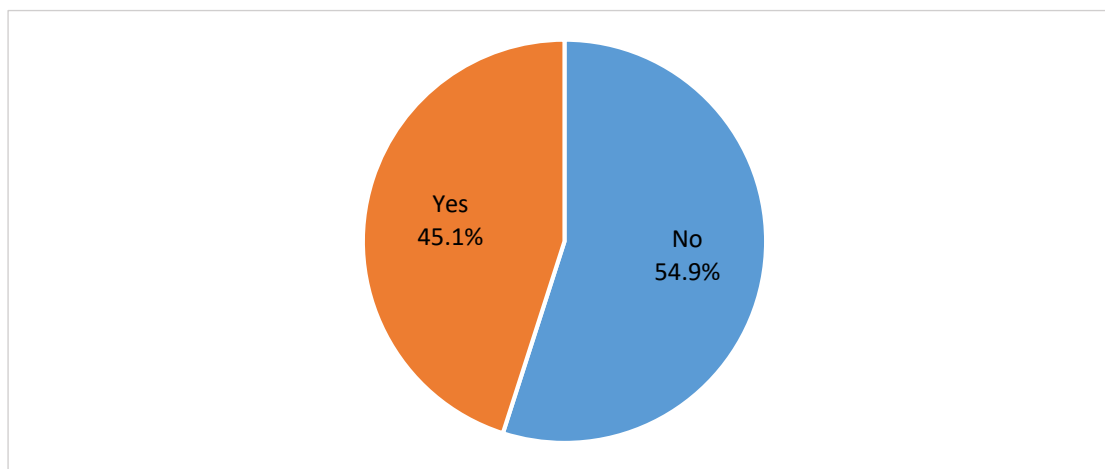


Figure 3 Online Streaming Video Viewing Experience

Base : N=1,115, single-choice

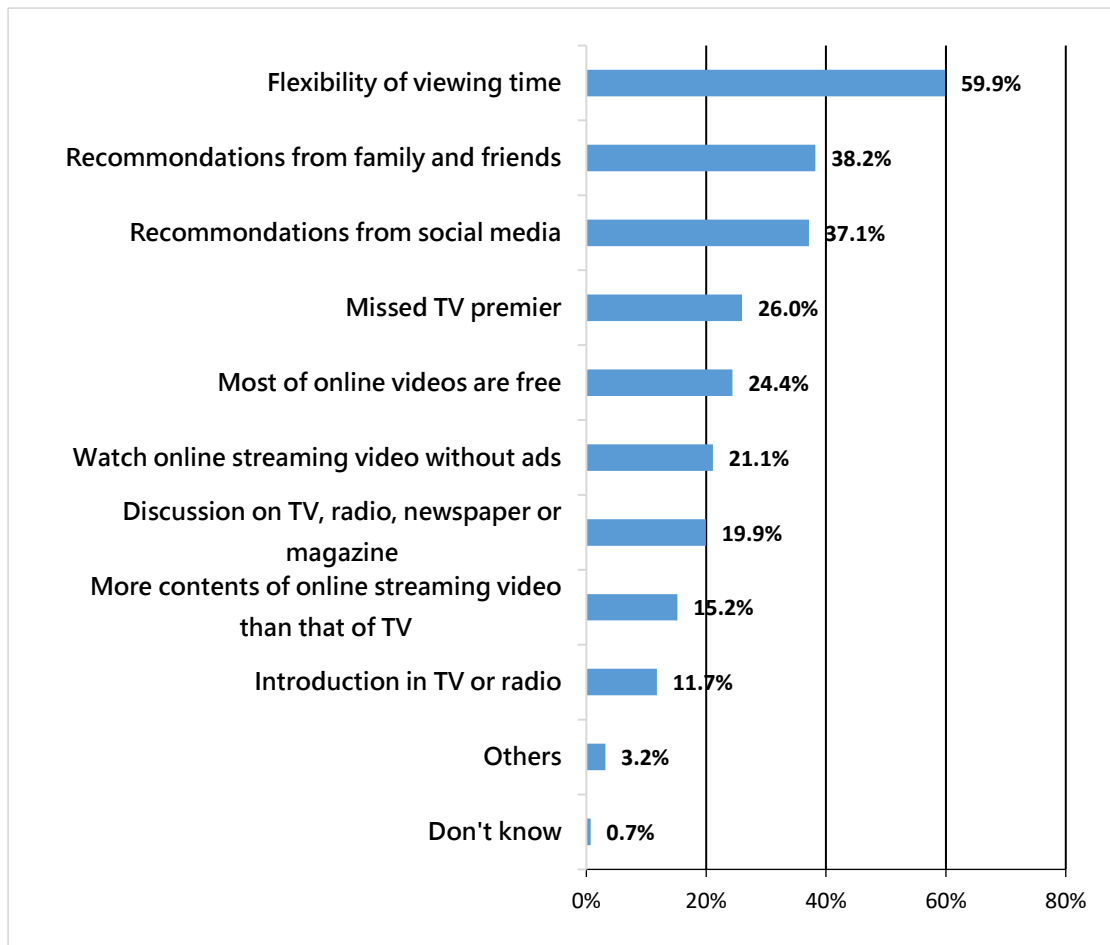


Figure 4 Reasons for Viewing Online Streaming Videos

Base : N=502, multiple-choice (who has viewed online streaming videos)

On average, the interviewees spend 15.07 hours per week viewing streaming videos online (N=502, who have viewed online streaming videos), and 19.4% use SVoD services (see Figure 5).

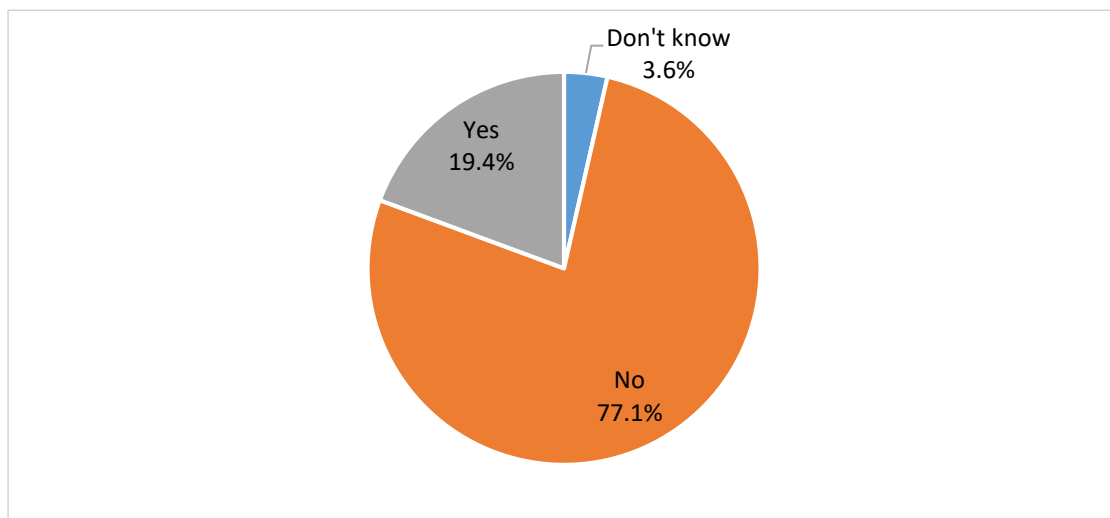


Figure 5 Paid Online Streaming Video Subscription

Base : N=502, single-choice (who has viewed online streaming videos)

2. Comparative Analysis

(1) Analysis of regional differences

Kaohsiung, Pingtung and Penghu (55.9%) and Yilan, Hualien and Taitung (51%) have the highest rates of those who watch online streaming video. In other regions, the majority do not view online streaming video, with the highest rate 60.4% in Taipei City, New Taipei City and Keelung.

In all regions, the main reasons for viewing online video is flexibility of viewing time, with highest rate 66.7% in Taoyuan, Hsinchu and Miaoli and the lowest rate 55.1% in Taipei City, New Taipei City and Keelung.

In terms of viewing time, those in Taoyuan, Hsinchu and Miaoli spent the longest time (21.25 hours) and those in Taichung, Changhua and Nantou the shortest (11.31 hours).

Regarding adopting SVoD services, all regions have the highest proportion of not adopting SVoD services. Among those who use SVoD services, people in Yilan, Hualien, and Taitung have the highest rate of 30.9% and Kaohsiung, Pingtung and Penghu have the lowest rate of 14.7%.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the experience of viewing online streaming videos and whether paid for online streaming video subscription significantly varies by gender, age and marital status.

When analyzed by gender, 50.5% women have viewed online streaming videos compared with 39.5% men. The main reason for viewing online streaming videos for women and men is the flexibility of viewing time. Men on average watch 16.27 hours per week of online streaming video, which is longer than the 14.17 hours spent by women. Regarding SVoD services, the majority of both men and women do not use SVoD services, but 25.7% of men who use SVoD services is higher than the 14.5% of women who have.

When analyzed by age, the proportion viewing online streaming decreases by age group, with the highest rate 73.5% of 16–25 year-olds and the lowest rate 10.3% of aged 66 year-olds and over. Among all the age groups, the main reason for viewing online videos is flexibility of viewing time, except for those aged 66 and over (51.4%) who watch at the recommendation by family or friends. 66 year-olds and over have the longest average viewing time per week (16.39 hours/per week), and 46–55 year-olds the shortest viewing time (13.2 hours/per week). Regarding SVoD services, the highest proportion for all age groups have is for not using SVoD services, but 16–25 year-olds (25%) have a higher proportion of using SVoD services than 56–65 year-olds (7%).

When analyzed by marital status, 65.6% of those unmarried who have viewed online streaming videos is the highest proportion. 65% of those married and 73.1% of

those widowed or separated, have not viewed online streaming videos. The main reason for watching online streaming videos regardless of marital status is the flexibility of viewing time. The longest average viewing time per week is for among those widowed or separated (16.63 hours/per week), and the shortest viewing time is among those married (14.32 hours/per week). Regarding SVoD services, the highest proportions are for not adopting SVoD services regardless of marital status, but those unmarried have a higher proportion (21%) for using SVoD services than those widowed or separated (2.8%).

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that the experience of viewing online streaming videos significantly varies by profession and individual average monthly income.

When analyzed by housing tenure, house renters (56.3%%) have a higher proportion than home owners (42.2%) in terms of viewing online streaming videos.

When analyzed by education level, those with a bachelor's degree and those with a master's degree or higher have the highest proportions for viewing online streaming videos, while those of other education levels have the highest proportions for not viewing, with the highest rate 95.7% for those with elementary school education or lower.

When analyzed by profession, those who work in wholesale and retail (54.3%), transportation and warehousing (58.6%), publishing, audio-video production, mass communication, information, and communications (63.5%), finance and insurance (55.3%), professional, scientific and technology services (60.5%), support service industries (53.1%), education (53.8%), public administration and national defense (73.9%), health care and social services (70.7%), art, entertainment and recreation services (51.1%) and students (70.2%) all have the highest proportions for viewing online streaming videos, while those of other professions have the highest proportions for not viewing.

When analyzed by average monthly individual income, those earning NT\$30,000-39,999 group (58%), NT\$50,000-59,999 group (51.9%) and those earning NT\$60,000 or more (55.6%) have the highest proportions for viewing online streaming videos, while those of other income groups have the highest proportions for not viewing online streaming videos.

Usage of Online Video Streaming Service Q12

1. Overall Analysis

Among family members or individuals over 16 in Taiwan who currently subscribe to online video streaming services, iQiyi (54.8%) accounts for the highest percentage

of online video streaming services, followed by Netflix (50.2%) and FOX+ (10.1%) (see Figure 6).

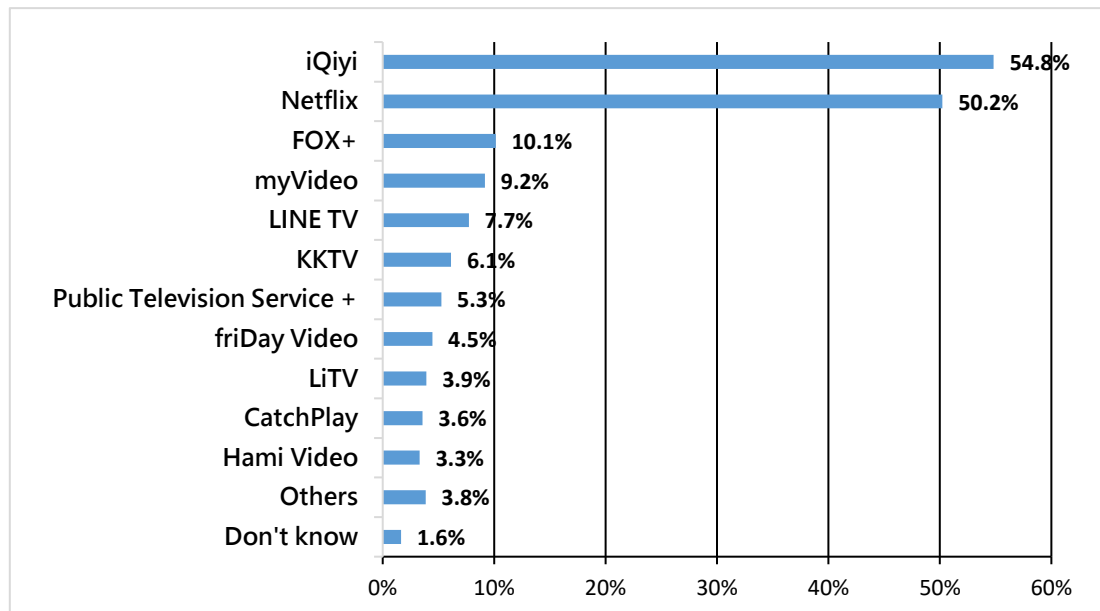


Figure 6 Current pay service subscriptions of online video streaming services

Base: N = 97, multiple-choice (respondents who currently subscribe and pay the online video streaming services)

2. Comparative Analysis

(1) Analysis of regional differences

The result of cross analysis finds that iQiyi is the primary pay service for online video streaming services subscribed to by 52.1% in Taipei City, New Taipei City and Keelung, 66% in Taichung, Changhua and Nantou, and 63.9% in Yunlin, Chiayi, and Tainan, whereas Netflix accounts for 57% in Taoyuan, Hsinchu and Miaoli, 63.2% in Kaohsiung, Pingtung and Penghu, and 54.4% in Yilan, Hualien, and Taitung.

(2) Analysis of basic differences

When analyzed by gender, 63.8% of women subscribe to iQiyi and 54.8% of men subscribe to Netflix.

When analyzed by age, 63.2% of 16–25 year-olds and 41.6% of 36–45 year-olds subscribe to Netflix, whereas 63.7% of 26–35 years old and 62.5% 46–55 year-olds subscribe to iQiyi.

When analyzed by marital status, iQiyi is the primary pay service of the online video streaming services subscribed to by both those unmarried (55.8%) and those married (53%).

Considering Stopping Subscriptions to Paid Online Streaming Video Service in the Next 12 Months Q14

1. Overall analysis

Regarding whether to stop the subscription of paid online streaming video services in the next 12 months, 61.3% are not considering it, and 28.1% are considering to stop their subscription (see Figure 7).

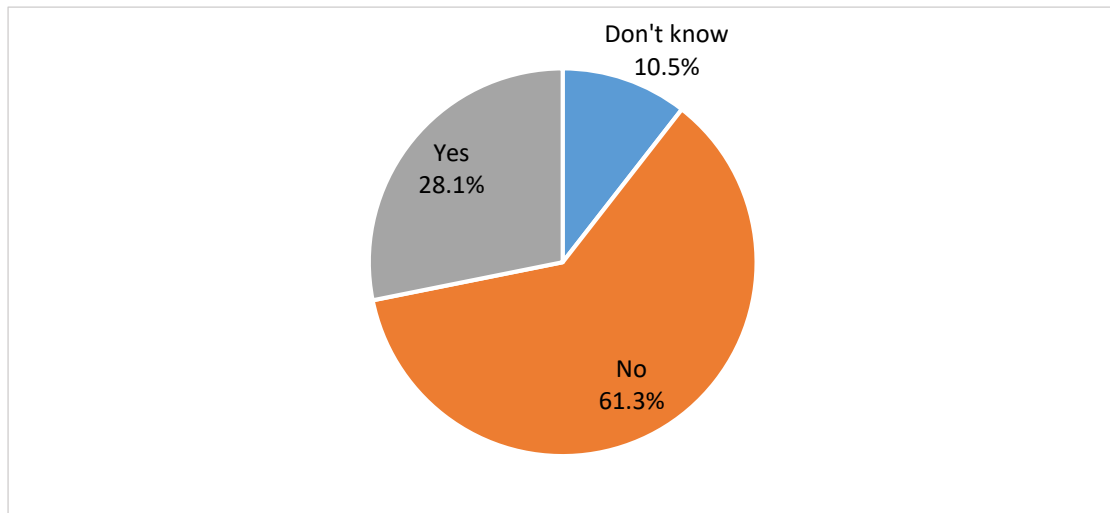


Figure 7 Considering Stopping Subscriptions to Paid Online Streaming Video Service

Base : N=97, single-choice (currently paid subscriptions for online streaming video services.)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the highest proportions in all regions are considering stopping their subscription to paid online video services, with the highest rate 72.4% in Yunlin, Chiayi, and Tainan and the lowest rate 48.2% in Taipei City, New Taipei City and Keelung.

