

Case Number: NCCT107042

# **Broadband Usage Survey**

Report Commissioned by:

National Communications Commission

Taiwan Institute of Economic Research

Feb 2020



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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

	<p>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, Fenyuan 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</p>
6	<p>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,</p>

	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, Sihua Township of Yunlin County, Kouhu Township of Yunlin County, Shuilin Township of Yunlin County, Puzi City of Chiayi County, Budai Township of Chiayi 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 Pingtung County, 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

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
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**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  $\pm 3$  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	By Survey Site
Area	Level	District or Township for Survey	No. of Expected Samples (1,160 samples in total)	No. of Completed Samples (1,177 samples in total)
Taipei City, New Taipei City, Keelung, Yilan	Level 1	Yonghe District of New Taipei City	22	22
		Wanhua District of Taipei City	22	22
		Songshan District of Taipei City	22	22
	Level 2	Sanchong District of New Taipei City	24	24
		Banqiao District of New Taipei City	24	23
		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	22
		Zhongshan District of Taipei City	24	25
	Level 3	Renai District of Keelung City	22	24
		Bali District of New Taipei City	22	23
		Xinyi District of Keelung City	22	24
		Xindian District of New Taipei City	22	24
	Level 4	Dongshan Township of Yilan County	24	23
	Subtotal		346	350
Taoyuan, Hsinchu, Miaoli	Level 1	Zhubei City of Hsinchu County	22	21
		Zhongli City of Taoyuan County	22	21
		Taoyuan District of Taoyuan City	22	23
	Level 2	Bade City of Taoyuan County	26	26
		Xiangshan District of Hsinchu City	26	26

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 (1,177 samples in total)
		Zhudong Township of Hsinchu County	26	26
	Level 3	Shitan Township of Miaoli County	28	32
		Subtotal	172	175
Taichung, Changhua, Nantou	Level 1	Xitun District of Taichung City	24	24
		West District of Taichung City	24	21
	Level 2	Dali District of Taichung City	24	24
		Fengyuan District of Taichung City	24	23
		Daya District of Taichung City	24	31
	Level 3	Fuxing Township of Changhua County	24	25
		Shengang District of Taichung City	24	23
		Xianxi Township of Changhua County	24	24
	Level 4	Yuchi Township of Nantou County	24	27
		Subtotal	216	222
Yunlin, Chiayi, Tainan	Level 1	Anping District of Tainan City	26	26
		East District of Tainan City	26	27
	Level 2	East District of Chiayi City	34	36
		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	165
Kaohsiung, Pingtung, Penghu	Level 1	Qianzhen District of Kaohsiung City	30	30
		Zuoying District of Kaohsiung City	30	31
	Level 2	Renwu District of Kaohsiung City	28	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 (1,177 samples in total)
		Niaosong District of Kaohsiung City	28	27
	Level 3	Chaozhou Township of Pingtung County	30	30
		Magong Township of Penghu County	30	31
	Subtotal		176	179
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	30
	Lianjiang County		30	30
	Subtotal		60	60
Grand total			1,160	1,177

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 Broadband Usage 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	
<b>Total</b>	<b>1,100</b>	<b>100.0%</b>	<b>1,117</b>	<b>100.0%</b>	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.
<b>Survey Site</b>					
Taipei City, New Taipei City, Keelung, Yilan	346	31.5%	350	31.3%	
Taoyuan, Hsinchu, Miaoli	172	15.6%	175	15.7%	
Taichung, Changhua, Nantou	216	19.6%	222	19.9%	
Yunlin, Chiayi, Tainan	164	14.9%	165	14.8%	
Kaohsiung, Pingtung, Penghu	176	16.0%	179	16.0%	
Hualien, Taitung	26	2.4%	26	2.3%	

## 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)  $\alpha$  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 1,129 questionnaires completed<sup>1</sup> as valid samples. The sample structure is shown in Table 7.

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<sup>1</sup> 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 Broadband Usage 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		
<b>Total</b>	<b>20,176,580</b>	<b>100.0%</b>	<b>1,129</b>	<b>100.0%</b>	<b>1,129</b>	<b>100.0%</b>		
<b>Gender</b>							The Chi-square value is 0.49, and p-value (= 0.483) 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%	568	50.3%	556	49.3%		
Female	10,236,244	50.7%	561	49.7%	573	50.7%		
<b>Age</b>							The Chi-square value is 35.19, 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%	221	19.6%	165	14.6%		
Age 26-35	3,281,796	16.3%	201	17.8%	184	16.3%		
Age 36-45	3,877,239	19.2%	205	18.2%	217	19.2%		
Age 46-55	3,618,661	17.9%	184	16.3%	202	17.9%		
Age 56-65	3,326,481	16.5%	189	16.7%	186	16.5%		
Age 66 and above	3,125,922	15.5%	129	11.4%	175	15.5%		
<b>City or County</b>							The Chi-square value is 261.435, 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%	148	13.1%	194	17.2%		
Taipei City	2,282,576	11.3%	136	12.0%	128	11.3%		
Taoyuan City	1,862,558	9.2%	71	6.3%	104	9.2%		
Taichung City	2,369,481	11.7%	133	11.8%	133	11.7%		
Tainan City	1,636,231	8.1%	57	5.0%	92	8.1%		
Kaohsiung City	2,415,699	12.0%	128	11.3%	135	12.0%		
Yilan County	396,388	2.0%	32	2.8%	22	2.0%		
Hsinch County	459,988	2.3%	41	3.6%	26	2.3%		
Miaoli County	474,519	2.4%	33	2.9%	27	2.4%		
Changhua County	1,097,895	5.4%	52	4.6%	61	5.4%		
Nantou County	438,392	2.2%	31	2.7%	25	2.2%		
Yilan County	600,275	3.0%	54	4.8%	34	3.0%		
Chiayi County	454,426	2.3%	33	2.9%	25	2.3%		
Pingtung County	729,662	3.6%	27	2.4%	41	3.6%		
Taitung County	191,014	0.9%	12	1.1%	11	0.9%		
Hualien County	285,520	1.4%	17	1.5%	16	1.4%		
Penghu County	92,524	0.5%	33	2.9%	5	0.5%		
Keelung City	328,031	1.6%	40	3.5%	18	1.6%		
Hsinch City	363,693	1.8%	26	2.3%	20	1.8%		
Chiayi City	228,710	1.1%	25	2.2%	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	
<b>Total</b>	<b>1,129</b>	<b>100.0%</b>	<b>1,129</b>	<b>100.0%</b>	
<b>Age</b>					
Age 16-25	221	19.6%	165	14.6%	0.75
Age 26-35	201	17.8%	184	16.3%	0.91
Age 36-45	205	18.2%	217	19.2%	1.06
Age 46-55	184	16.3%	202	17.9%	1.10
Age 56-65	189	16.7%	186	16.5%	0.98
Age 66 and above	129	11.4%	175	15.5%	1.36

## 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 109 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 8.65. Among the aged 55 and over groups, the average number of refusals was 12.71, 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 0.75 times greater; the sample number of ages 26-35 was 0.91 times greater; the sample number of ages 36-45 was 1.06 times greater; the sample number of middle-aged people such as ages 46-55 was 1.1 times greater; the sample number of ages 56-65 was 0.98 times greater; and the sample number of ages 66 and above was 1.36 times greater.