(2) Analysis of basic differences

When analyzed by gender, 63.8% of women and 59.5% of men are considering stopping their subscription to paid online video services.

When analyzed by age, 16–25 year-olds, 26–35 year-olds and 36–45 year-olds have the highest proportions for considering to stop their subscription for paid online video services, with 36% of 16–25 year-olds being the highest proportion.

When analyzed by marital status, 68.7% of those married and 60% of those unmarried are the highest proportions considering to stop their subscription to paid online video services.

C. Communicative Behavior

Engaged Communicative Activities Q17

1. Overall analysis

Among all the communicative activities, speaking on the phone is the highest

(81.8%), followed by using instant messengers (such as Facebook Messenger, LINE, Skype, WhatsApp and WeChat) (76.3%), and social media (such as Facebook, Instagram and Twitter) (74.2%) (see Figure 8).

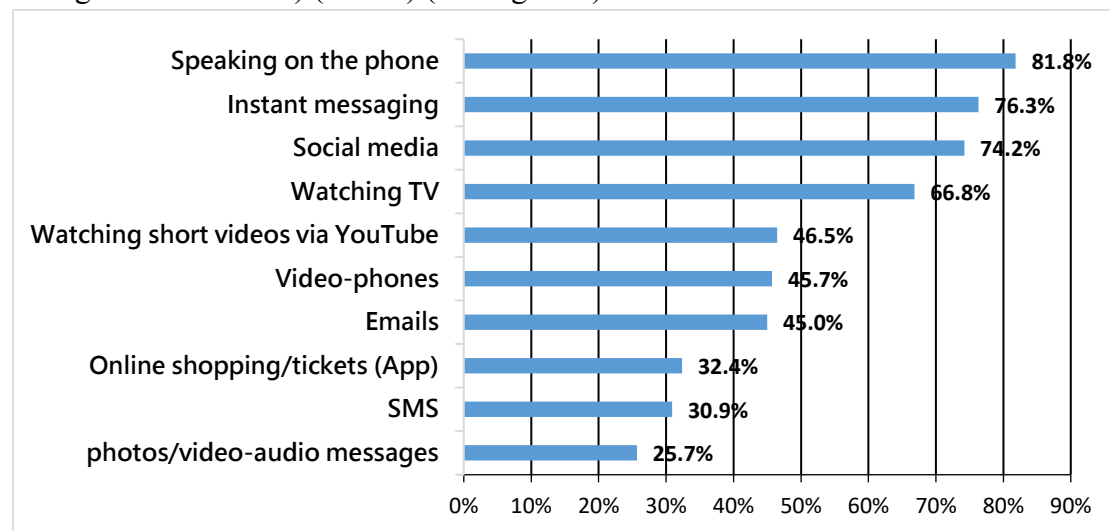


Figure 8 Engaged Communication Activities (Top 10)

Base : N=1,115, multiple-choice

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, speaking on the phone is the highest communicative activity in the regions of Taipei City, New Taipei City and Keelung (88.2%), Taoyuan, Hsinchu and Miaoli (77%), Taichung, Changhua and Nantou (82.4%) and Yilan, Hualien and Taitung (74.7%). In the Kaohsiung, Pingtung and Penghu area, the majority use instant messengers (60.6%). In addition, people in Kaohsiung, Pingtung and Penghu have the highest proportion for viewing short films via YouTube or other platforms (66.3%).

(2) Analysis of basic differences

When analyzed by gender, the highest proportions of 83.3% of women and 80.3% of men are for speaking on the phone as the main communicative activity.

When analyzed by age, 91.6% of 16–25 year-olds, 88.9% of 26–35 year-olds and 85.3% of 36–45 year-olds use social media as their main communicative activity. The highest proportions for speaking via landlines are among 56–65 year-olds (90.6%) and 66 year-olds and over (89.8%). In addition, the lowest proportion of any age group for using social media, instant messages, emails and viewing short films via YouTube and other platforms is among 66 year-olds and over.

When analyzed by marital status, 87.7% of those unmarried engage most in communication activities using social media, and the highest proportions for those married people (84.6%) and those widowed or separated (82.1%) are for speaking on the phone.

Watching TV While Using Other Device Searching Program Information Q18 Q19

1. Overall Analysis

Regarding watching TV while using other devices (desktops, laptops, tablets or smart phones), people who use at least once per day have highest proportion (27.7%), followed by people who never use (26%) (see Figure 9).

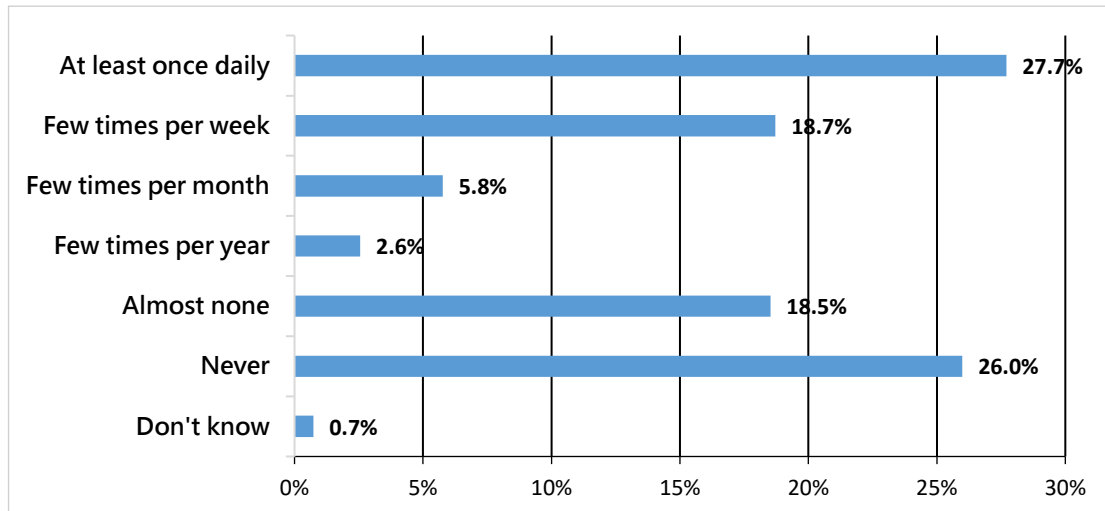


Figure 9 Frequency of Using Other Devices to Watch TV Program Information, While Using a Television Set

Base : N=811, single-choice (Home TV, desktop, notebook, tablet and smartphone)

Using other devices to access the internet at least once per day while watching TV on a TV set is the highest percentage (43.7%). Ranking second is doing this kind of behavior few times per week (21.5%) (see Figure 10).

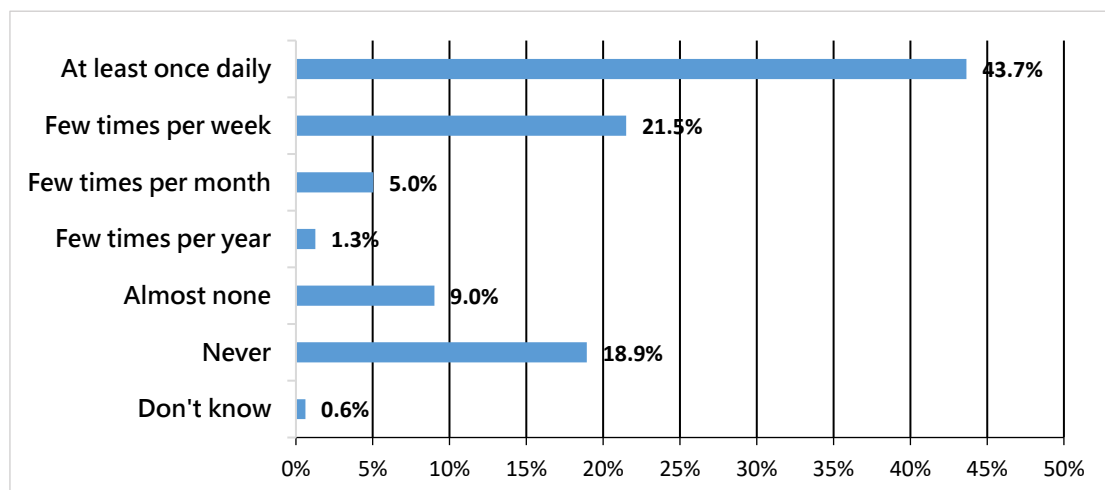


Figure 10 While Watching TV with a Television, Using other Device to Surf the Internet

Base : N=811, single-choice (Home TV, desktop, notebook, tablet and smartphone)

2. Comparative Analysis

(1) Analysis of regional differences

The result of Chi-square tests indicates that watching TV and searching program information at the same time, and watching TV and using other devices to access the Internet, significantly vary by region.

When analyzed by region, those who “never” watch TVs and search program information at the same time is the highest rate in Taipei City, New Taipei City and Keelung (28.8%), Yunlin, Chiayi and Tainan (29.7%) and Yilan, Hualien and Taitung (46.4%). If they, while Taoyuan, Hsinchu and Miaoli (34.8%), Taichung, Changhua and Nantou (29.4%) and Kaohsiung, Pingtung and Penghu (32%) have the highest proportions of doing so at least once a day.

As to the question of watching TVs and accessing the Internet, all regions have the highest rate of least once per day, with the highest rate 48.4% in Yunlin, Chiayi and Tainan and the lowest rate 40.1% in Yilan, Hualien and Taitung.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the people watching TV and searching program information at the same time significantly varies by age and marital status; people watching TV and using other devices to access the Internet significantly varies by gender, age and marital status.

When analyzed by gender, 27.3% of men never watch TV and use other devices to search for program information, while 29.8% of women do so at least once per day. 45.5% of women and 41.7% of men watch TV and use other devices to access the Internet at least once per day.

When analyzed by age, 16–25 year-olds (32%), 26–35 year-olds (37.6%) and 36–45 year-olds (36.1%) search for program information while watching TV with other devices at least once per day. 46–55 year-olds (30.5%), 56–65 year-olds (40.6%) and 66 year-olds and over (60.4%) never watch TV and search for program information at the same time. 66 year-olds and over never watch TV while use other devices to access the Internet at the same time, while for other age groups have the highest proportion is for at least once a day, with the highest rate 57.8% of 26–35 year-olds and the lowest rate 30.5% of 56–65 year-olds.

When analyzed by marital status, the proportion for watching TV and searching programs information using other devices is at least once per day for 33.7% of those unmarried. 42.7% of those widowed or separated and 32.3% of those married never watch TV and search for program information at the same time. 34.4% of those widowed or separated never watch TV and using other devices to access the Internet at the time, while 51.5% of unmarried and 40.3% married do so at least once a day.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that the people watching TV and searching

program information at the same time significantly varies by education level.

When analyzed by education level, 75.9% of those with elementary school education and lower, or with middle school or junior high school education (47.8%) never watch TV and search for program information at the same time. Those with senior high or vocational education either never (28.4%) or do so once per day (28%). Those with junior college education (42.3%) and those with a bachelor's degree (31.6%) do so at least once per day; those with a master's degree or higher do so less than once per week (30.3%).

When asked about watching TVs and using other devices to access the Internet, those with elementary school education or lower (52.4%), middle schools or junior high schools (37.7%), or senior high or vocational education (31.6%), never watch TV and access the internet at the same time. Those with junior college education (31.6%) do so at least once per day; people with a bachelor's degree (28.5%) and people with a master's degree or higher (34.5%) do so less than once per week.

D. Choosing Communication Services Suppliers

Service Combinations Q25 Q26

1. Overall analysis

Regarding the use of bundled services provided by the same company, 23.2% use Chunghwa Telecom's MOD plus fixed broadband, and 15.6% use cable TV plus cable broadband. 50.5% for neither of these is the highest rate (see Figure 11).

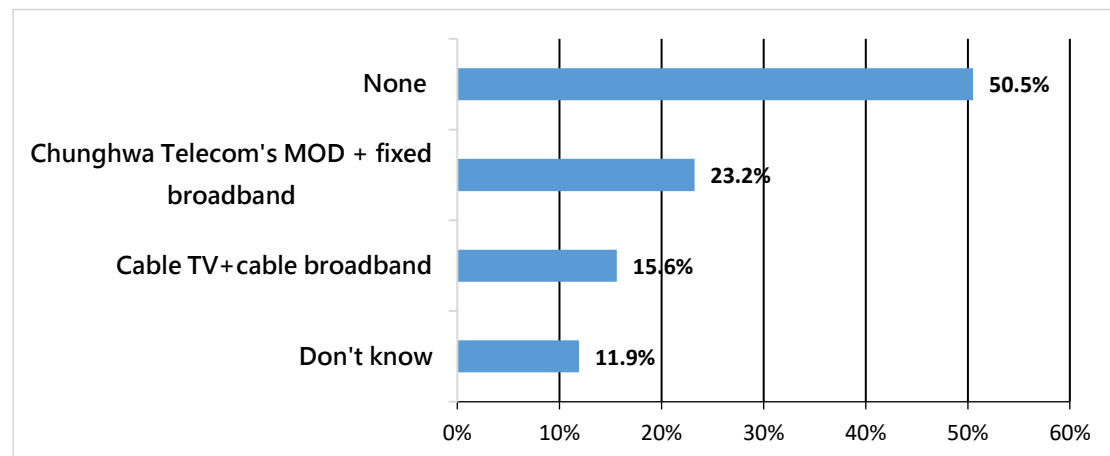


Figure 11 Services Supplied by the Same Company

Base : N=1,115, multiple-choice

Among the service combinations purchased, 48% offered discounts, and 21.2% did not offer discounts (see Figure 12).

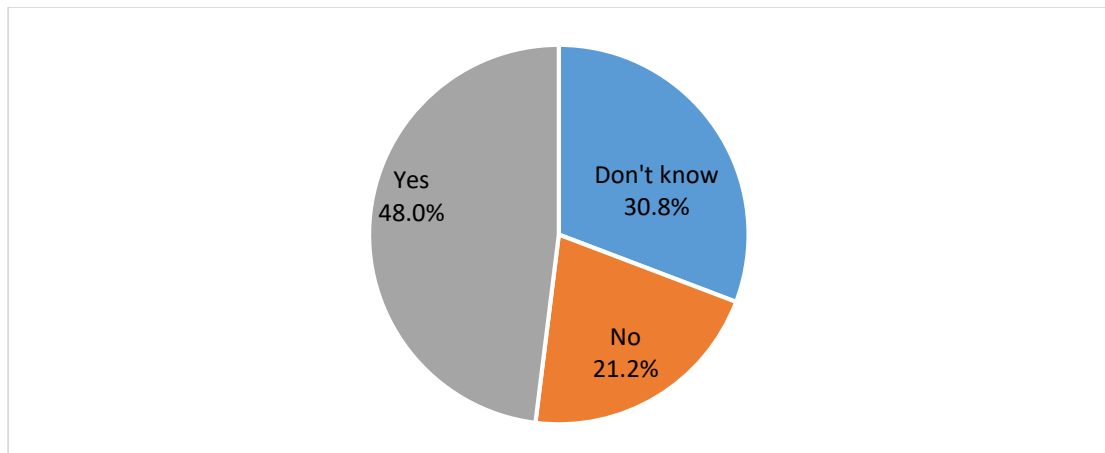


Figure 12 Services with Discounts

Base : N=419, single-choice (provided by the same company)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the highest rate for using bundled services among all regions is None. As to using the bundle service provided by Chunghwa Telecom's MOD plus fixed broadband, with the highest rate 28.4% in Yunlin, Chiayi and Tainan, and the lowest rate 19.7% in Taipei City, New Taipei City and Keelung. As for using a cable TV plus cable broadband combination, the highest rate 24.9% was in Taipei City, New Taipei City and Keelung and the lowest rate 7.9% in Yunlin, Chiayi, and Tainan. Regarding the question of the bundle services with discount, 39% do not know in Taichung, Changhua and Nantou was the highest proportion, while the highest proportions for the other regions was for a discount included, with the highest rate 60.1% in Yilan, Hualien, and Taitung and the lowest rate 41.9% in Yunlin, Chiayi, and Tainan.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the bundle services with a discount significantly varies by gender.

When analyzed by gender, 52.4% of men and 48.7% women have a majority of services provided by the same company; if there is a bundle service provided by the same company, 52.7% of men and 42.9% of women receive a discount on the main services.

When analyzed by age, the highest proportion for all age groups is for not using a bundle service provided by the same company. People who use Chunghwa Telecom's MOD plus fixed broadband decreases by age group with the highest rate 29.8% 26–35 year-olds and the lowest rate 14.9% of aged 66 year-olds and over. If there is a bundle service provided by the same company, all age groups receive a discount on the main services, with the highest rate 54.9% of 46–55 year-olds and the lowest rate 41.6% of 66 year-olds and over.

When analyzed by marital status, not using a bundle service provided by the same company is the highest proportion regardless of marital status, with the highest rate 54.4% of those married people and the lowest rate 45% of those unmarried. If there is a bundle service provided by the same company, receiving a discount on the main services is the highest proportion regardless of marital status, with the highest rate of 50.4% of those married people and the lowest rate 41.8% of those widowed or separated.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that bundle services with a discount significantly varies by housing tenure.

When analyzed by housing tenure, 51.2% home owners and 38.6% of house renters receive discount on the main services, if there is a bundle service provided by the same company.

E. Online Video/Audio Sharing Platforms

Viewing Online Sharing Platforms Q36 Q38

1. Overall Analysis

Regarding whether or not people have viewed content on online video sharing platforms, 74.6% of the people responded affirmatively (while 25.4% answered no) (see Figure 13). The genres are entertainment dramas or movie clips (69.3%), funny short films (52%) and entertainment dramas or whole movies (49.4%) (see Figure 14).

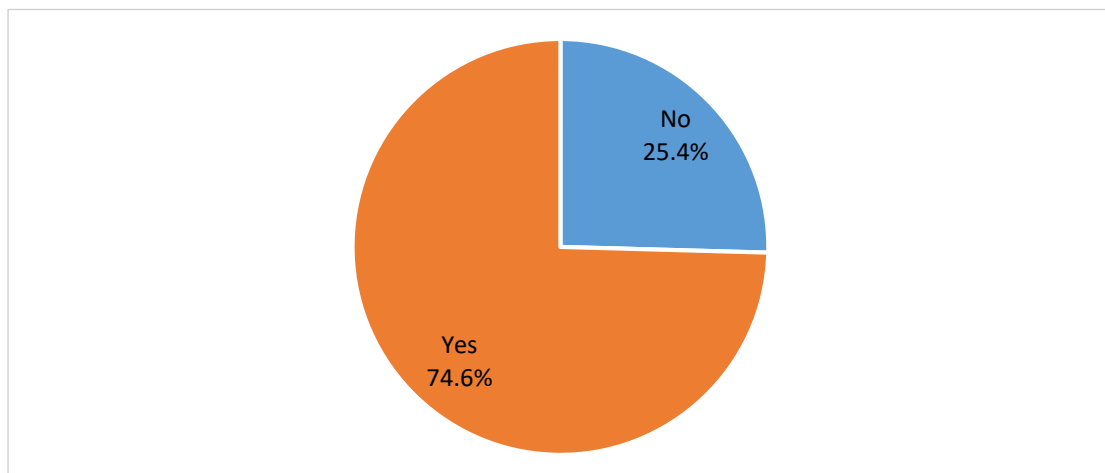


Figure 13 Watching Online Sharing Platforms

Base : N=1,115, single-choice

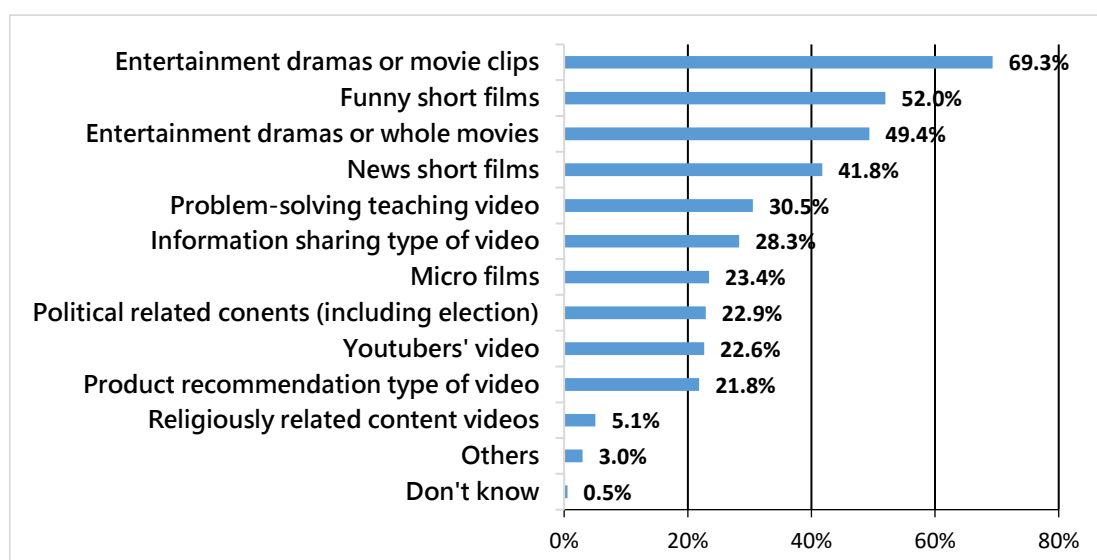


Figure 14 The Genres of Online Sharing Platforms (Top 10)

Base : N=831, multiple-choice (for those who watch online sharing platforms)

2. Comparative Analysis

(1) Analysis of regional differences

The result of Chi-square tests indicates that whether or not people have viewed content on online video sharing platforms significantly varies by region.

When analyzed by region, the highest proportions in all regions have of viewed content on online video sharing platforms (more than 60%), with the highest rate 89% in Kaohsiung, Pingtung and Penghu and the lowest rate 63.8% in Yilan, Hualien, and Taitung.

Regarding genres, the highest proportions in all regions watch dramas or movie clips, with the highest rate 76.7% in Yilan, Hualien, and Taitung and the lowest rate 62.7% in Taoyuan, Hsinchu and Miaoli.

(2) Analysis of basic differences

The result of Chi-square tests indicates that whether or not people view online sharing platforms significantly varies by age and marital status.

When analyzed by gender, both men (72.8%) and women (76.2%) have the highest proportion for viewing content of online video sharing platforms, and both have the highest proportion for entertainment dramas and movies (best selection). In addition, men have higher proportions for news clips (46.9%) and political related content (31.5%) compared to women (37% and 14.9%).

When analyzed by age, the percentages viewing online video sharing platforms decrease by age group, with 66 year-olds and over having the highest rate for not viewing; the other age groups have higher proportions for viewing, with the highest rate 94.5% of 16–25 year-olds and the lowest rate 54.7% of 56–65 year-olds.

People in all age groups have the highest proportion for viewing entertainment

dramas and movie (best selection), with the highest rate 78.5% of 16–25 year-olds and the lowest rate 51.6% of 66–75 year-olds. In addition, the proportion of those viewing fun clips decreases by age group, with the highest rate 70.4% of 16–25 year-olds and the lowest rate 35.5% of 66 year-olds and over. People aged 66 and over have the highest proportion for viewing religious content videos than other age groups.

When analyzed by marital status, the majority of people regardless of marital status have the highest proportions for viewing content on online video sharing platforms, with the highest rate 51.6% of those unmarried and the lowest rate 52.2% of those widowed or separated. Regardless of marital status, the highest proportion is for viewing entertainment dramas and movies (best selection), with the highest rate 77.7% of those unmarried and the lowest rate 61.3% of those married. In addition, those unmarried have a higher rate for viewing fun clips and Youtubers' videos and micro films than those married or those widowed or separated.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that whether people view online sharing platforms significantly varies by housing tenure, education level, profession and individual average monthly income.

When analyzed by housing tenure, house renters (85%) view online sharing platforms more than the home owners (71.6%).

When analyzed by education level, those with elementary education or lower (84.6%) and those with high school or secondary education (53.7%) are the highest proportions for not viewing video on online video platforms, while for other education levels, the highest proportion for viewing decreases by education level, with the highest rate 92.3% of those with a master's degree or higher.

When analyzed by profession, except the retired who have the highest proportion for not viewing online sharing video platforms, the other profession groups have the highest proportions for viewing, with more than 90% of those in public administration and national defense (96.3%), students (95.1%), people in the real estate (94%), people in the health care and social work services (92.7%), and the rate for those in publishing, audio-video production, mass communication, information, and communications is up to 100%.

When analyzed by individual average monthly income, the majority in all income groups have the highest proportion for viewing online sharing video platforms, with the highest rate 85.7% in the NT\$50,000-59,999 group, and more than 80 for those in the NT\$30,000-39,999 group (82.6%) and the NT\$60,000 or more group (85.5%).

Online Advertisement Q40

1. Overall analysis

As to the attitude towards online advertisements, “As long as I am interested, I don’t mind viewing” (38.2%) is the majority. The people who chose “I don’t like online advertisements” and “I don’t mind watching online ads” were 37% and 17.3% respectively (see Figure 15).

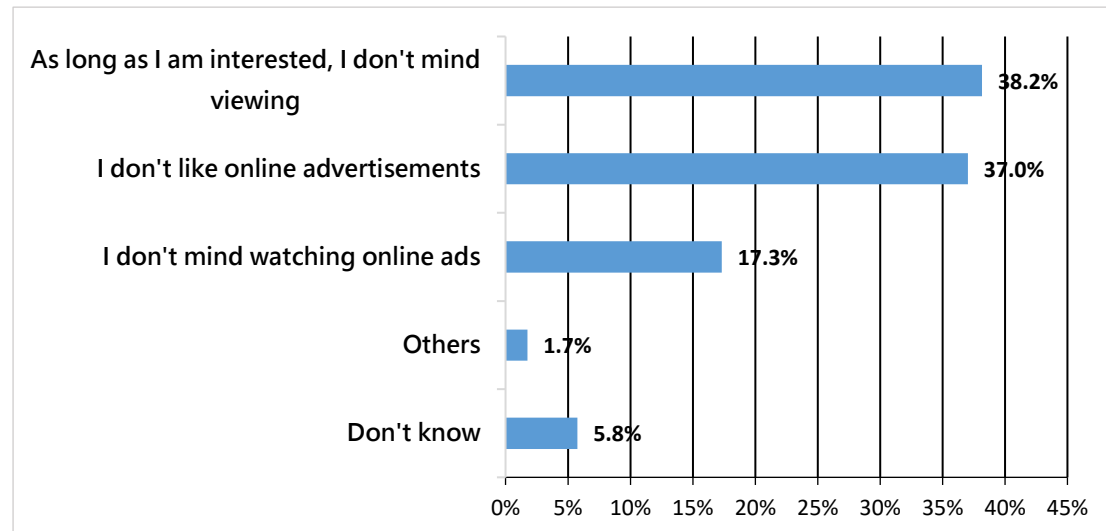


Figure 15 The Attitudes Towards Online Advertisements

Base : N=1,115, single-choice

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the highest percentages in Taipei City, New Taipei City and Keelung (39.3%), Taichung, Changhua and Nantou (38.3%) and Kaohsiung, Pingtung and Penghu (42.3%) chose “As long as I am interested, I don’t mind viewing online advertisements”. For Taoyuan, Hsinchu and Miaoli (37.5%), Yunlin, Chiayi, and Tainan (40%) and Yilan, Hualien, and Taitung (37.2%) the highest percentages chose “I don’t like online advertisements” was.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the attitudes towards online advertising significantly varies by marital status.

When analyzed by gender, 40.7% of men agree that “I don’t like online advertisements” and 41.5% women say that “As long as I am interested, I don't mind watching online advertising.”

When analyzed by age, 47.6% of 16–25 year-olds, 49.8% of 26–35 year-olds and 46.4% 36–45 year-olds agreed that “As long as I am interested, I don’t mind to view online advertisements.” 41.1% of 46–55 year-olds, 43.6% of 56–65 year-olds and 32.7% of 66 year-olds and over agree that “I don't like online advertising.”

When analyzed by marital status, 44.5% of those unmarried and 37.1% of those married agreed that “As long as I am interested, I don’t mind to view online

advertisements.” 41.7% of those widowed or separated agree that “I don't like online advertising.”

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that attitudes towards Online Advertisements significantly varies by education level.

When analyzed by education level, those with elementary education or lower (25.2%), those with high school or secondary education (35.6%), those with senior high school or vocational school education (38%) and those with a master's degree or higher (49.6%) agree that “I don't like online advertisements”, and junior college group (40.7%) and people with a bachelor's degree (49.7%) agree that “As long as I am interested, I don't mind watching online advertising.” In addition, 31.6% of those with elementary education or lower chose “Don't know.”

Avoiding Viewing Online Advertisements Q41

1. Overall analysis

Regarding the approach to avoiding online advertisements, the highest rate is ticking non-viewing or forbidding information (43.6%), and the second is Using free filter software (14.2%). The rate for not choosing any approaches is up to 38.2% (see Figure 16).

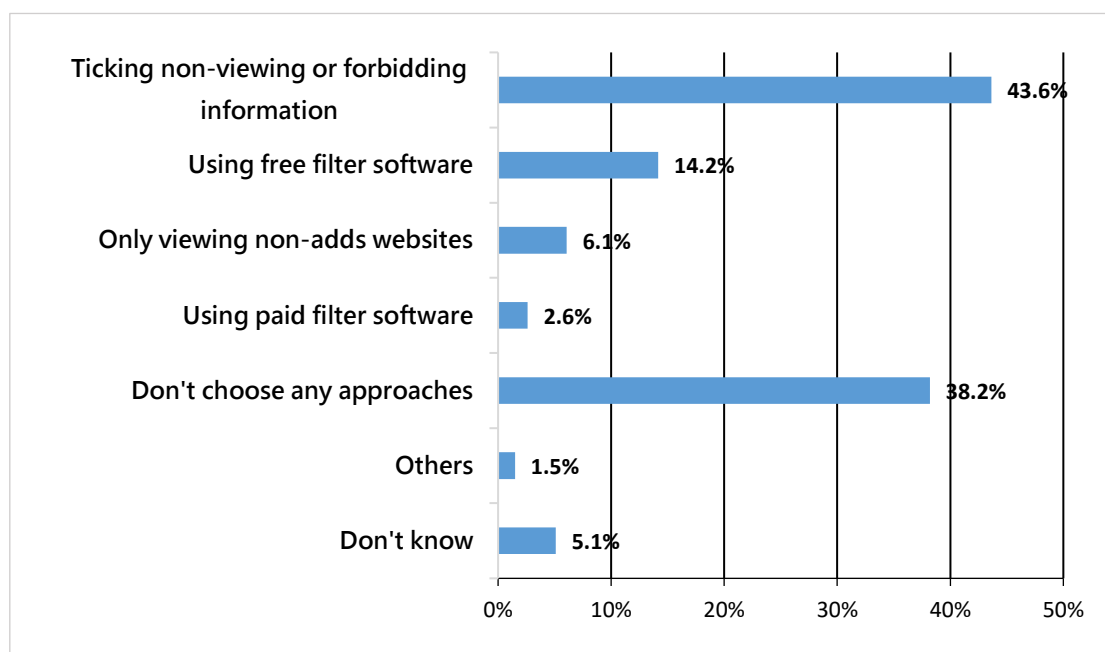


Figure 16 The Approach to Avoid Online Advertisements

Base : N=1,115, multiple-choice

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the highest proportion is for ticking non-viewing or forbidding information in all regions have, with the highest rate 47.4% in Taichung, Changhua and Nantou and the lowest rate 41.1% in Taoyuan, Hsinchu and Miaoli.

In addition, Yilan, Hualien, and Taitung has the lowest proportion for using free filter software than other regions, only 4.7%.

(2) Analysis of basic differences

When analyzed by gender, 51.4% of men and 46.7% of women tick non-viewing or forbidding information to prevent online advertising, but a higher proportion of men (17.3%) use free filter software than women (11.1%).

When analyzed by age, 16–25 year-olds (45.2%), 26–35 year-olds (57.3%), and 36–45 year-olds (56.9%) mainly tick non-viewing or forbidding information to prevent online advertising. 56–65 year-olds (49.6%) and 66 year-olds and over (58.3%) do not take any approach to prevent online advertisements. In addition, using free filter software frequently decreases by age group with the highest rate 24.9% of 16–25 year-olds and lowest rate 3.6% of 66 year-olds and over.

When analyzed by marital status, 47.8% of those unmarried and 43.3% of those married people tick non-viewing or forbidding information to prevent online advertising, while 45.7% of those widowed or separated do not take any approach to prevent online advertisements. In addition, 22% of those unmarried is a higher proportion for using free filter software than the proportion of those married (9.3%) or of those widowed or separated (9.8%).

Whether Respondents Know How to Report Inappropriate Content on YouTube Q43 Q44

1. Overall analysis

When people over 16 years old in Taiwan notice inappropriate content on YouTube, over 60 percent (61.9%) are clear (including knowing very well and fairly knowing) about how to report inappropriate content to YouTube, whereas 38% are unclear (including unknown and not well knowing) (see Figure 17). Most people (71.4%) over 16 year-olds in Taiwan who know that there is a report button or a flagging feature on YouTube for reporting inappropriate content, whereas 28.6% do not know what to do (see Figure 18).