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

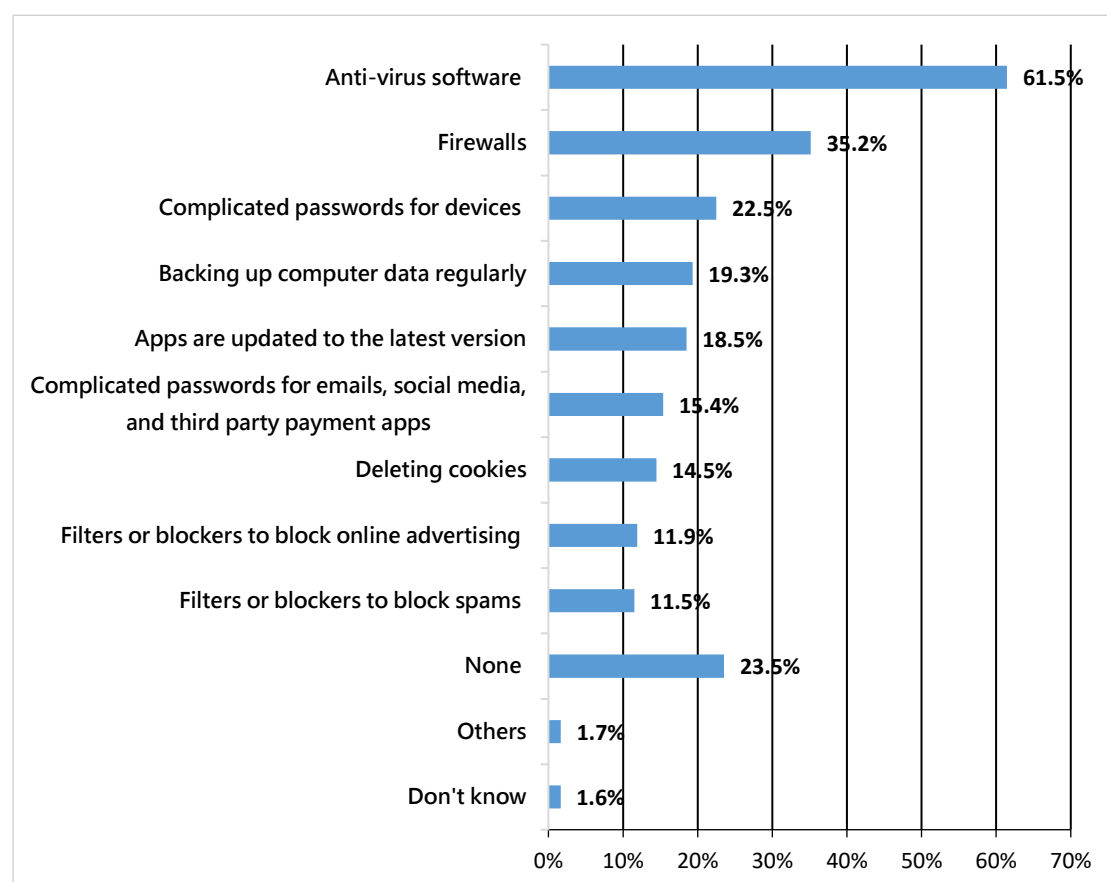
### III. Results

#### A. Online Behaviors

##### Measures Taken to Protect Online Security Q7

###### 1. Overall analysis

The most commonly used measure to protect internet security by people in Taiwan is anti-virus software (61.5%), followed by firewalls (35.2%) and complicated passwords (22.5%); while 23.5% of people do not take any internet security measures (See Figure 1).



**Figure 1 Internet Security Measures**

Base : N=899, multiple-choice (Internet users)

###### 2. Comparative analysis

###### (1) Analysis of regional differences

Cross analysis suggests that more than 50% of Taiwanese people prevent online threats with anti-virus software to protect online security. People in Taichung, Changhua and Nantou account for the highest percentage (70.4%), while people in Yilan, Hualien, and Taitung the lowest (51.4%).

###### (2) Analysis of basic differences

When analyzed by gender, antivirus software is the most used measure to protect internet security by both men and women (64.1% and 59% respectively). Besides, while methods as setting complicated passwords and regularly backing up PC data are similarly used by both genders, men account slightly more than women in taking other measures.

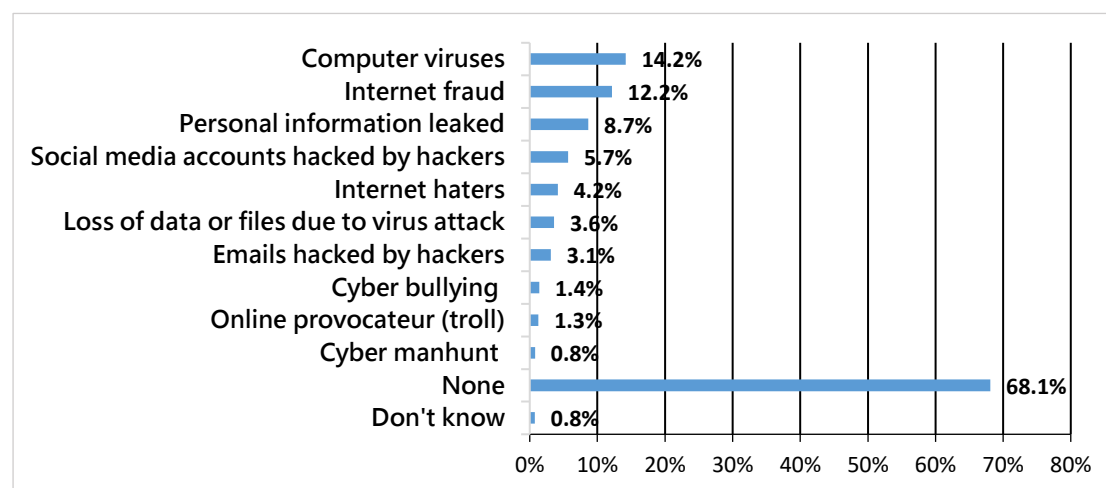
When analyzed by age, antivirus software is the most used measure to protect internet security among people aged below 65, while most of those aged from 55–65 (43.9%) and over (66%) do not take any measures to protect Internet security. The other age levels mainly use antivirus software, and among them, people aged from 26–35 account for the highest percentage (77.9%), with 46–55 the lowest (60.6%).

When analyzed by marital status, antivirus software is the most used measure to protect internet security by both married (55.8%) and unmarried (72.5%) people, while widowed/separated who do not use at all account for the highest percentage (48.7%).

## Situations Encountered Online in the Past 12 Months Q8

### 1. Overall analysis

The survey shows that most Taiwanese people aged 16 and over did not encounter special situations online (68.1%) in the past 12 months, while 14.2% encountered computer viruses, and 12.2% encountered Internet fraud in the past 12 months (See Figure 2).



**Figure 2 Situations Encountered Online in the Past 12 Months**

Base : N=899, multiple-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The cross analysis suggests that over 60% of Taiwanese people did not experience Internet problems. Among them, people in Taipei City, New Taipei City and Keelung account for the highest percentage (71.6%) while people in Taichung, Changhua and

Nantou the lowest (62.3%). Concerning those who have experienced Internet problems, People in Taoyuan, Hsinchu and Miaoli (12.4%) and those in Kaohsiung, Pingtung and Penghu (16.1%) account for the highest percentages in Internet fraud, while other regions encounter computer viruses the most.

## **(2) Analysis of basic differences**

When analyzed by gender, (63.1%) men and (72.8%) women did not experience Internet problems, such as a computer virus or Internet fraud, in the past 12 months; among those who have experienced Internet problems, most men experienced Internet fraud (15.3%) while most women a computer virus (13.9%).

When analyzed by age, most have not experienced Internet problems. Among them, those aged over 66 account for the highest percentage (82%) while those aged 26 to 35 the lowest (60.1%). In terms of those who have experienced Internet problems, Internet fraud accounts for the highest percentage among people aged from 46 to 55(11.8%) and 56 to 65(9.7%), while the other the age groups encountered mostly computer virus.

When analyzed by marital status, most did not experience situations online. Among them, married people account for the highest percentage (71.7%) while those unmarried the lowest (63.6%). In terms of those who have experienced Internet problems, computer viruses account for the highest percentage, among both unmarried (15.7%) and married people (13.6%) while Internet fraud those widowed/separated (15%).

## **Confidence Levels to Use the Internet Q12–Q15**

### **1. Overall analysis**

Overall, the average confidence level of Taiwanese people aged 16 and over in using the Internet is 6.44 (1 indicates no confidence and 10 indicates total confidence). Among them, the average confidence level to “determine whether the online information is advertising or not” is the highest (6.55), followed by writing blogs, sharing photos online and uploading videos to the web (5.48) and control of personal information published online (5.09) (See Table 9).

**Table 9 Confidence Levels in Using Internet**

Online Behaviors	Confidence Level (Average)
Determining Whether the Online Information is Advertising or Not	6.55
Internet Usage as a Whole	6.44
Writing Blogs, Sharing Photos Online and Uploading Videos to the Web	5.48
Control of Personal Information Published Online	5.09

Base : N=899(Internet users)

Source: Results of this research

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

According to the cross analysis, people in Taichung, Changhua and Nantou have the highest confidence level in writing blogs, sharing photos online and uploading videos to the web (5.94) while people in Yunlin, Chiayi, and Tainan have the lowest (4.71). In terms of control of personal information published online, people in Taoyuan, Hsinchu and Miaoli have the highest confidence level (5.68) while people in Yilan, Hualien, and Taitung have the lowest (4.22). Concerning determining whether online information is advertising or not, people in Taipei City, New Taipei City and Keelung have the highest confidence level (6.98) in contrast with those in Yunlin, Chiayi, and Tainan (5.71). In terms of Internet usage as a whole, people in Taoyuan, Hsinchu and Miaoli as well as Taichung, Changhua and Nantou have the highest confidence level (6.69) while people in Yunlin, Chiayi, and Tainan the lowest (5.86).

### **(2) Analysis of basic differences**

The one-way ANOVA suggests that whether one has confidence in determining whether the online information is advertising or not, and Internet usage as a whole, is significantly related to gender, while whether one has confidence in writing blogs, sharing photos online and uploading videos to the web, control of personal information published online is significantly related to marital status.

When analyzed by gender, men have higher confidence than women in writing blogs, sharing photos online and uploading videos to the web (5.53), control of personal information published online (5.21), determining whether the online information is advertising or not (6.87), and internet usage as a whole (6.71).

When analyzed by age, people aged 16-25 have the highest confidence in writing blogs, sharing photos online and uploading videos to the web (6.48) while people aged 56-65 the lowest (3.75). In terms of control of personal information published online, people aged 16-25 have the highest confidence level (6.17) while people aged 56-65

the lowest (3.64). Concerning determining whether the online information is advertising or not, people aged 16-25 also have the highest confidence level (7.41) while people aged over 66 have the lowest (4.92). People aged 16-25 have the highest confidence level in Internet use as a whole (7.37) while people aged over 66 the lowest as well (4.7).

When analyzed by marital status, unmarried people have higher confidence levels in writing blogs, sharing photos online and uploading videos to the web (6.02), control of personal information published online (5.64), determining whether the online information is advertising or not (7.1) and internet usage as a whole (7.06) than those widowed/separated (4.78, 4.3, 5.88, 5.55).

### **(3) Analysis of differences in social and economic status**

The one-way ANOVA suggests that whether one has confidence in the online behaviors mentioned above is significantly related to housing tenure; while confidence level in control of personal information published online is related to profession.

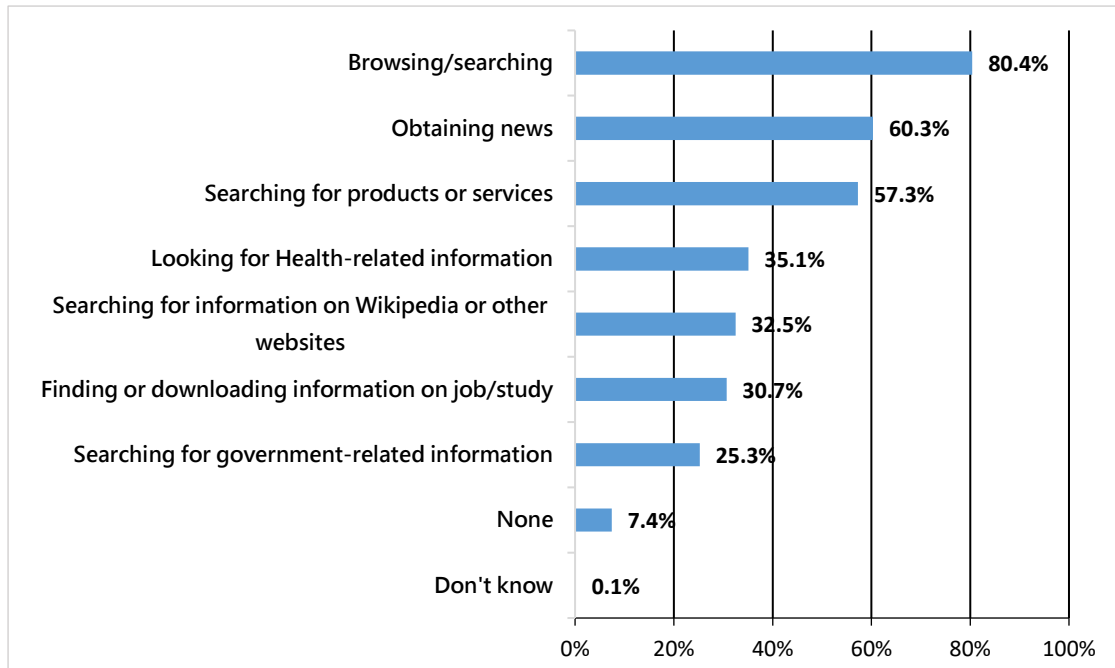
When analyzed by housing tenure, house renters have higher confidence level in writing blogs, sharing photos online and uploading videos to the web (6.04), control of personal information published online, determining whether the online information is advertising or not (7.04) and internet usage as a whole (6.9) than home owners (5.36, 5, 6.41, 6.33).

When analyzed by profession, people in the arts, entertainment and recreation services industries have the highest confidence level (6.02) in control of personal information published online while the retired the lowest (3.32).