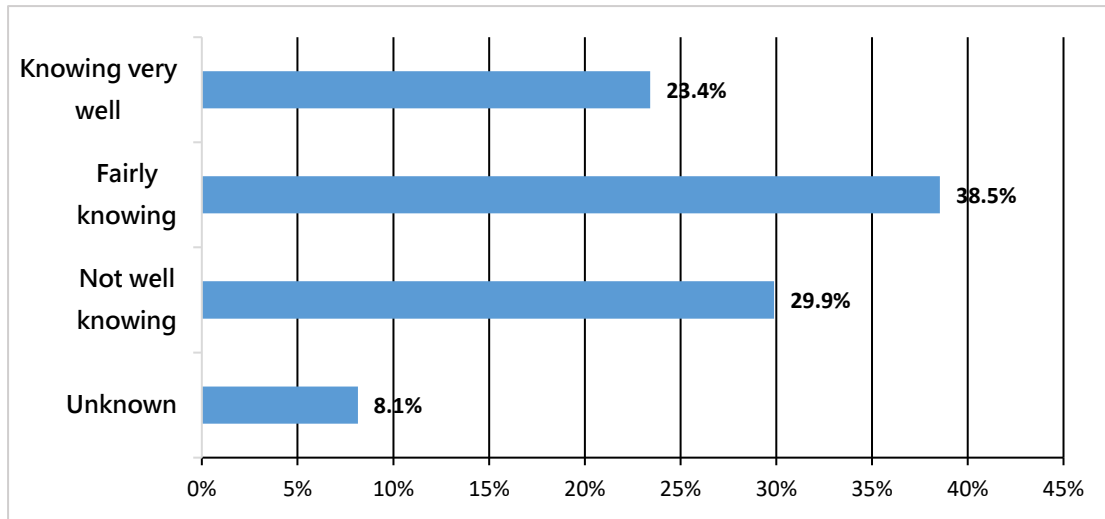


Figure 17 Whether respondents know how to report inappropriate content on YouTube or not

Base: N = 826, single-choice (respondents having viewed YouTube)

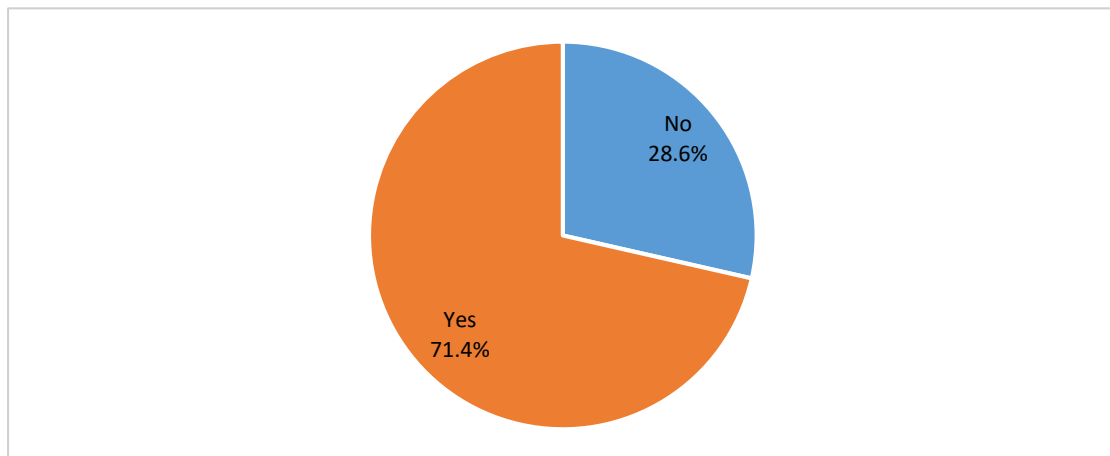


Figure 18 Whether respondents know there is a report button or a flagging feature on YouTube for reporting inappropriate content or not

Base: N = 826, single-choice (respondents having viewed YouTube)

2. Comparative Analysis

(1) Analysis of regional differences

The result of cross analysis finds that, with respect to whether people know how to report inappropriate content on YouTube or not, the majority of people knowing what to do accounts for a higher rate in every region with the highest rate 64.7% in Yunlin, Chiayi, and Tainan and the lowest rate 59.1% in Kaohsiung, Pingtung and Penghu. With respect to knowing whether there is a report button or a flagging feature on YouTube for reporting inappropriate content, the majority of people knowing how to report to YouTube accounts for the highest percentage in every region with the highest rate 80.7% in Yunlin, Chiayi, and Tainan and the lowest rate 66.7% in Yilan, Hualien, and

Taitung.

(2) Analysis of basic differences

The result of Chi-square tests indicates that whether people know how to report to YouTube on inappropriate content or not when they notice inappropriate content varies significantly by gender, age, and marital status; whether people know that there is a report button or a flagging feature on YouTube for reporting inappropriate content also varies significantly by age and marital status.

When analyzed by gender, with respect to whether people know how to report to YouTube on inappropriate content or not, with 65.8% of men and 58.4% of women knowing how to report to YouTube; 73.4% of men and 69.6% of women know that there is a report button or a flagging feature on YouTube for reporting inappropriate content.

When analyzed by age, whether people know how to report to YouTube on inappropriate content or not, 55.7% of 56–65 year-olds and 77% of 66 year-olds and over were the highest rate for not knowing how to report to YouTube, while the majority in the other age groups know how to report to YouTube, with the highest rate 77.9% of 26–35 year-olds and the lowest rate 55.1% of 46–55 year-olds. 79.8% of 66 year-olds and over did not know that there is a report button or a flagging feature on YouTube for reporting inappropriate content, while the majority of people of other age groups know of the reporting features. The rate decreases progressively by age group, with the highest rate 85.9% of 16–25 year-olds and the lowest rate 55.5% of 56–65 year-olds.

When analyzed by marital status, 74.2% of those unmarried and 55% of those married know how to report to YouTube; 69.3% of those widowed or separated do not know how to report inappropriate content to YouTube. As for whether people know that there is a report button or a flagging feature on YouTube for reporting inappropriate content or not, the majority of people regardless of marital status know, with the highest rate 83.1% of those unmarried and the lowest rate 52.5% of those widowed or separated.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that, whether people know how to report inappropriate content to YouTube or not varies significantly by housing tenure, education level, profession, and individual average monthly income, whereas whether people know that there is a report button or a flagging feature on YouTube for reporting inappropriate content or not varies significantly by housing tenure, education level, and profession.

When analyzed by housing tenure, 59.5% of home owners and 71% of those who rent know how to report to YouTube on inappropriate content; 78.6% of house renters and 69.2% of home owners also know that there is a report button or a flagging feature on YouTube for reporting inappropriate content.

When analyzed by education level on whether people know how to report to YouTube on inappropriate content or not, 61.7% for those with elementary school education or lower and 65.8% with junior high school or secondary school education do not know how to report to YouTube, while the majority of people at other education levels know how to report to YouTube, with the highest rate 72.6% for those with a bachelor's degree and the lowest rate 54.3% for those with senior high or vocational school education. As for whether people know that there is a report button or a flagging feature on YouTube for reporting inappropriate content or not, except people in the group 60.9% for those with elementary school education or lower and 56.1% for those with junior high school or secondary school education do not know of the reporting features on YouTube, while the majority of people at other education levels know of the reporting features on YouTube, with the highest rate 80.8% for those with a bachelor's degree and the lowest rate 68.6% for those with senior high school or vocational school education.

When analyzed by profession, people who work in publishing, audio-video production, mass communication, information, and communications (67.1%), housekeepers (53.7%), and the retired (67.4%) mostly do not know how to report inappropriate content to YouTube, while the majority in other professions do know of the reporting features on YouTube. As for whether people know that there is a report button or a flagging feature on YouTube for reporting inappropriate content or not, people who work in publishing, audio-video production, mass communication, information, and communications (67.1%) and the retired (65.8%) do not know of the reporting features on YouTube, while the majority in other professions do know of the reporting features on YouTube.

When analyzed by individual average monthly income on whether people know how to report to YouTube on inappropriate content or not, the majority of people do know how to report to YouTube and accounts for a higher rate in all income groups with the highest rate of 74.6% of those earning NT\$30,000-39,999 and the lowest rate 53.3% of those with no income.

Methods for Handling Inappropriate Content on YouTube Q45 Q46

1. Overall Analysis

The percentage of people over 16 in Taiwan who have seen viewed inappropriate content on YouTube is 44.4% (see Figure 19). Among them, the percentage of people who have reported the inappropriate content to YouTube is 32.8% (see Figure 20).

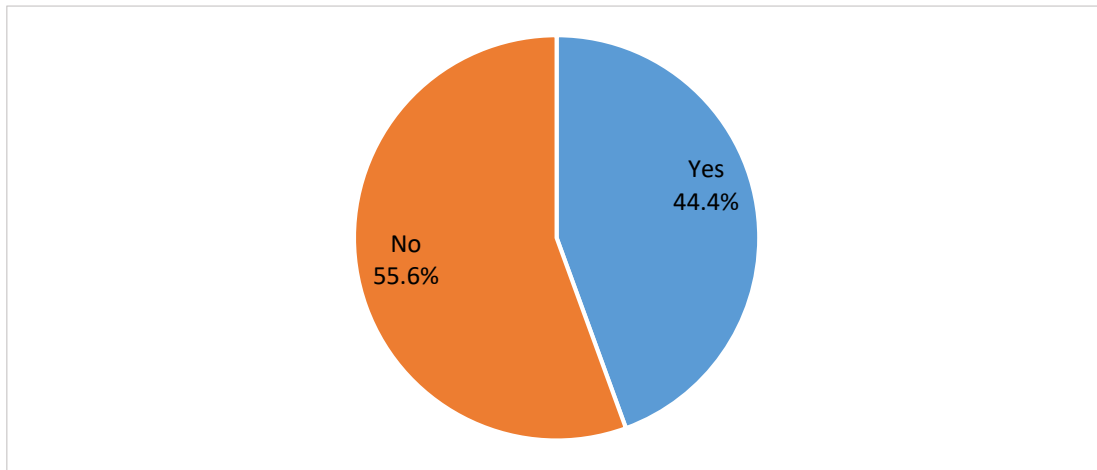


Figure 19 Whether the respondents have seen inappropriate content on YouTube

Base: N = 826, single-choice (respondents having viewed YouTube)

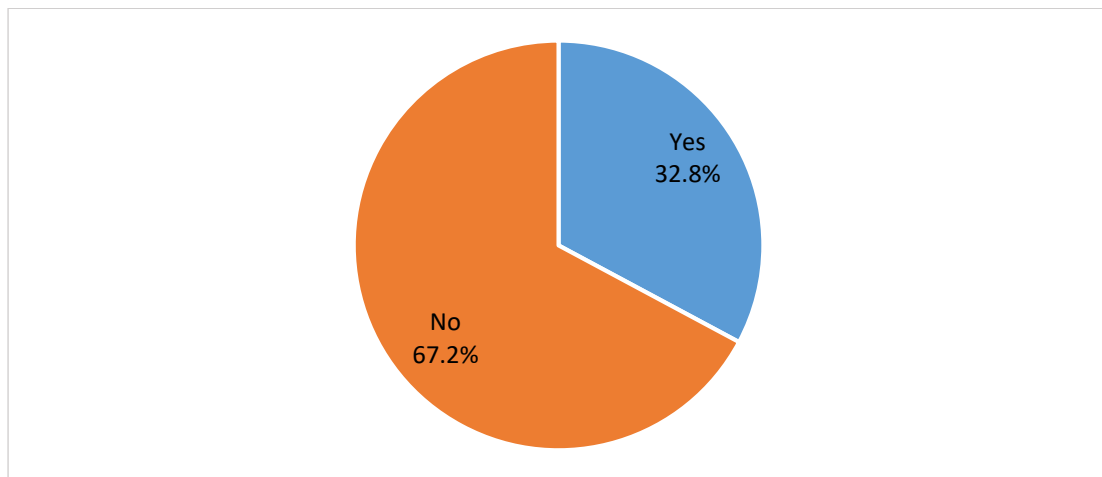


Figure 20 Whether the respondents have reported inappropriate content to YouTube

Base: N = 367, single-choice (respondents who have ever viewed inappropriate content on YouTube)

2. Comparative Analysis

(1) Analysis of regional differences

The result of cross analysis finds except for a majority of people in Taichung, Changhua and Nantou (51.8%), and people in Yilan, Hualien, and Taitung (57.3%) who have seen inappropriate content on YouTube, most people in the other regions have not seen inappropriate content on YouTube; 62.1% in Yunlin, Chiayi, and Tainan is the highest rate. As for whether people have ever reported inappropriate content to YouTube, the majority of people in all regions have not ever reported such content to YouTube with the highest rate of 72.2% in Taipei City, New Taipei City and Keelung and the lowest rate of 56.5% in Yunlin, Chiayi, and Tainan.

(2) Analysis of basic differences

The result of Chi-square tests indicates that whether people have ever viewed

inappropriate content on YouTube varies significantly by gender and whether people have ever reported inappropriate content to YouTube significantly varies by gender, age, and marital status.

When analyzed by gender, 51.5% of men and 59.3% of women have not seen inappropriate content to YouTube; 74.7% of women and 60.4% of men have not reported inappropriate content on YouTube.

When analyzed by age, the majority of people in all age groups have not seen inappropriate content on YouTube, with the highest rate 64% of 56–65 year-olds and the lowest rate 53.2% 16–25 year-olds. As for whether people have ever reported inappropriate content to YouTube, the majority in all age groups have not, with the highest rate 94.3% of 56-65 year-olds and the lowest rate 51.9% of 26-35 year-olds.

When analyzed by marital status, the majority of people regardless of marital status have not seen inappropriate content on YouTube, with the highest rate 59.3% among those widowed or separated and the lowest rate 51.4% among those unmarried. As for ever reporting inappropriate content to YouTube, the majority regardless of marital have not ever reported inappropriate content to YouTube, with the highest rate 86% of those widowed or separated people and the lowest rate 54.6% of those unmarried.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that whether people have ever seen inappropriate content on YouTube varies significantly by education level; whether people have reported inappropriate content to YouTube varies significantly by housing tenure.

When analyzed by housing tenure, with respect to people having reported to YouTube on inappropriate content, house renters have a significantly higher rate (40.9%) than that of home owners (28.6%).

When analyzed by education level as to whether people have ever seen inappropriate content on YouTube, 52.4% of those with a master's degree or higher have seen inappropriate content on YouTube, while the majority of people at other education levels have not seen inappropriate content on YouTube, with the highest rate 76% for those elementary school education or lower and the lowest rate 50.7% for those with a bachelor's degree.

F. Radio

Instant Broadcasts Q48 Q49

1. Overall Analysis

The most common means for listening to instant broadcast is via mobiles (59.7%), and the second is via computers with access to the Internet (26.9%). The rate for

unknown is 31.1% (see Figure 21). The highest percentage for listening to instant broadcast is via mobiles (45.8%), but 42.5% do not use any channel (see Figure 22).

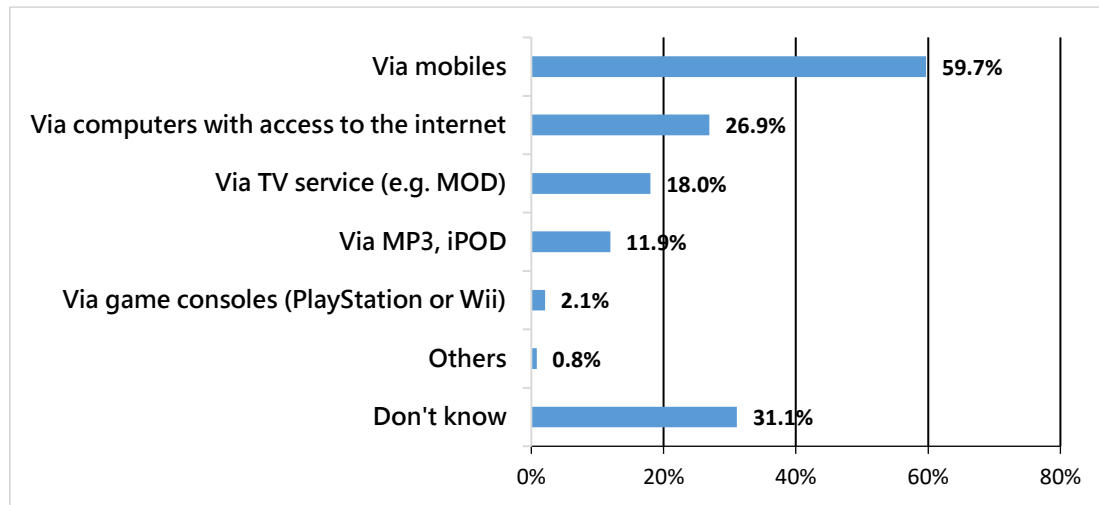


Figure 21 The Channels to Listen to Instant Broadcasts

Base : N=1,115, multiple-choice

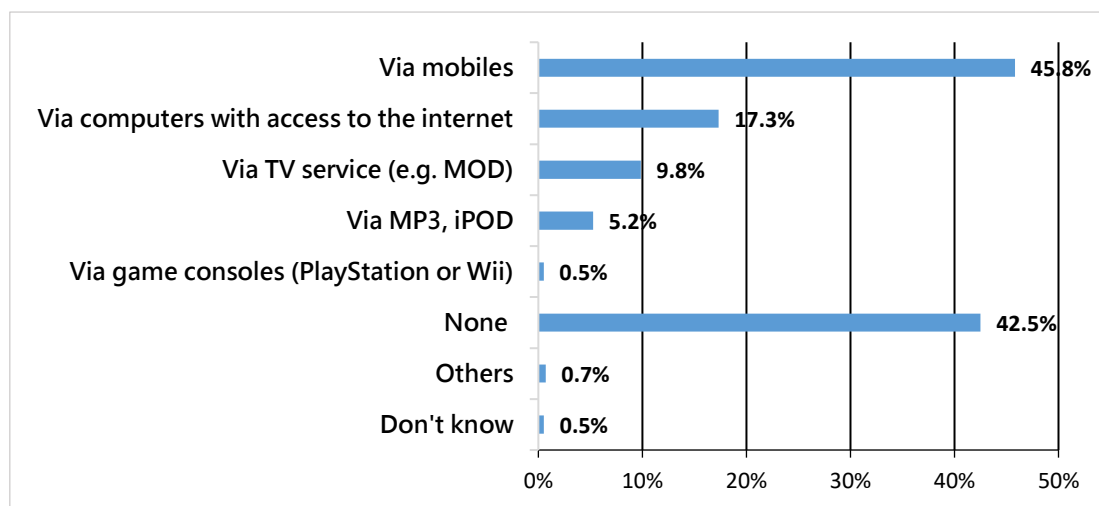


Figure 22 The Channel to Listen to Instant Broadcasts

Base : N=768, multiple-choice (for those who know how to receive instant broadcast)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, all regions have the highest percentages for listening to instant broadcast via a mobile, with the highest rate 72.3% in Kaohsiung, Pingtung and Penghu and the lowest rate 51.8% in Taoyuan, Hsinchu and Miaoli.