## **Online Activities Q18 Q19**

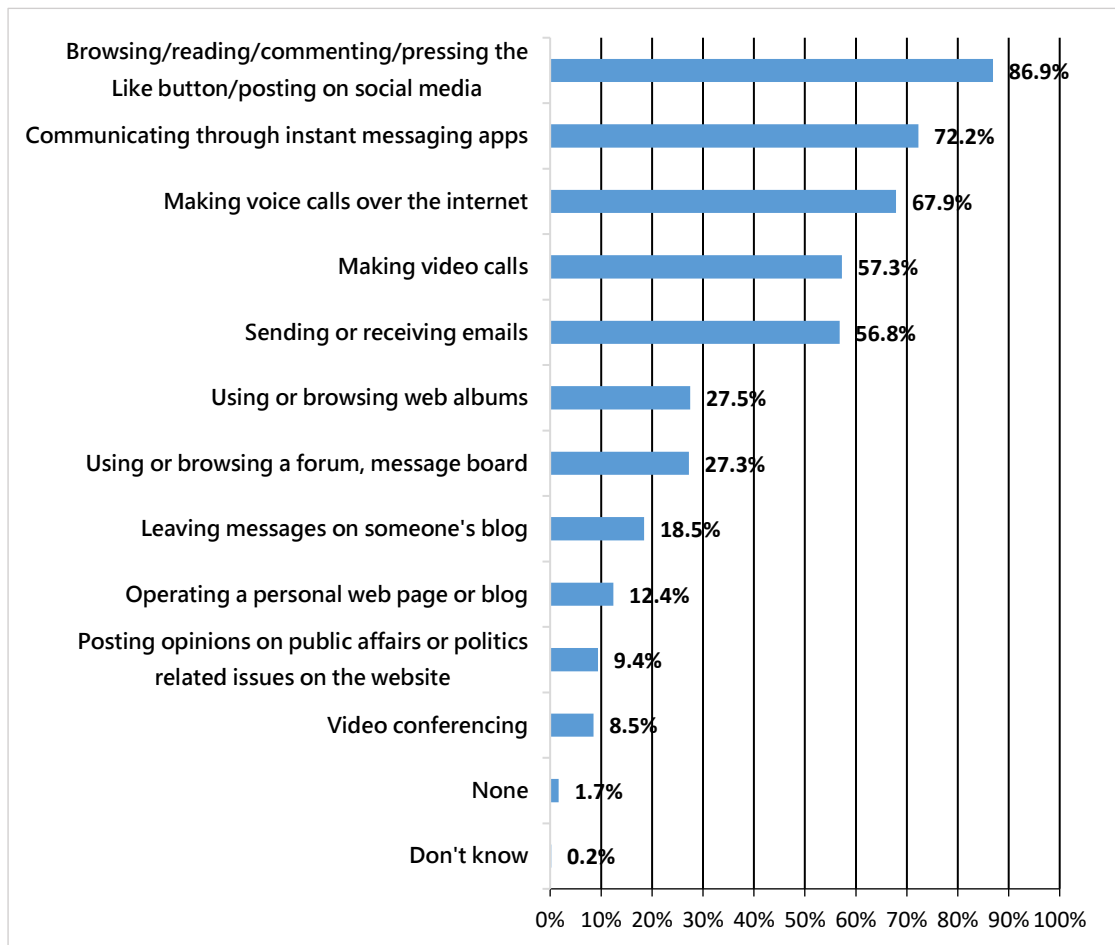
### **1. Overall analysis**

The most common online behavior was browsing/searching (80.4%), followed by obtaining news (60.3%) and searching for products or services (57.3%) (See figure 3). The most commonly used social and communicative activities are browsing/reading/commenting/pressing the Like button/posting on social media (Facebook, LINE, Instagram, etc.) (86.9%), followed by communicating through instant messaging apps (Facebook Messenger, LINE, Skype, WhatsApp, WeChat, etc.) (72.2%), making voice calls over the internet (Facebook Messenger, LINE, Skype, FaceTime, etc.) (67.9%) (See figure 4).



**Figure 3 Online Search**

Base : N=899, multiple-choice (Internet users)



**Figure 4 Online Social Networking or Communication**

Base : N=899, multiple-choice (Internet users)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

Cross analysis suggests that activities most engaged online are web browsing/searching and obtaining news information for people in all regions. Among them, people in Taichung, Changhua and Nantou account for the highest percentage (85.7%) while people in Taipei City, New Taipei City and Keelung the lowest (75.6%). Browsing/reading/commenting/pressing the Like button/posting on social media are the most common social or communicative activities in all regions. Among all, people in Taipei City, New Taipei City and Keelung account for the highest percentage (90.2%) while people in Taoyuan, Hsinchu and Miaoli the lowest (80.2%).

### **(2) Analysis of basic differences**

When analyzed by gender, the most engaged online activities are web browsing/searching and obtaining news information for both men (81.1%) and women (79.8%). The most engaged online social and communicative activity are Browsing /reading/commenting/pressing the Like button/ posting on social media for both men (88.4%) and women (85.5%) as well.

When analyzed by age, activities most engaged online are web browsing/searching, with people aged 26-35 accounting for the highest percentage (95.7%) and people aged over 66 the lowest (52.4%). Except for information related to health or the government, people aged below 45 search online more than those aged over 45. The most often engaged online social activity is browsing/reading/commenting/pressing the Like button/posting on social media for all age groups, with people aged 16-25 accounting for the highest percentage (94.9%) and people aged over 66 the lowest (76.7%). People aged below 45 engage in social or communicative activities more than people aged over 46 except for making online voice calls.

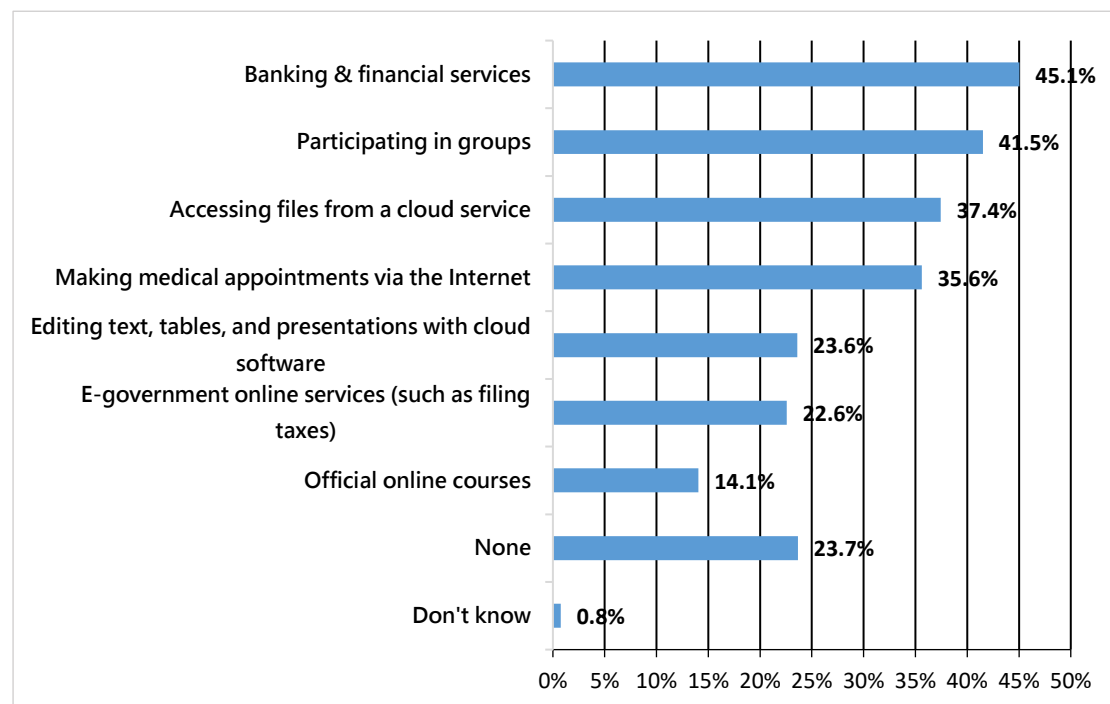
When analyzed by marital status, all have experience of searching online regardless of marital status. Among searching activities, browsing the web is the most common, with 89.6% of unmarried people and 68.6% of those widowed/separated. Of all searching activities, unmarried people are the most while those widowed/separated the least. All people have engaged in online social networking or communication regardless of marital status, and browsing /reading/commenting/pressing the Like button/ posting on social media are the most common, with the unmarried people accounting for the highest percentage of 91% and those widowed or separated the lowest (83.3%). Except for making online voice calls, those unmarried engage in other online social networking or communication activities more than those married and widowed or separated.