People in Kaohsiung, Pingtung and Penghu have the highest proportion (40.4%) of knowing the type of computer connection to the internet than for other regions; Yilan, Hualien, and Taitung (8.4%) have the lowest rate for knowing the service provider for their TV services (i.e. MOD).

Regarding the means by which people choose to listen to Instant Broadcasts,

Taichung, Changhua and Nantou (48.5%), Yunlin, Chiayi, and Tainan (45.3%) and Kaohsiung, Pingtung and Penghu (57.1%) have the highest proportions for using a mobile, while people in Taipei City, New Taipei City and Keelung (50.7%), Taoyuan, Hsinchu and Miaoli (42.4%) and Yilan, Hualien, and Taitung (55.5%) do not listen to Instant Broadcasts.

(2) Analysis of basic differences

When analyzed by gender, 63% of men and 56.5% of women know that they can listen to instant broadcasts, mainly through mobile phones, and both men (44.8%) and women (46.9%) most often listen to instant broadcasts via mobile phones.

When analyzed by age, 66 year-olds and over (58.3%) do not know through which channels they can listen to instant broadcasts, while other age groups have the highest proportions for using a mobile, with the highest rate 73.2% of 26–35 year-olds and the lowest rate 52.2% of 56–65 year-olds.

Regarding the means by which people choose to listen to Instant Broadcasts, 16–25 year-olds (49.6%), 26–35 year-olds (52.1%) and 36–45 year-olds (48.9%) listen mainly through mobile phones, while 46–55 year-olds (48.7%), 56–65 year-olds (49.4%) and 66 year-olds and over (53.5%) do not listen to instant broadcasts.

When analyzed by marital status, the majority of people regardless of marital status know that they can listen to instant broadcasts, all of whom use mobile phones, and the highest rate (41.6%) for not knowing is among those who are widowed or separated.

51.3% of those unmarried most often used to listen to instant broadcasts via mobile phones, while 47% of those married and 46.1% of those widowed or separated do not.

G. Apps via Mobiles

Apps via Mobiles Q55

1. Overall Analysis

Over the past 12 months, the most commonly downloaded apps were free apps (68%) and the second most common were mostly free apps (24.3%) (see Figure 23).

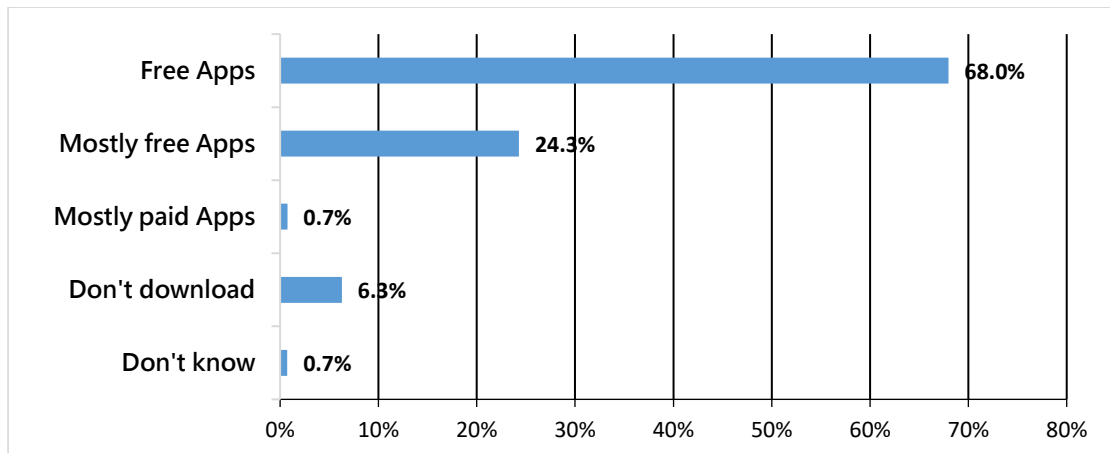


Figure 23 Apps Downloaded in the Last 12 Months

Base : N=857, single-choice (for those who know how to download the apps)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, all the regions show downloading apps provided for free is the most likely to be downloaded: from 56.6% in Kaohsiung, Pingtung and Penghu to 74.4% in Yunlin, Chiayi, and Tainan.

(2) Analysis of basic differences

When analyzed by gender, the results for downloading apps in the last 12 months show 73% of women and 62.9% of men downloaded free apps.

When analyzed by age, the results for downloading apps in the last 12 months are mainly free apps, 72.4% in people aged 16–25 is the highest, and 59.8% of those aged 66 and over is the lowest.

When analyzed by marital status, the results for downloading apps in the last 12 months show regardless of marital status, mainly free apps were downloaded. 71.6% of those widowed/separated was the highest; 67.1% of those unmarried was the lowest.

Mobile Apps Q57

1. Overall Analysis

The highest rate of apps use is social activities (55.3%), followed by gaming (43.1%) and music (32.9%) (see Figure 24).

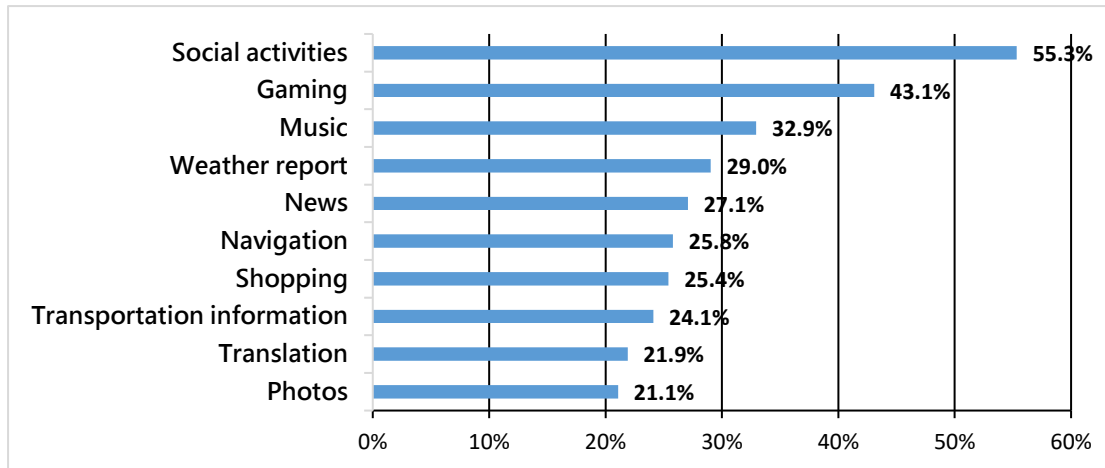


Figure 24 Mobile Apps (Top 10)

Base : N=776, multiple-choice (for those who know what kinds of apps they download)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, 44.7% downloaded gaming apps Yilan, Hualien, and Taitung with gaming (), while the highest proportion in the other regions downloaded social activity apps, with the highest rate 65.2% in Taipei City, New Taipei City and Keelung and the lowest rate 40.1% in Taoyuan, Hsinchu and Miaoli.

(2) Analysis of basic differences

When analyzed by gender, 57.9% of women and 52.7% of men were the highest proportions that downloaded social activity apps.

When analyzed by age, except people for 66 year-olds and over show that downloading News as the highest rate (45.1%), while the other age groups downloaded social activity apps, with the highest rate of 61.9% for 16–25 year-olds and the lowest rate 46.8% for 46–55 year-olds.

When analyzed by marital status, mainly social activity apps were downloaded regardless of marital status, but those unmarried have the higher proportion of gaming (57.2%) than married people (32.3%) and those widowed or separated (23.6%).

H. The Behavior of Using Mobile Payment

Mobile Payment Q58

1. Overall Analysis

26.7% of people in Taiwan use mobile payments (using mobile devices for payment), and 73.3% do not use this service (see Figure 25).

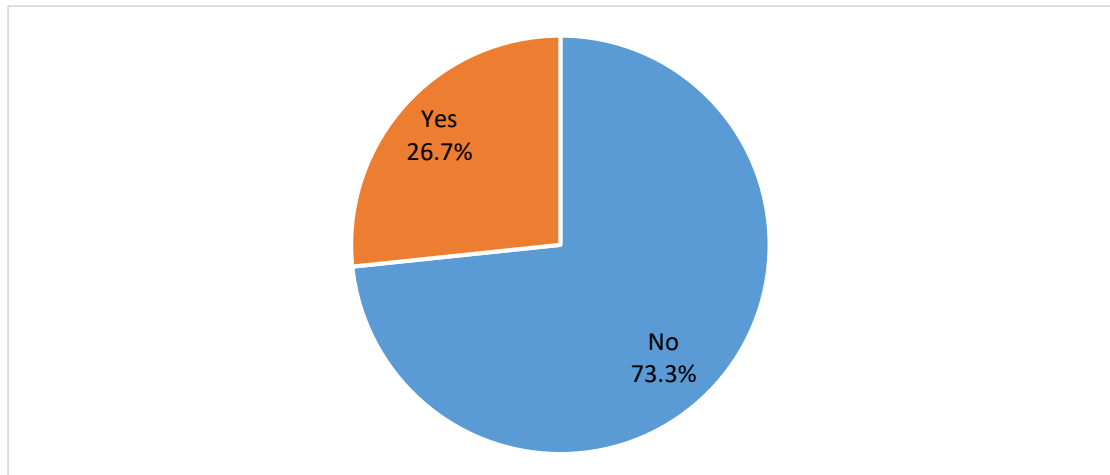


Figure 25 Mobile Payment

Base : N=1,115

2. Comparative Analysis

(1) Analysis of regional differences

The result of Chi-square tests indicates that whether people in Taiwan use mobile payment significantly varies by region.

When analyzed by region, the majority of people in all regions have the highest proportion for not using a mobile payment service, with the highest rate 35.2% in Taoyuan, Hsinchu and Miaoli and the lowest rate 20.6% in Yunlin, Chiayi, and Tainan.

(2) Analysis of basic differences

The result of Chi-square tests indicates that people in Taiwan use mobile payment significantly varies by age and marital status.

When analyzed by gender, 27.7% men use mobile payments, which is higher than that for women (25.6%). Over 70% do not use a mobile payment app (74.4% of women and 72.3% of men).

When analyzed by age, the majority of people in all age groups have the highest proportion for not using mobile payment service. Among people who use mobile payment service, 25–35 year-olds have the highest rate (44.5%) and 66 year-olds and over have the lowest (4.7%).

When analyzed by marital status, the highest proportion regardless of marital status do not use a mobile payment service. Among those who use a mobile payment service, those unmarried have the highest rate (39.5%) and those widowed or separated have the lowest rate (14.1%).

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that people in Taiwan use mobile payment significantly varies by housing tenure, education level, profession and average monthly individual income.

When analyzed by housing tenure, the highest proportions of home owners (76.5%)

and house renters (63%) do not use a mobile payment service. Among people who do use a mobile payment service, house renters have the higher rate (37%) followed by home owners (23.5%).

When analyzed by education level, the majority of people at all education levels have the highest proportion for not using mobile payment service. The frequency for using a mobile payment service decreases by education level, with the highest rate 45.5% of those with a bachelor's degree and the lowest rate 0% for those group with elementary school education and lower.

When analyzed by profession, The highest proportions for using mobile payment service work in publishing, audio-video production, mass communication, information, and communications (62.4%), finance and insurance (57.7%), and real estate (61.1%), while for other profession groups, the highest proportion is for not using a mobile payment service, with more than 80% in people in agriculture, forestry, fishery and husbandry (98.4%), manufacturing (84.1%), construction (83.1%), housekeepers (84.3%), the retired (97.4%) and jobseekers (88.2%).

When analyzed by individual average monthly income, the majority of people for all income groups have the highest proportion for not using mobile payment service. Among those who use a mobile payment service, those earning NT\$60,000 or more have the highest rate of 45.2% and those with no income the lowest rate of 10.6%.

Items of Using Mobile Payments Q59

1. Overall Analysis

The services people use for mobile payment are mainly LINE Pay (53.4%), Apple Pay (44.2%), and JKOS Pay (15.6%) (see Figure 26).

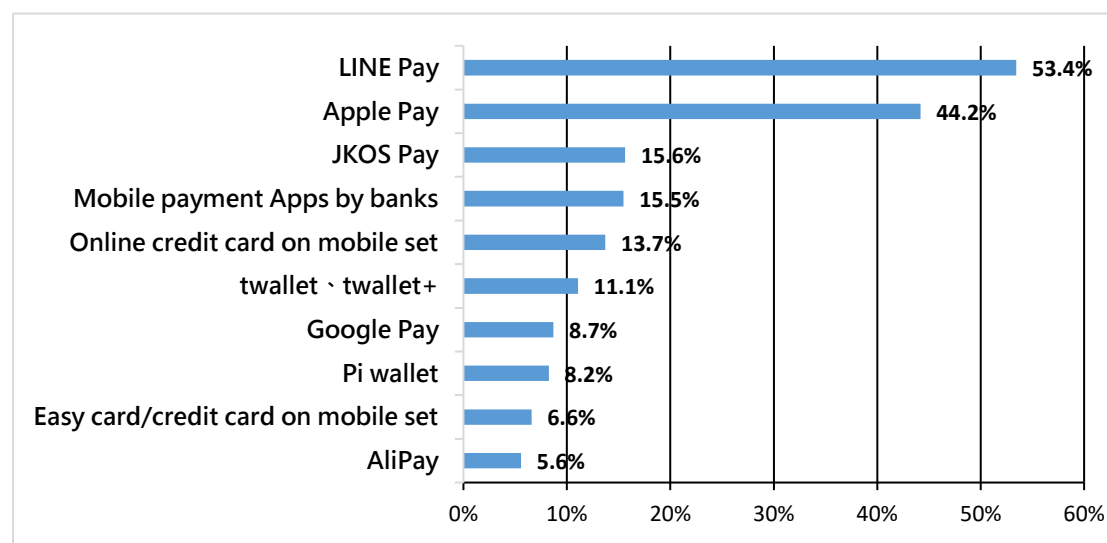


Figure 26 The Services of Mobile Payments (Top 10)

Base : N=297, multiple-choice (for those who use mobile payments)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, Yilan, Hualien and Taitung () have the highest rate (59.2%) for using Apple Pay, while the highest proportions in other regions was for using LINE Pay, with the highest rate 66.6% in Taipei City, New Taipei City and Keelung and the lowest rate 34.7% in Kaohsiung, Pingtung and Penghu.

(2) Analysis of basic differences

When analyzed by gender, 60.1% of women and 47.1% of men use LINE Pay, but a higher proportion of men use Taiwan Pay (twallet and twallet+) and Google Pay than women.

When analyzed by age, using Line Pay is the main service for 16–25 year-olds (57.2%), 26–35 year-olds (59.2%), 36–45 year-olds (52%) and 56–65 year-olds (44.3%). Apple Pay is the app mainly used by 46-55 year-olds (49.3%); for 66 year-olds and over, the highest proportion (24.8%) is for Pi Wallet.

When analyzed by marital status, those unmarried (55.1%) and married (57.9%) use Line Pay as their major service, and those widowed or separated (34.1%) mainly choose Apply Pay.

The Situation of Using Mobile Payments Q60

1. Overall Analysis

The situations in which people use mobile payments are for groceries (55.1%), Line stickers (43.8%) and purchasing tickets (33.2%) (see Figure 27).