## Use of Online Services and Online Activities Q20 Q21

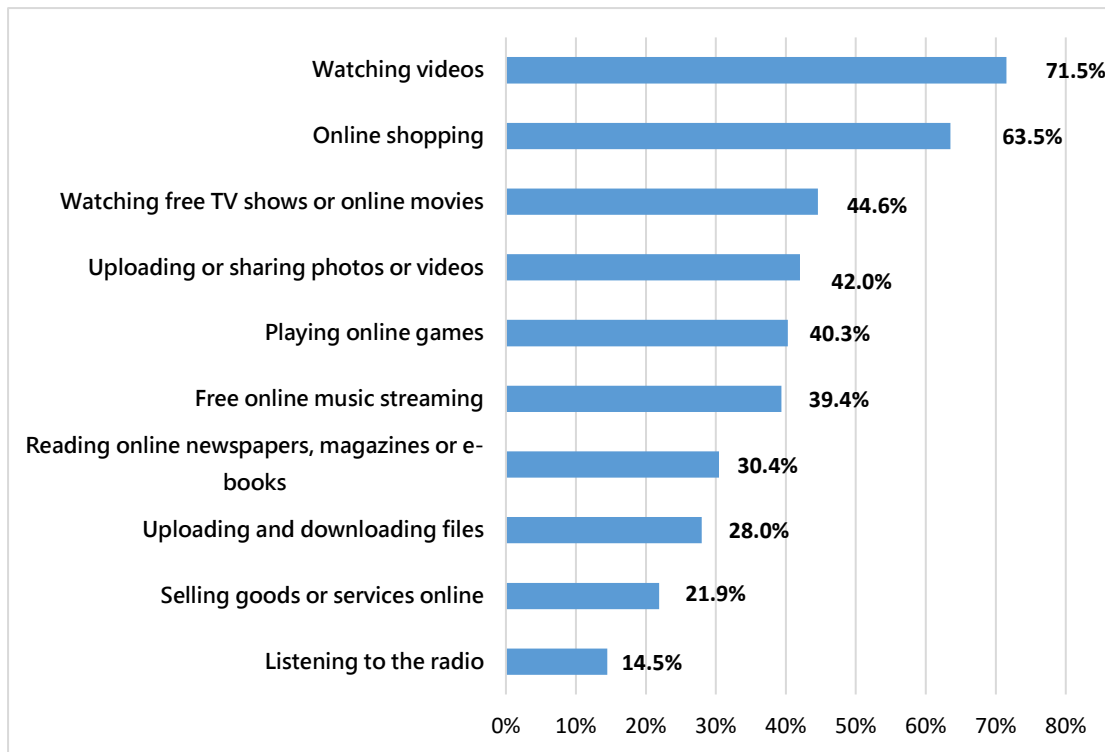
### 1. Overall analysis

The most used Internet service is banking and financial services (45.1%), followed by participating in groups (41.5%) and accessing files from a cloud service (such as Dropbox, Google Drive, and Microsoft OneDrive) (37.4%) (See figure 5). Among online activities, watching videos (on YouTube, Facebook, etc.) has the highest rate at 71.5%, online shopping (such as purchase of products, services or tickets) accounts for 63.5%, and watching free TV shows or online movies is responsible for 44.6% (See figure 6).



**Figure 5 The Most Used Online Services**

Base : N=899, multiple-choice (Internet users)



**Figure 6 The Most Used Online Activities (Top 10)**

Base : N=899, multiple-choice (Internet users)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

Cross analysis shows that among the online services, banking and financial services has the highest rates among people in Taipei City, New Taipei City and Keelung (50.3%); Taichung, Changhua and Nantou (52.8%); Yilan, Hualien and Taitung (49.3%), while participating in community groups among people in Taoyuan, Hsinchu and Miaoli (49.6%). Making medical appointments via the Internet is the most common online activity among people in Kaohsiung, Pingtung and Penghu (46.5%), while most people in Yunlin, Chiayi and Tainan do not do any activities (39.7%). In terms of the most used online activities, watching videos account for the highest percentage in all regions except for Taoyuan, Hsinchu and Miaoli and Taichung, Changhua and Nantou, where online shopping accounts for the highest or the same as watching videos (68.3%, 74.7%). Watching videos especially has the highest percentage among people in Yilan, Hualien, and Taitung (83.9%) and the lowest among people in Yunlin, Chiayi and Tainan (62.2%).

### **(2) Analysis of basic differences**

When analyzed by gender, banking and financial services is the most used online service by both men and women (45.2% and 44.9% respectively), while watching videos is the most common online activity (74.4% and 68.7%, respectively). Except for online shopping, men engage in the other online activities more.

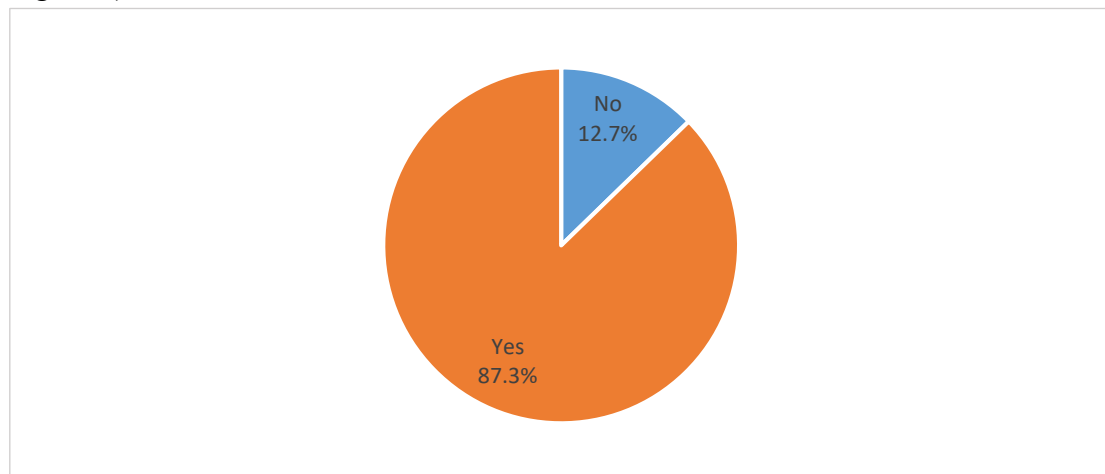
When analyzed by age, banking and financial services is the most used online service by people aged 26-35 (69.9%), 36-45 (66.9%), and 46-55 (39.6%); accessing files from a cloud has the highest rate among people aged 16-25 (60.1%); most of those aged 56-65 (39%) and over 66 (65.9%) do not use any of the services. Among online activities, online shopping accounts for the highest among people aged 26-35 (85.4%), while watching videos among the rest of the age groups, with people aged 16-25 making up for the highest proportion at 79.6% and people over 66 the lowest, 50.5%.

When analyzed by marital status, unmarried people use accessing files in a cloud service the most (58.3%) while the married participate in community groups more (41.8%). Most of those widowed/separated do not use any of the services (48%). The most used activity regardless of marital status is watching videos, with unmarried people accounting for the highest of 79.2% and the married the lowest, 66.4%. Unmarried people also account for the highest percentage in all online activities.

## Internet Access at Places other than Home Q22 Q23

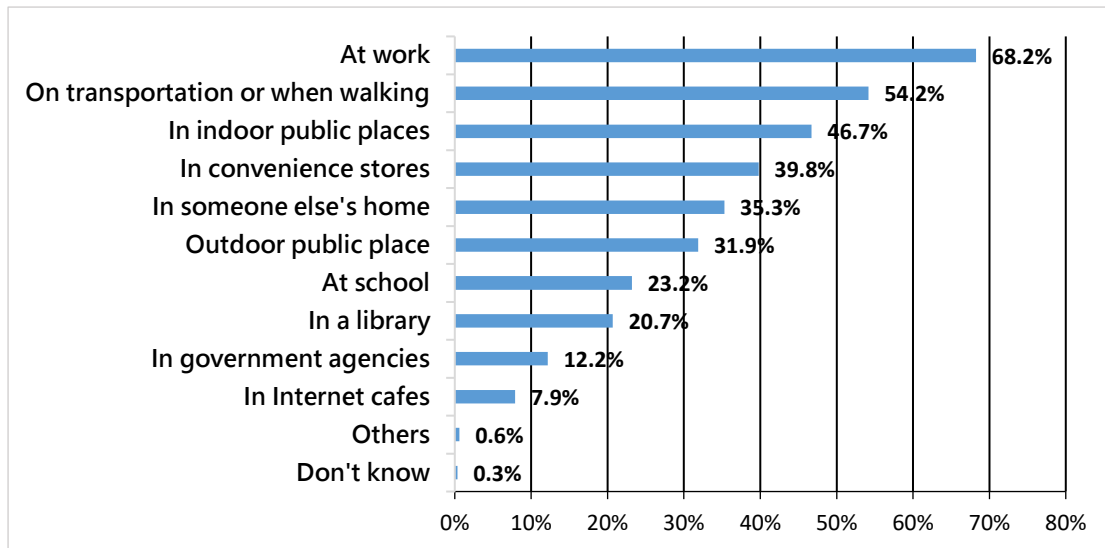
### 1. Overall analysis

The survey shows that 87.3% of Taiwanese people access the Internet at places other than home (See Figure 7). When away from home, 68.2% of people access the Internet at work (the highest), followed by on transportation or when walking (54.2%) and in indoor public places (such as restaurants, movie theaters, shopping malls) (46.7%) (See Figure 8).



**Figure 7 Do You Access the Internet at Places Other Than Home**

Base : N=899, single-choice (Internet users)



**Figure 8 Places to Access Internet Other than Home**

Base : N=785, multiple-choice (People access the Internet at places other than home)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The result shows a significant difference in accessing the Internet at home or at other places in terms of regions. People access the Internet regardless of the region they live. At home, Kaohsiung, Pingtung and Penghu in particular accounts for the highest (93.1%) while those in Yunlin, Chiayi, and Tainan the lowest (73.9%). In regard to places to access the Internet other than home, workplace accounts for more than 60%. People in Yilan, Hualian and Taitung make up for the highest (79%), while those in Kaohsiung, Pingtung and Penghu the lowest (60.2%). What is noteworthy is that people in Yilan, Hualian and Taitung access the Internet at home (56.8%), convenience stores (61.1%), and outdoor public places (47.2%) more than those of other regions.

### **(2) Analysis of basic differences**

The result shows a significant difference in accessing the Internet at home or at other places in terms of gender and marital status. When analyzed by gender, both men (87.4%) and women (87.1%) have higher rates of accessing the Internet at places other than home. In regard to the places to access the Internet other than home, men (72.2%) have a higher rate of accessing the Internet at work than women (64.5%).

When analyzed by age, people in all age groups have a higher rate to access the Internet at places other than home. 16-25 year-olds account for the highest rate of 96.9% while 66 year-olds and over have the lowest rate of 57.8%. In regard to the place to access the Internet at places other than home, people aged 16-25 have a higher rate to access the Internet on transportation or walking (71.8%), while people aged over 66 access more at indoor public places (43.8%). Other age groups access the Internet mostly at work with those aged 26-36 accounting for the highest rate of 86.6% and

those aged 56-65 the lowest of 53%.

Regardless of marital status, all have a higher rate to access the Internet at places other than home. Among them, unmarried account for the highest rate of 94.7% and those widowed or separated account for the lowest of 75%. In regard to the most frequent place of access to the Internet other than home, the workplace accounts for the highest percentage. Those widowed or separated access the Internet at work the most (69.7%) while those married the least (67.7%). Unmarried people access the Internet at places other than home more than those married or those widowed or separated, except when at work or outdoor public places.

### **(3) Analysis of differences in social and economic status**

The results show a significant difference in accessing the Internet either at home or at other places in terms of education levels and average monthly individual income. When analyzed by education level, those educated to elementary school level or lower mostly do not access the Internet at places other than at home (52.7%), while most of those of other levels do. Among them, people with a master's degree or higher account for the highest rate of 97.7% while those with high school or secondary school education have the lowest of 59.7%.

When analyzed by individual average monthly income, all groups access the Internet at places other than at home more than those who do not. Among them, those earning NT\$50,000-59,999 accounts for the highest rate of 97.3% while the NT\$10,000-19,999 group the lowest of 77.7%.

## **Average Number of Hours Spent on the Internet per Week Q25 Q26 Q32**

### **1. Overall analysis**

According to the study, people spend an average of 20.52 hours on the Internet at work or at school every week (N=785, people who access the Internet at places other than home); people spend an average of 12.27 hours on the Internet at other places every week (N=785, people who access the Internet at places other than home); while people spend an average of 20.56 hours on the Internet at home every week (N=888, people who access the internet at home) (See Table 10).

**Table 10 Average Hours Spent Online per Week by Location**

<b>Location</b>	<b>Average Number of Hours Spent Online per Week</b>	<b>Base</b>
At workplace or school	20.52	785
Other places (non- home, workplace, or school)	12.27	785
Home	20.56	888

Source: Results of this research

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The one-way ANOVA suggests that the average number of hours spent online by someone at home every week is significantly related to the area in which they live.

The cross analysis suggests that people in Taiwan spend an average of more than 20 hours online at work or school every week except for the people in Taoyuan, Hsinchu and Miaoli (16.84 hours). Among them, people in Yilan, Hualien, and Taitung spend the most time as 26.27 hours per week. In terms of average hours spent online at other places, people in Kaohsiung, Pingtung and Penghu spend the least time at 9.17 hours while the rest all spend more than 10 hours per week. Of them all, people in Yilan, Hualien, and Taitung also spend the most time at 16.58 hours. In regard to the average hours spent online at home every week, people in Yilan, Hualien, and Taitung spend the most time at 25.49 hours while people in Taipei City, New Taipei City and Keelung the least time at 17.95 hours.

### **(2) Analysis of basic differences**

The one-way ANOVA suggests that the average hours spent online at home every week is significantly related to gender, age, and marital status.