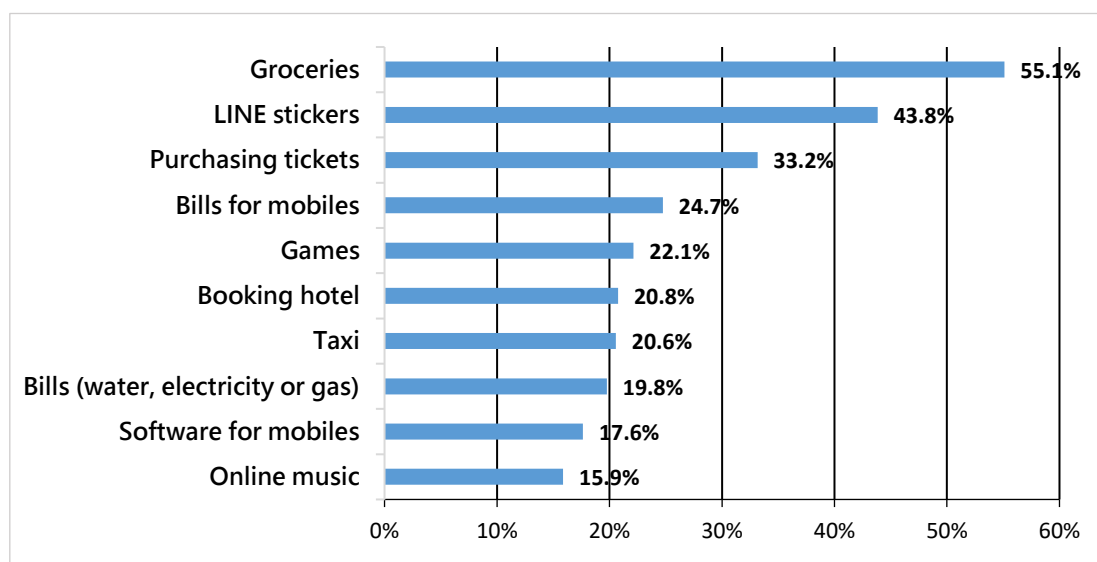


Figure 27 The Situation of Using Mobile Payments (Top 10)

Base : N=297, multiple-choice (for those who use mobile payments)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, Taipei City, New Taipei City and Keelung (68.5%), Taoyuan, Hsinchu and Miaoli (68.2%) and Yunlin, Chiayi, and Tainan (52.6%) and Yilan, Hualien, and Taitung (46.7%) are more likely to use mobile payment for purchasing groceries, and Taichung, Changhua and Nantou (49.5%) more commonly for ticket purchases, while Kaohsiung, Pingtung and Penghu (42.9%) more often use mobile payments for LINE stickers.

(2) Analysis of basic differences

When analyzed by gender, 62.8% women and 47.8% men mainly use mobile payments to purchase groceries, but women have a higher proportion (51.7%) for purchasing Line stickers than men (36.4%).

When analyzed by age, 58.2% of 16–25 year-olds use mobile payments to purchase Line stickers, while the other age groups have the highest proportions for using mobile payments to purchase groceries, with the highest rate 76.2% of 66 year-olds and over and the lowest rate 37.5% of 56–65 year-olds.

In addition, the rates for using mobile payment to purchase Line stickers decreases by age group, with the highest rate 58.2% of 16–25 year-olds and the lowest rate 0% of 66 year-olds and over.

When analyzed by marital status, those unmarried (51.8%) use mobile payment for purchasing Line pictures, and those married (62.2%) or those widowed or separated (40%) more often purchase groceries.

The Reason for Using or Not Using Mobile Payments Q62 Q63

1. Overall Analysis

The main reason people use mobile payments is for convenience, accounting for 81.4%, while the rate for other reasons are below 10% (see Figure 28). The main reason for not using mobile payment is that they do not need to (45.8%) and are concerned about the insecurity (19.6%) (see Figure 29).

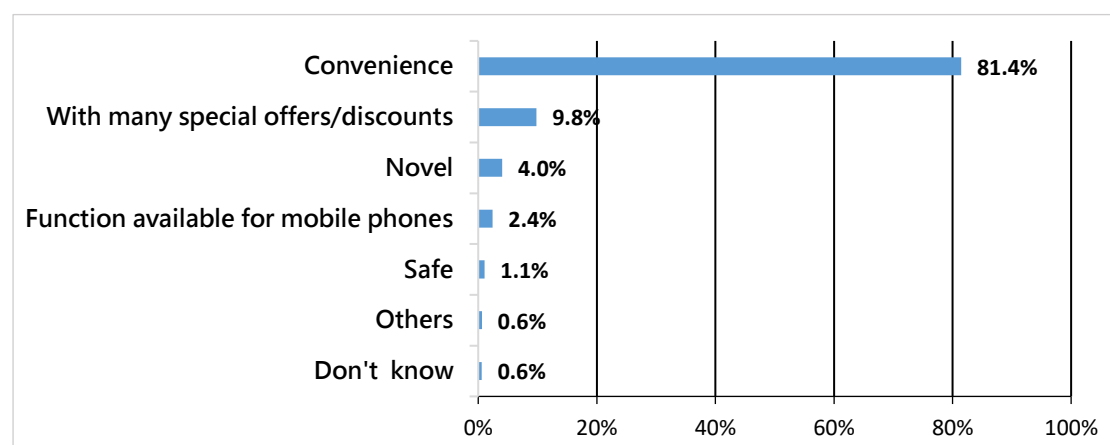


Figure 28 Main Reason for Using Mobile Payments

Base : N=297, single-choice (for those who use mobile payments)

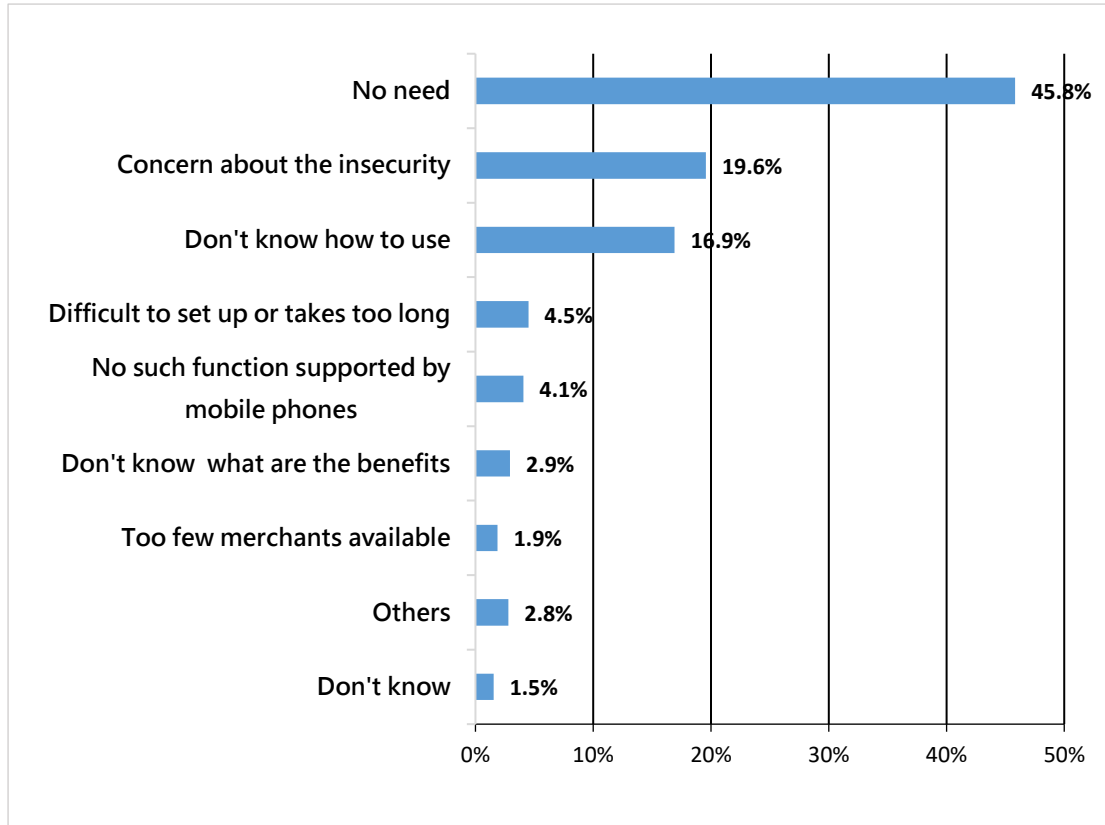


Figure 29 Main Reason for not Using Mobile Payments

Base : N=818, single-choice (not using mobile payments)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the main reason for using mobile payments is convenience for more than 70%, the rate reaching 92.1% in Yilan, Hualien, and Taitung.

The main reason for not using mobile payment in each region is that the majority of people do not think it is necessary, with the highest rate 53.4% in Taoyuan, Hsinchu and Miaoli and the lowest rate 36% in Kaohsiung, Pingtung and Penghu.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the reason people do not use mobile payments significantly varies by gender.

When analyzed by gender, the main reason for the use of mobile payment by men and women is convenience, with the proportions being 78.3% and 84.8% respectively. The main reason why men (47.6%) and women (44.2%) do not use mobile payments is that there is no need for using it, but the proportion of women who worry about it being unsafe or don't know how to use it are higher than men.

When analyzed by age, the main reason for using of mobile payments for all age groups is the convenience, more than 70%, up to 90% of 36–45 year-olds and 91.1% of 56–65 year-olds.

The main reason why all age groups do not use mobile payments is that there is no need to use it, with the highest rate 55.5% 16–25 year-olds and the lowest rate 39.9% of 66 year-olds and over. In addition, 36–45 year-olds have the highest rate (34.3%) for worrying about it being unsafe, and people aged over 46 have the highest proportions for not knowing how to use it compared to younger groups.

When analyzed by marital status, the main reason for using mobile payments is the convenience regardless of marital status, with the highest rate 86.2% of those married people and the lowest rate 77.6% of those unmarried.

The main reason for not using mobile payments is no need for using it regardless of marital status, but those widowed or separated people (26%) have the higher proportion for not knowing how to use it compared to those married (19.8%) and those unmarried (8.4%).

The Importance of Mobile Payments Q64

1. Overall Analysis

Regarding the importance of mobile payments, the proportion of people who feel it is important (important and very important combined) is 81.7%, and the proportion for whom it is not important (less important and least important combined) is 18.3% (see Figure 30).

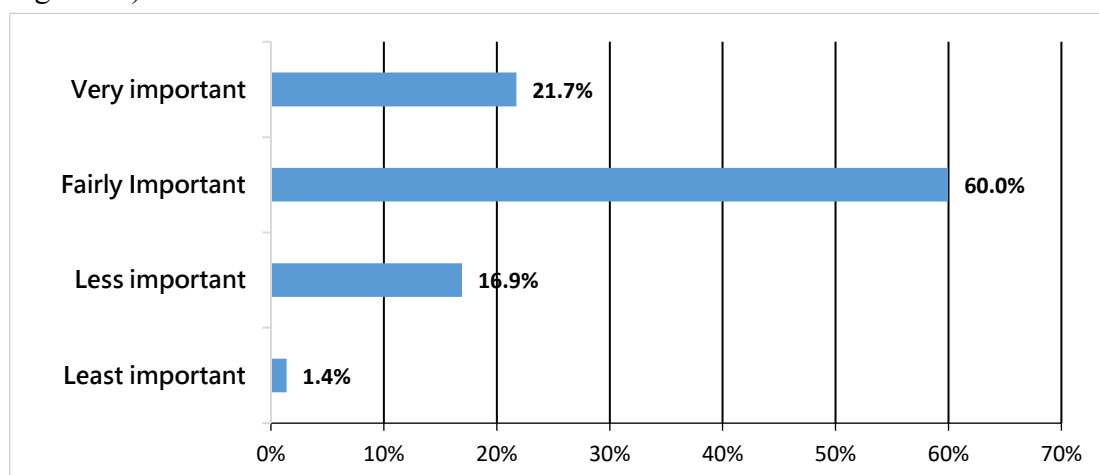


Figure 30 The Importance of Mobile Payments

Base : N=297, single-choice (for those who use mobile payments)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, 47.7% in Yilan, Hualien, and Taitung felt that mobile payments are not important (less important and least important combined), but for other regions, the highest proportions agree that mobile payments are important (very important and important combined), with the highest rate 93.9% in Taichung, Changhua and Nantou and the lowest rate 76.5% in Kaohsiung, Pingtung and Penghu.

(2) Analysis of basic differences

When analyzed by gender, 83.7% men and 79.6% women mostly agree that mobile payments are important.

When analyzed by age, all age groups mostly agree that mobile payments are important, with the highest rate 90% 56–65 year-olds and the lowest rate 78.4% of 26–35 year-olds.

When analyzed by marital status, all agree that mobile payments are important regardless of marital status, with the highest rate 82.3% of those married and the lowest rate 80.5% of those widowed or separated.

Receiving News Information

Receiving News Information Q66

1. Overall Analysis

As to the way people get news, the highest proportion is TV (54.6%). The second most common is social media/online forums (14.2%), and web portals/apps (12.9%) (see Figure 31).

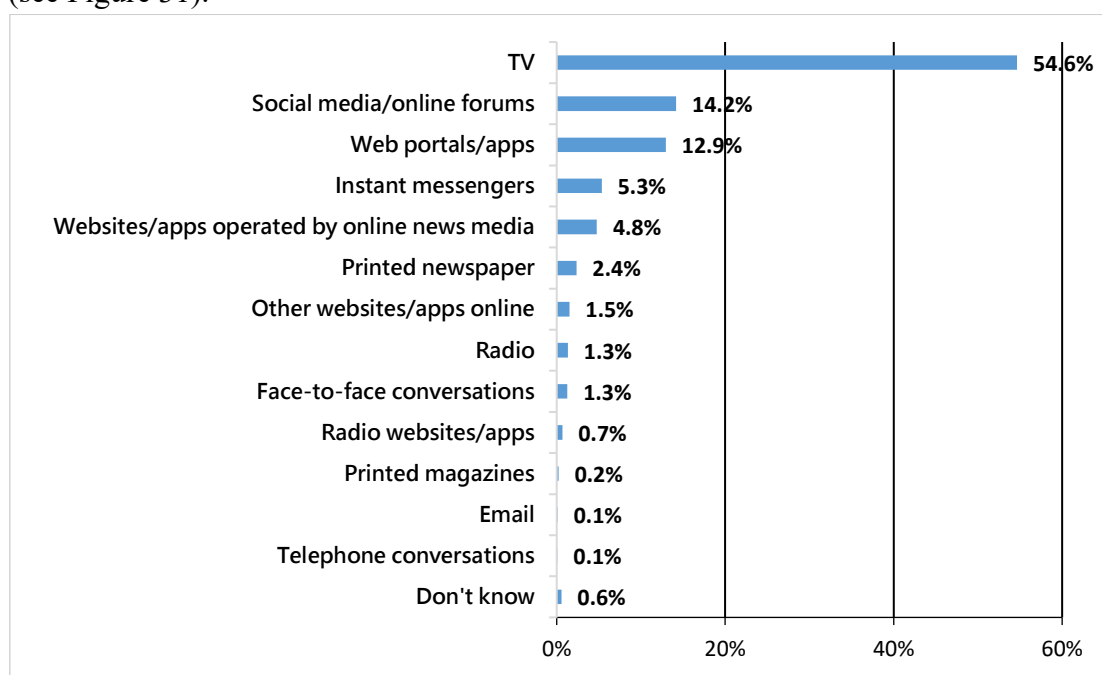


Figure 31 The Channels to Receive News Information

Base : N=1,081, single-choice (for those who receive news)

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the main ways of accessing news in each region is by TV, with the highest rate of 64.3% in Yilan, Hualien, and Taitung and the lowest rate 46.5% in Kaohsiung, Pingtung and Penghu. In addition, 16.8% in Kaohsiung, Pingtung

and Penghu is the second highest rate for web portals/apps, while for other areas the second highest rate is for social media/online forums.

(2) Analysis of basic differences

When analyzed by gender, the main ways for men and women to receive news information are TV, accounting for 53.4% and 55.8% respectively.

When analyzed by age, 35% of 16–25 year-olds get news information from social media/online forums, while other age groups have the highest proportions for TV; the proportion increases by age group.

When analyzed by marital status, all marital status, news and information is mainly through television, with the highest rate 70% of those widowed or separated and the lowest rate 31% of those unmarried. 28.1% of those unmarried people is the higher proportion for using social media/online forums, compared to 6.5% of those married and 6.2% of those widowed or separated people.

The Accuracy of News Q67

1. Overall Analysis

39.1% of people believe that the most accurate source of news is TV, while the proportion for other news sources are below 10%. 31% believe that none of them are accurate (see Figure 32).