When analyzed by gender, men spend an average of 22.19 hours online at work or school every week; while women spend only 18.97 hours online per week. Men spend an average of 13.11 hours online at other places every week; while women only 11.5 hours online per week. Men spend an average of 21.15 hours online at home every week while women 20 hours online per week. On average, men spend more time online than women, regardless of location.

When analyzed by age, people aged 16-25 spend an average of 26.94 and 16.04 hours online at school or work and other places per week, while people aged 66 and over spend 6.46 and 5.56 hours respectively. 16-25 year-olds spend an average of 27.36 hours online at home every week, while people aged 66 and over spend 14.2 hours online per week.

When analyzed by marital status, those unmarried spend an average of 24.7 hours online at work or school every week, while those widowed or separated spend 16.73 hours online per week. The unmarried spend an average of 15.18 hours online at other places every week, while those married spend 9.93 hours online per week. Unmarried people spend an average of 25.33 hours online at home every week, while married people spend 16.91 hours online per week.

### **(3) Analysis of differences in social and economic status**

The one-way ANOVA suggests that the average hours spent online at work or school every week is significantly related to housing tenure.

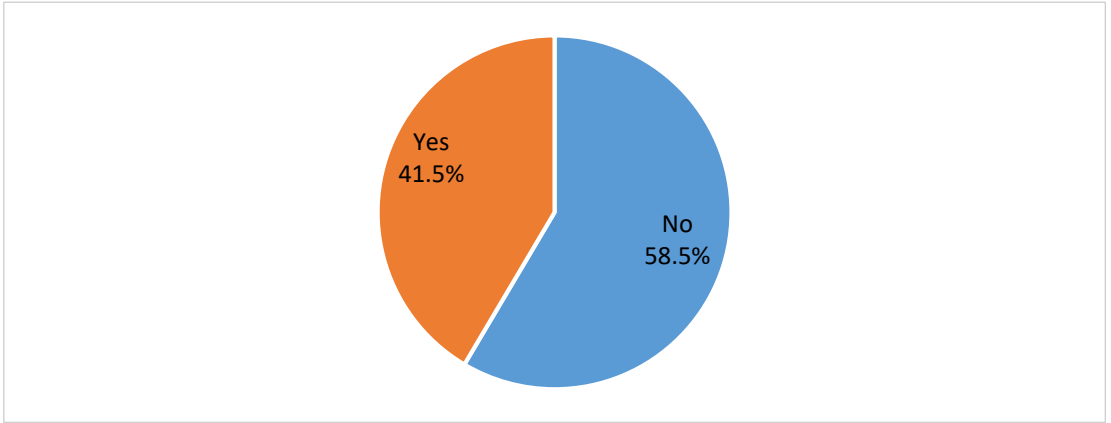
When analyzed by housing tenure, house renters spend an average of 24.4 hours

online at work or school every week, while home owners spend 19.52 hours online per week.

**Concerns about Internet Use Q37 Q38**

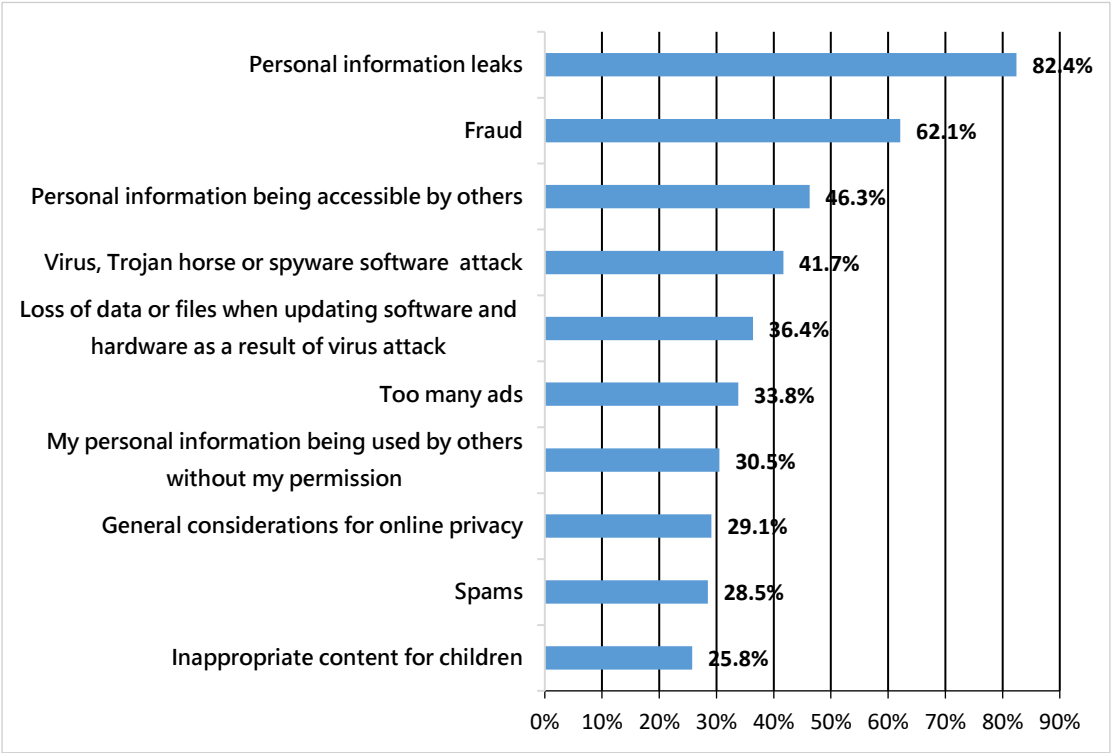
**1. Overall analysis**

The survey shows that 58.5% of people do not have concerns about Internet use while 41.5% do (See Figure 9). Their main concerns include personal information leaks (82.4%), fraud (62.1%) and personal information being accessible by others (46.3%) (See Figure 10).



**Figure 9 Do You Have Concerns about Internet Use?**

Base : N=1,129, single-choice



**Figure 10 Concerns about Internet Use (Top 10)**

Base : N=468, multiple-choice (people who have concerns)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The Chi-square test suggests that whether one has concerns about Internet use is significantly related to the area where one lives.

The cross analysis suggests that people in Kaohsiung, Pingtung and Penghu have the highest rate (51.5%) of concerns about Internet use while most people in other regions do not have concerns. Among them, people in Taipei City, New Taipei City, and Keelung have the highest rate (64.8%) of no concerns about Internet use while people in Taichung, Changhua and Nantou have the lowest (53%).

The survey suggests that people in Yunlin, Chiayi, and Tainan have the highest rate of concern about personal information leaks (88.1%), while people in Taoyuan, Hsinchu and Miaoli have the lowest rate (73.8%). What is noteworthy is that people in Taichung, Changhua and Nantou have higher rates of concerns about strangers having access to children (20.3%) and violent content (30.1%) than other areas.

### **(2) Analysis of basic differences**

The Chi-square test suggests that whether one has concerns about Internet use is significantly related to age and marital status.

When analyzed by gender, most men (57.5%) and women (59.5%) do not have concerns about Internet use. A higher rate of men (83.2%) have concerns about personal information leaks than women (81.7%).

When analyzed by gender, most people aged 66 and over have the highest rate (73.7%) of concerns about Internet use while people aged 36-45 have the lowest rate (51.7%). Among those who have concerns about Internet use, 68.5% of 66 and over year-olds have concerns about fraud, while other age groups are more concerned about personal information leaks. Among them, 26-35 year-olds have the highest rate (88.9%) while 56-65 year-olds have the lowest of 74.1%.