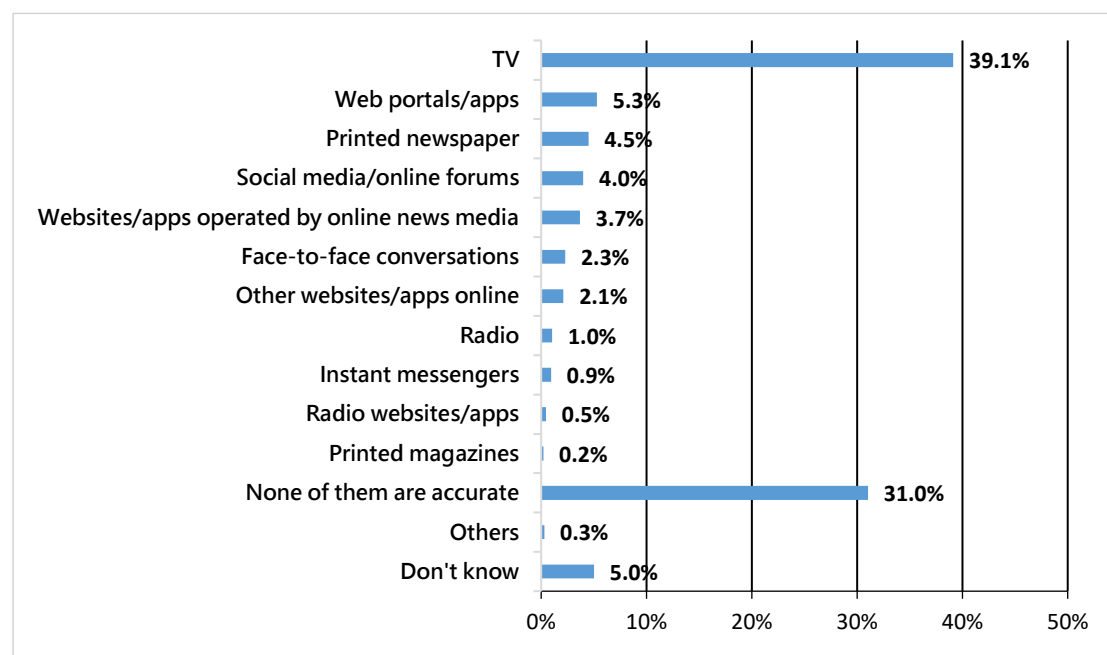


Figure 32 Accuracy of News

Base : N=1,115

2. Comparative Analysis

(1) Analysis of regional differences

When analyzed by region, the highest proportion in each region believes TV news

to be accurate (between 45% and 60%), with other sources being less than 10%.

(2) Analysis of basic differences

When analyzed by gender 40.7% of women and 37.5% of men believe that the most accurate source of news is television, but the proportion for none being accurate for both men and women are more than 30%.

When analyzed by age, 36–45 year-olds is the highest rate for none being accurate, while the most accurate source of news for other age groups is television, and this increases by age group, with the highest rate 56.9% of 66 year-olds and over and the lowest rate 30.6% of 26–35 year-olds.

When analyzed by marital status, television is the most accurate source of news for those married people (43.4%) and those widowed or separated people (49.3%), while the highest proportion who believe that none are accurate is the 29.9% of those unmarried.

The Impartiality of Receiving News Q70-Q82

1. Overall Analysis

90.9% of Taiwanese aged 16 and over consider the impartiality of news to be important (sum of very important and fairly important; same as below), and 7.4% unimportant in the TV industry; 90.3% consider it important and 8% unimportant in the printed newspaper industry; 89.4% consider it to be important and 8.5% unimportant in the broadcast radio industry; 88.2% consider it to be important and 9.6% unimportant in the printed magazine industry (see Table 9).

Table 9 Importance of Impartiality of News Sources

News Sources	Impartiality of News Sources					
	Important			Unimportant		
	Very important	Fairly Important	Total	Less important	Least important	Total
TV	68.5%	22.4%	90.9%	6.4%	1.0%	7.4%
Printed newspaper	66.1%	24.2%	90.3%	7.2%	0.8%	8.0%
Radios	64.5%	24.9%	89.4%	7.6%	0.9%	8.5%
Printed magazines	61.5%	26.7%	88.2%	8.4%	1.2%	9.6%
Radio websites/apps	60.6%	26.4%	87.0%	8.0%	1.0%	9.0%
Web portals/apps	60.8%	25.2%	86.0%	8.4%	1.1%	9.5%
Websites/apps operated by online news media	61.8%	24.1%	85.9%	8.1%	1.2%	9.3%
Social media/online forums	56.7%	25.6%	82.3%	11.3%	1.2%	12.5%
Other websites/apps online	56.7%	24.7%	81.4%	10.7%	1.5%	12.2%
Instant messengers	52.9%	27.3%	80.2%	12.4%	2.2%	14.6%
Face-to-face conversations	50.5%	28.5%	79.0%	15.4%	2.0%	17.4%
Telephone conversations	45.6%	28.4%	74%	19.3%	2.6%	21.9%
Emails	47.6%	24.2%	71.8%	16.8%	3.4%	20.2%

Source: this research.

N=1,115

2. Comparative Analysis

(1) Analysis of regional differences

The result of Chi-square tests indicates that the importance of impartial news from television, radio, printed newspaper, printed magazines, radio websites/apps, web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, face-to-face conversations, telephone conversations, instant messengers, and emails are significantly varies by housing tenure.

The result of cross analysis finds that people in all regions consider whether the TV news being impartial or not is important, with the highest rate 95% for Taichung, Changhua and Nantou, whereas people in Yilan, Hualien, and Taitung, with the lowest rate 24%, consider impartial TV news to be unimportant, an opinion more significant than that of people in other regions. Among people of all regions on whether impartial news of printed newspaper is important or not, people in Taichung, Changhua and Nantou consider impartial news in printed newspaper to be important, with the highest rate of 95.4%, while people in Yilan, Hualien, and Taitung have the lowest rate of 73.1%. Among people in all regions on whether impartial broadcast radio news is important or not, people in Taichung, Changhua and Nantou again consider impartial of broadcast radio news to be important with the highest rate of 94.5% while people in Yilan, Hualien, and Taitung have the lowest rate of 69.3%.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the importance of impartial news from printed magazines and other websites/apps online significantly varies by age; the importance of impartial news from web portals/apps, websites/apps operated by online news media, social media/online forums and instant messengers significantly varies by age and marital status.

When analyzed by gender, women more than men consider impartial news to be important or not with respect to television, broadcast radio, radio websites/apps, web portals/apps, and 90.8% of men and 89.8% of women consider impartial news among newspapers to be important.

When analyzed by age, for television, broadcast radio, printed newspaper, printed magazines, radio websites/apps, web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, instant messengers, and email, a higher proportion of 26–35 year-olds consider impartial news to be important compared to those in other age groups and, among of types, the news source from television has the highest rate of 94.6%. For printed magazines, 56-65 year-olds and 66 year-olds and over consider whether the news as impartial is important with obviously higher rate of 15.7% and 12.2% respectively.

When analyzed by marital status, for television, broadcast radio, printed newspaper, printed magazines, radio websites/apps, web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, instant messengers, and email, those unmarried consider the importance of impartial news with a higher rate than those married and those widowed or separated people; among all types, the news source from television has the highest rate of 92.3%.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that how important impartial news is from printed newspaper and radio websites/apps significantly varies by education level; how important impartial news is from television, broadcast radio, printed magazines, web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, instant messengers significantly varies by education level and individual average monthly income; and how important impartial news is from emails significantly varies by education level, profession and individual average monthly income.

When analyzed by education level with respect to television, broadcast radio, radio websites/apps, web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, instant messengers, the proportions who consider impartial news to be important increases by education level, with 99.2% of those with a master's degree or higher consider impartial news of websites/apps operated by online news media to be important, and 39.7% of those with elementary school education or lower consider impartial news from emails to be important .

When analyzed by profession, people in all professions consider impartial news from emails important, with the highest rate 91% of those working in support services and the lowest rate 55.1% of those who work as housekeepers.

When analyzed by average individual monthly income, news, the highest proportions are for people earning NT\$1-9, 999 94.4% considered television news to be important and 93.3% broadcast radio , while the lowest rates are for those with no income, 82.3% and 79.3%, for television news and broadcast radio respectively. Those earning NT\$60,000 or more have the highest rate for the importance of impartial news from web portals/apps, social media/online forums, instant messengers, and emails, while people of no income have the lowest rate.

Level of Impartial News Sources Q83-Q95

1. Overall analysis

With respect to how impartial news is believed to be by people aged 16 and over in Taiwan, 59.7% consider printed newspaper to be impartial (sum of very impartial and fairly impartial; same as below) and 37.1% consider this not to be impartial (sum of not too impartial and extremely not impartial; same as below); 58.6% consider

broadcast radio to be impartial 31.2% consider this not to be impartial; 55.2% consider television news to be impartial and 42.7% consider this not to be impartial; 54.5% consider radio websites/apps to be impartial and 34.8% consider these not to be impartial (see Table 10).

Table 10 Impartiality of News Sources

News Sources	Impartiality of News Sources					
	Impartial			Not impartial		
	Very impartial	Fairly impartial	Total	Not too impartial	Extremely not impartial	Total
Printed newspaper	10.4%	49.3%	59.7%	29%	8.1%	37.1%
Radios	11.7%	46.9%	58.6%	25.4%	5.9%	31.3%
TV	13.2%	41.9%	55.1%	32.6%	10%	42.6%
Radio websites/apps	9.5%	45%	54.5%	28.5%	6.3%	34.8%
Web portals/apps	9%	45.3%	54.3%	30.2%	5.3%	35.5%
Printed magazines	9.5%	44.1%	53.6%	31.5%	9%	40.5%
Face-to-face conversations	8.6%	41.6%	50.2%	33.4%	9.9%	43.3%
Other websites/apps online	7.5%	42.1%	49.6%	31.6%	6.8%	38.4%
Websites/apps operated by online news media	8.6%	40.9%	49.5%	34.2%	7.4%	41.6%
Instant messengers	6%	43.5%	49.5%	33.4%	8.2%	41.6%
Social media/online forums	7.1%	41.1%	48.2%	34.3%	8%	42.3%
Telephone conversations	6.5%	39%	45.5%	35.3%	9.9%	45.2%
Emails	5%	40%	45%	30.4%	6.5%	36.9%

Source: this research.

N=1,115

2. Comparative Analysis

(1) Analysis of regional differences

The result of Chi-square tests indicates that how impartial news sources from televisions, broadcast radio, printed magazines, portal site websites/apps, websites/apps operated by online news media, face-to-face conversations, telephone conversations, instant messengers, and emails significantly varies by region.

The result of cross analysis finds that 40%–70% of people consider news from broadcast radio, printed newspaper, radio websites/apps to be impartial; the majority of people in Taipei City, New Taipei City and Keelung consider the news from television, printed magazines, websites/apps operated by online news media, social media/online forums, face-to-face conversations, telephone conversations, instant messengers, and emails not to be impartial; there is a highest percentage in Yilan, Hualien, and Taitung who consider news from web portals/apps, other websites/apps online, websites/apps operated by online news media, face-to-face conversations, telephone conversations, instant messengers, and emails not to be impartial; 45% of those in Yunlin, Chiayi, and Tainan consider the news from social media/online forums not to be impartial.

(2) Analysis of basic differences

The result of Chi-square tests indicates that how impartial news from radio websites/apps are considered to be significantly varies by gender; how impartial news from web portals/apps and social media/online forums are considered to be significantly varies by age; how impartial news from printed magazines, websites/apps operated by online news media, other websites/apps online, instant messengers, and emails, are considered to be varies significantly by age and marital status.

When analyzed by gender, the majority of men and women consider news from television, broadcast radio, printed newspaper, printed magazines, radio websites/apps, web portals/apps, websites/apps operated by online news media, social media/online forums, and other websites/apps online, face-to-face conversations, instant messengers, and emails to be impartial: 57.9% of women consider news from radio websites/apps impartial, compared to 50.9% of men, whereas the highest percentage for not being impartial was the 45.8% of women who considered news from telephone conversations not to be impartial.

When analyzed by age, 40%–65% consider news from television, broadcast radio, printed newspaper, radio websites/apps to be impartial; the majority of people aged 46–55 consider websites/apps operated by online news media, social media/online forums, telephone conversations, instant messengers, and emails not to be impartial; the majority of 56–65 year-olds consider news from printed magazines, websites/apps operated by online news media, social media/online forums, other websites/apps online, face-to-face conversations, telephone conversations, and emails not to be impartial; the majority of 66 year-olds and over consider news from web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, face-to-face conversations, telephone conversations, instant messengers, and emails not to be impartial.

When analyzed by marital status, the majority of people regardless of marital status consider news from television, broadcast radio, printed newspaper, printed magazines, radio websites/apps, web portals/apps, websites/apps operated by online news media, other websites/apps online, face-to-face conversations all to be impartial; the majority of those married consider news from telephone conversations and instant messengers not to be impartial; the majority of those widowed/separated consider news from instant messengers and emails not to be impartial. In particular, the same proportion of those married and consider the news from social media/online forums to be impartial is the same as those who believe it to be not impartial, 43.7%.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that how impartial news from printed newspaper, web portals/apps, other websites/apps online and instant messengers significantly varies by education level and profession; how impartial people consider

news to be from radio websites/apps significantly varies by profession and individual average monthly income; how impartial people consider news to be from television, printed magazines, websites/apps operated by online news media, social media/online forums significantly varies by education level, profession and individual average monthly income; how impartial people consider news to be from emails significantly varies by housing tenure, education level, and profession.

When analyzed by housing tenure, the majority of home owners and house renters consider news from emails to be impartial: 51.7% of house renters, significantly higher than 44.2% of home owners.

When analyzed by education level, for printed magazines, web portals/apps, websites/apps operated by online news media, social media/online forums, other websites/apps online, and emails, those with a bachelor's degree who consider the news impartial have the highest rates for all aforementioned media types respectively, and the rates for those with elementary school or lower, and those with a master's degree or higher who consider the media to be impartial, are comparatively lower. Furthermore, the rates of those with a master's degree or higher who consider the news from television, websites/apps operated by online news media, social media/online forums, instant messengers, and emails to be impartial all barely reach 40%.

When analyzed by profession, for printed magazines, radio websites/apps, web portals/apps, websites/apps operated by online news media, other websites/apps online, and emails, those who work in real estate who consider the news to be impartial have the highest rates for all aforementioned media types respectively, whereas those who work in the real estate industry consider web portals/apps impartial with the highest rate of 90.8%. Furthermore, people in public administration and national defense who consider news from televisions, printed newspaper, printed magazines, radio websites/apps, websites/apps operated by online news media, social media/online forums, instant messengers impartial have relatively lower rates; whereas the rates for those in the health care and social work services and the retired who consider news from emails impartial barely reaches 30%.

When analyzed by individual average monthly income on the areas of radio websites/apps, websites/apps operated by online news media, people in the NT\$20,000-29,999 group who consider news impartial have the highest rates of 62.2% and 56.2% respectively, and the lowest rates are 42.8% and 37.4% for those earning NT\$60,000 or more, respectively; with respect to television and printed magazines, those earning NT\$10,000-19,999 who consider news impartial have the highest rates of 62.3% and 68.4% respectively, and those earning NT\$60,000 or more have the lowest rates of 33.6% and 44.1% respectively.

I. Internet Video / Online Games

State of Internet Video Viewing Q96 Q97 Q98

1. Overall Analysis

79.3% of those aged over 16 have watched internet videos (any online videos), while 20.7% have not accounts (see Figure 33). 72.3% of those who have watched video online recently, had not seen improper content, whereas 27.7% had (see Figure 34). Those who has seen improper content 65.1% saw video clips (less than 10 minutes) on YouTube or Facebook, 39% videos on TV station live streams, and 35.6% video over 10 minutes on YouTube or Facebook (see Figure 35).

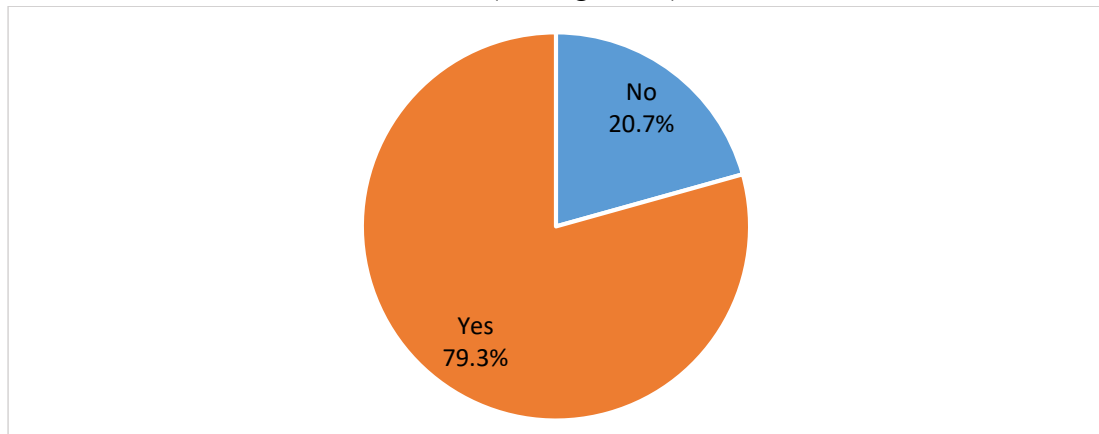


Figure 33 Whether respondents have watched internet videos or not

Base: N = 1,115, single-choice

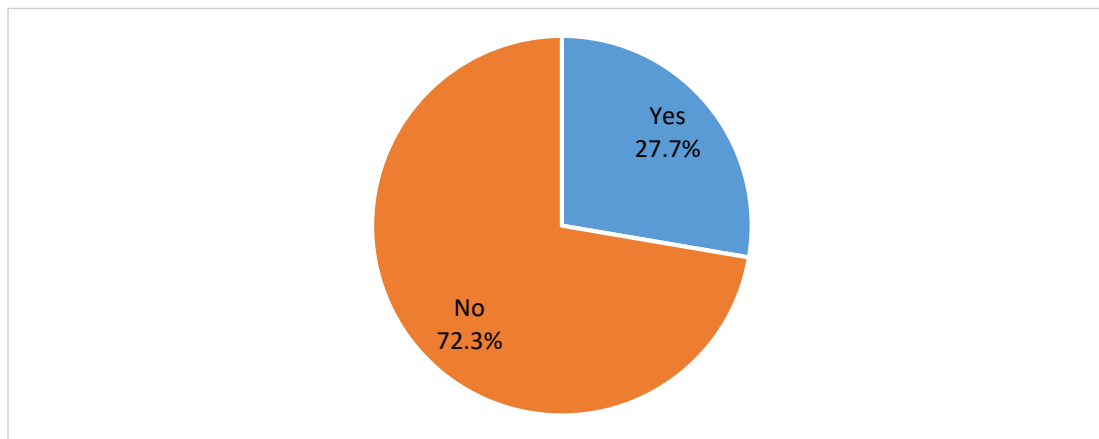


Figure 34 Whether improper content in internet videos has been seen recently or not

Base: N = 885, single-choice (respondents having seen the content of internet videos)

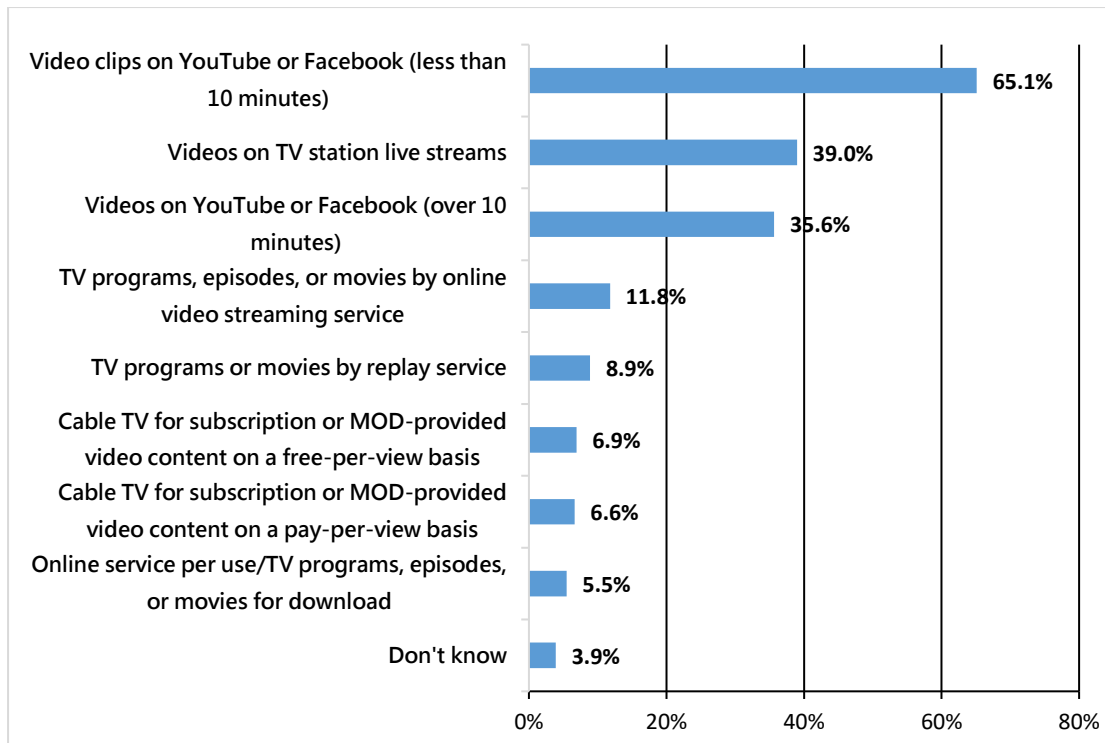


Figure 35 Through what channels the content of improper content are seen

Base: N = 245, multiple choice (respondents having seen the improper content of internet videos recently)

2. Comparative Analysis

(1) Analysis of regional differences

The results of Chi-square tests indicate that people have seen video over the internet varies significantly by region.

The result of cross analysis finds that the majority in all regions have seen internet videos, from 66.8% in people in Yilan, Hualien, and Taitung to 91.2% in people in Kaohsiung, Pingtung and Penghu. The majority in all regions had not seen the improper content but those who had varied from 22.1% in Yunlin, Chiayi, and Tainan to 33.6% in Taichung, Changhua and Nantou. 58.9% of those in Yunlin, Chiayi, and Tainan have seen improper content in programs streamed over internet and TV stations, the majority in regions have seen such improper content in video clips (less than 10 minutes) mainly on YouTube or Facebook websites: 87.9% in Kaohsiung, Pingtung and Penghu, the highest, and 50.5% in Taoyuan, Hsinchu and Miaoli, the lowest.

(2) Analysis of basic differences

The result of Chi-square tests indicates that watching videos varies significantly by age and marital status; whether people have seen the improper content recently varies significantly by gender.

When analyzed by gender, 80.7% of women and 77.9% of men have watched videos on the internet; a majority of either gender have not seen improper content, although 31.9% of men and 23.8% women have seen improper content. 66.2% of men

and 63.7% women have seen such content in video clips (less than 10 minutes) on YouTube or Facebook.

When analyzed by age, 59.2% of those aged 66 and over have not watched videos online; however, a majority in the other age groups have; the proportion decreases by age group, the highest rate 96.4% of 16–25 year-olds and the lowest rate 62.1% of 56–65 year-olds. In the content of internet videos seen recently, the majority of people in all age groups have not seen the improper content, the highest rate 35.3% of 66 year-olds and over and the lowest rate 18.7% of 56–65 year-olds. Among those who have seen improper content in internet videos, the majority (in all age groups) saw such content in video clips (less than 10 minutes) on YouTube or Facebook, with the highest proportion (72.5%) aged 36–45, and the lowest 56.3%, aged 66 and over.

Regardless of marital status, a majority have watch video on the internet, from 63.1% of those widowed or separated to 94.2% of those unmarried people. Again, regardless of marital status, a majority had not recently seen improper content in online videos; the 28.8% of those unmarried is the highest proportion, and the 26.1% of those widowed or separated is the lowest. Among people who have seen improper content of internet videos, 68.4% of those unmarried have seen such content in video clips (less than 10 minutes) on YouTube or Facebook, and 61.2% of those married.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that whether people have watched videos on the internet varies significantly by housing tenure, education level, profession, and average monthly individual income; and whether people have recently seen improper content in internet videos varies significantly by education level.

When analyzed by housing tenure, 76.8% of home owners have watched videos on the internet and 89.7% of those who rent; however, the 23.2% of home owners who have not seen video on the internet is significantly higher than the 10.3% who rent.

When analyzed by education level, those who have watched videos on the internet ranges from the 57.1% of those with high school and secondary school education to 98.6% of those with a master's degree or above. Of those with elementary school education or lower, 78.3% have not seen videos on the internet. The majority of people in all education levels have not seen improper content recently, whereas 38.2% with junior college education had seen improper content and 6.6% of those with elementary school education or lower was the lowest rate.

When analyzed by profession, except 57.9% of those retired not having not watched videos on the internet, the majority of people in other profession groups have watched videos on the internet: 100% of those in publication, audio-video production, mass communication, information, and communications and also 100% of those health care and social work services; 94.2% of those in transportation and warehousing; 91.1%

in finance and insurance; 94.8% of those in real estate; 91.2% of those in professional, scientific and technology services;; 91.1% of those in support services, 94.5% of those in education; 99.6% of those in public administration and national defense; and 96.7% of students.

When analyzed by average monthly individual income, the majority of people in all income levels have seen the videos on the internet, from 60.4% of those earning NT\$10, 000-19,999 to 93.3% of those earning NT\$60, 000 or more.

The Improper Content of Internet Videos Q99

1. Overall Analysis

For people aged over 16 in Taiwan who have seen improper content in internet videos, the type of content being seen includes improper language (51.4%), violence (42.2%), and pornography, nudity or sex (40.9%) (see Figure 36).

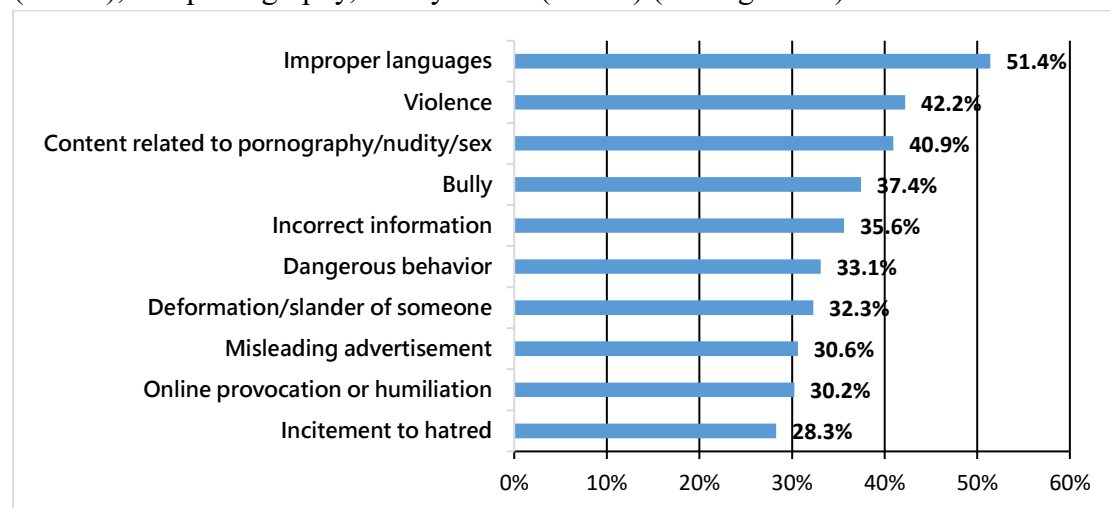


Figure 36 Types of improper content are seen (Top 10)

Base: N = 245, multiple-choice (respondents having seen the improper content of internet videos recently)

2. Comparative Analysis

(1) Analysis of regional differences

The result of cross analysis finds that 58.2% of people in Taipei City, New Taipei City and Keelung, 57% of people in Taichung, Changhua and Nantou, and 50.5% of people in Kaohsiung, Pingtung and Penghu with a ratio of have seen improper content, mainly language. In Taoyuan, Hsinchu and Miaoli, 48.8% and 51.6% of people in Yilan, Hualien, and Taitung have seen the improper content related to pornography, nudity or sex; 41.8% of people in Yunlin, Chiayi, and Tainan have seen improper content, mainly incorrect information.

(2) Analysis of basic differences

When analyzed by gender on people having seen improper in internet videos,

55.6% of women and 48.1% men had heard improper language, and 40.9% of men and 29% of women had seen incorrect information.

When improper content is analyzed by age, 40.1% aged 56–65 year-olds mainly heard improper language, or seen nudity or pornography in online video; 74.9% of those aged 66 and over had seen violence; for other age groups, improper language was the most common.

When analyzed by marital status, 50.3% of those unmarried and 53% of those married have seen improper content in internet videos, mainly improper language; 68% of those widowed/separated have mainly seen violence.

Experience and Impression on Online Games Q101 Q102

1. Overall Analysis

32.2% of those aged over 16 frequently play online games, for example, using the desktop computers/Mac/notebooks, game consoles connected to a TV, tablet PCs, smart phones, etc.; 67.8% those who do not play online games frequently or do not play online games (see Figure 37). While playing online games, 73.9% have not seen the improper content; 26.1% have (see Figure 38).

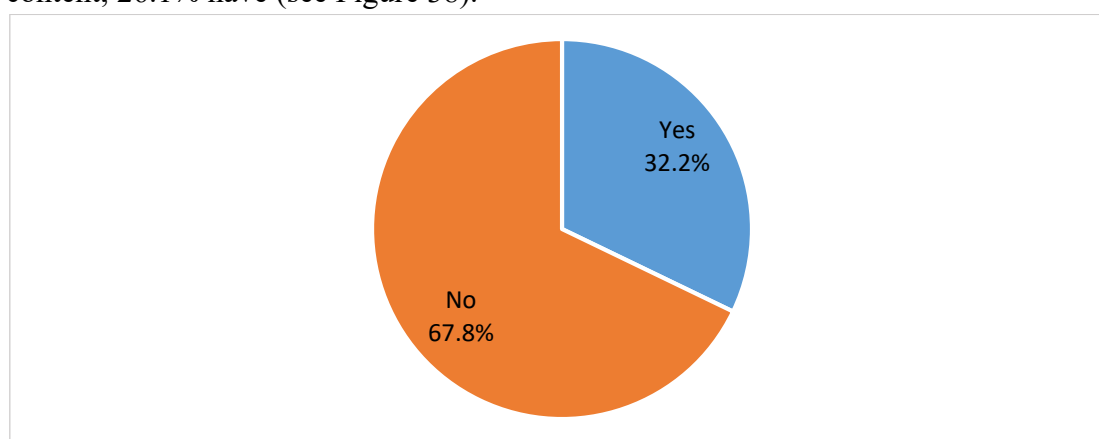


Figure 37 Whether the respondents frequently play online games or not

Base: N = 1,115, single-choice

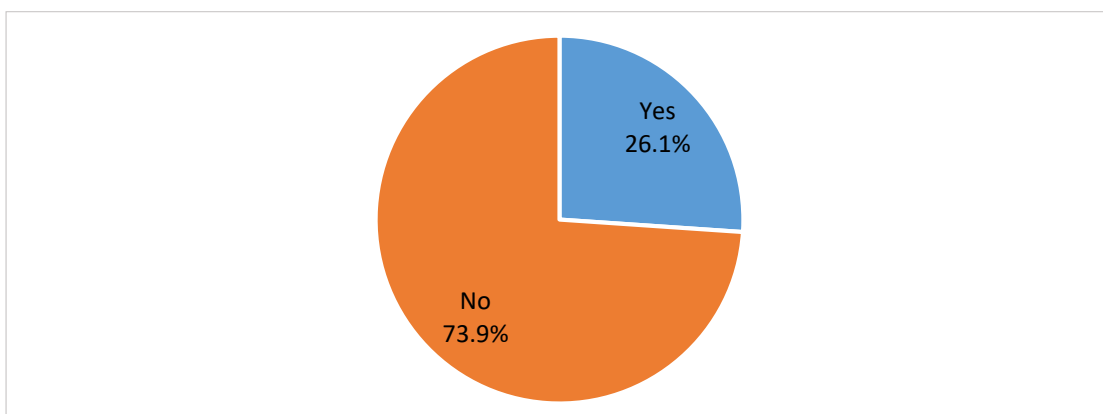


Figure 38 While playing the online games, whether the content seen is improper

Base: N = 359, single-choice (respondents playing online games frequently)

2. Comparative Analysis

(1) Analysis of regional differences

The result of Chi-square tests indicate that the proportion of people who frequently play online games or who see improper content while playing online games varies significantly by region.

The result of cross analysis by region shows that the lowest percentage of people who frequently play online games is in Taoyuan, Hsinchu and Miaoli (24.9%), while the highest percentage is in Kaohsiung, Pingtung and Penghu (45.2%). The majority of people either do not play online games or do not play frequently. Of those playing online games, 39.4% in Taoyuan, Hsinchu and Miaoli, the highest, have seen improper content, and 16.3% is the lowest percentage, in Yilan, Hualien, and Taitung, at 16.3%.

(2) Analysis of basic differences

The result of Chi-square tests indicates that the those whether or not people frequently play online games varies significantly by gender, age, and marital status.

When analyzed by gender, 73.9% of women and 61.6% of men either do not play or do not frequently play online games; 76.2% of men and 70.7% of women have not seen improper content while frequently playing online games.

When analyzed by age, on whether people frequently play online games or not, 61.5% of 16–25 year-olds and 50.4% of 26–35 year-olds frequently play online games. The majority of those in other age groups either do not play or do not frequently play online games; in addition, the proportion of those who frequently play online games decrease by age. Of those who play online games, the majority of people in all age groups have not seen the improper content; however, the 45.5% of 66 year-olds and over have seen improper content, which was the largest proportion.

When analyzed by marital status, 53.6% of those unmarried frequently play online games, compared with 77.4% of those married and 91.6% of those widowed/separated who either do not play or do not frequently play online games. While playing online games, the majority of people of regardless of marital status have not seen improper content; however, 31.5% married people who have done so, the largest proportion, and the 13.4% of those widowed/separated is the smallest proportion.

(3) Analysis of differences in social and economic status

The result of Chi-square tests indicates that whether or not people frequently play online games varies significantly by housing tenure, education level, and profession.

When analyzed by housing tenure, 43.1% frequently play online games compared with 29% who own their own home.

When analyzed by education level, 40.3% of those with a bachelor's degree frequently play online games, the highest percentage by education. The lowest percentage (1.8%) are those with elementary education or lower education.

When analyzed by profession, 65% of students frequently play online games; the majority in other occupation groups either do not play or do not play frequently, with the highest proportion being 94.9% of those retired.