When analyzed by marital status, most people do not have concerns about Internet use. Among them, those widowed or separated have the highest rate of 74.5% while those unmarried have the lowest of 56.6%. Among those who have concerns about Internet use, those unmarried (87.3%) and married (79.9%) are concerned about personal information leaks the most while those widowed or separated are concerned about fraud (73.8%) the most.

### **(3) Analysis of differences in social and economic status**

The Chi-square test suggests that whether one has concerns about Internet use is significantly related to education level and profession.

When analyzed by education level, 55.1% of people with a master's degree or higher have more concerns about Internet use while those of other levels do not have concerns. Among them, 82.3% of those with elementary school education and lower is



the highest rate and 52.6% of those with a bachelor's degree is the lowest.

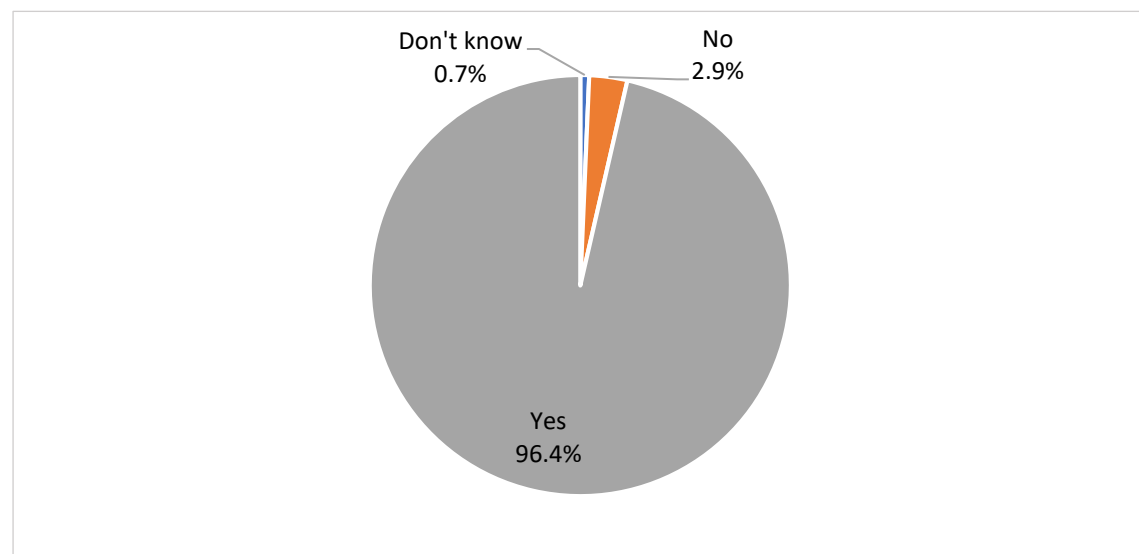
When analyzed by professions, people in the wholesale and retail trade (54.3%), professional, scientific and technology services (52.4%), education 62.5%), public administration and national defense (52%), health care and social work services (59.1%), and other service industries (52.5%) have a higher rate of concerns about Internet use while most of the rest do not have concerns. Among the rest, the retired account for the highest rate, 76.3%.

## B. Use of Social Media

### Social Media or Instant Messaging App Accounts Q39

#### 1. Overall analysis

The survey shows that 96.4% of people in Taiwan have at least one social media account (Facebook, Instagram, Twitter, etc) or instant messaging app (Facebook Messenger, LINE, Skype, WhatsApp, WeChat, etc.), while only 2.9% of people do not (See figure 11).



**Figure 11 Do you Have Any Social Media Account?**

Base : N=899, single-choice (Internet users)

#### 2. Comparative analysis

##### (1) Analysis of regional differences

The cross analysis suggests that more than 90% of the people in Taiwan have at least one social media or instant messaging app account, while only 88.9% of the people in Yunlin, Chiayi, and Tainan have. Of the people who have at least one account, people in Kaohsiung, Pingtung and Penghu account for up to 99.4%.

##### (2) Analysis of basic differences

When analyzed by gender, men and women have similar rate in having at least one

social media or instant messaging account (96.6%, 96.2%).

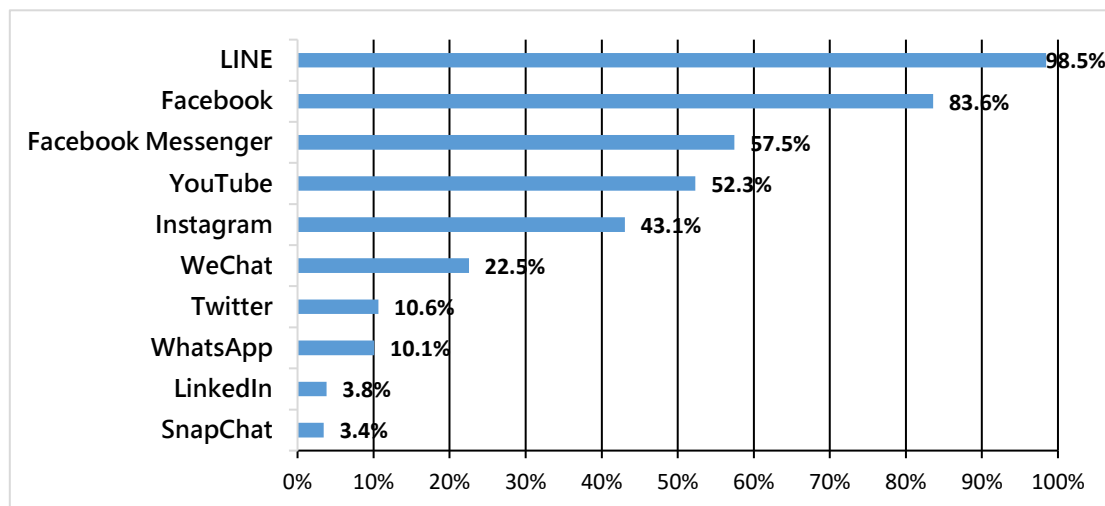
When analyzed by age, except for people aged 66 and over (89.6%), more than 9% of all age groups have social media or instant messaging app accounts. Among them, people aged 26-35 have the highest rate of 99.2%.

When analyzed by marital status, more than 90% of the people have social media or instant messaging app account. Among them, the unmarried and those widowed or separated have similar rates (98.5%, 98.4%) while the married have the lowest (94.4%).

## Active User of Social Media or Instant Messaging App Account Q40

### 1. Overall analysis

The survey shows that most people use LINE (98.5%), followed by Facebook (83.6%). 57.5% of people use Facebook Messenger (See Figure 12).



**Figure 12 Do You Use Any Social Media or Instant Messaging App Account?  
(Top 10)**

Base : N=867, multiple-choice (People who have any social media or instant messaging app)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The cross analysis suggests that LINE is the most used app regardless of regions, accounting for up to more than 95%. Among them, people in Taichung, Changhua and Nantou as well as those in Yilan, Hualien, and Taitung have the highest rate of 100%. Except for people in Kaohsiung, Pingtung and Penghu (78.4%), more than 80% of the people in other areas have Facebook accounts.

#### (2) Analysis of basic differences

When analyzed by gender, the social media or instant messaging app mostly used by both men and women is LINE, while women have a higher rate (99.7%) of using LINE than men (97.2%).

When analyzed by age, LINE is the mostly used social media or instant messaging

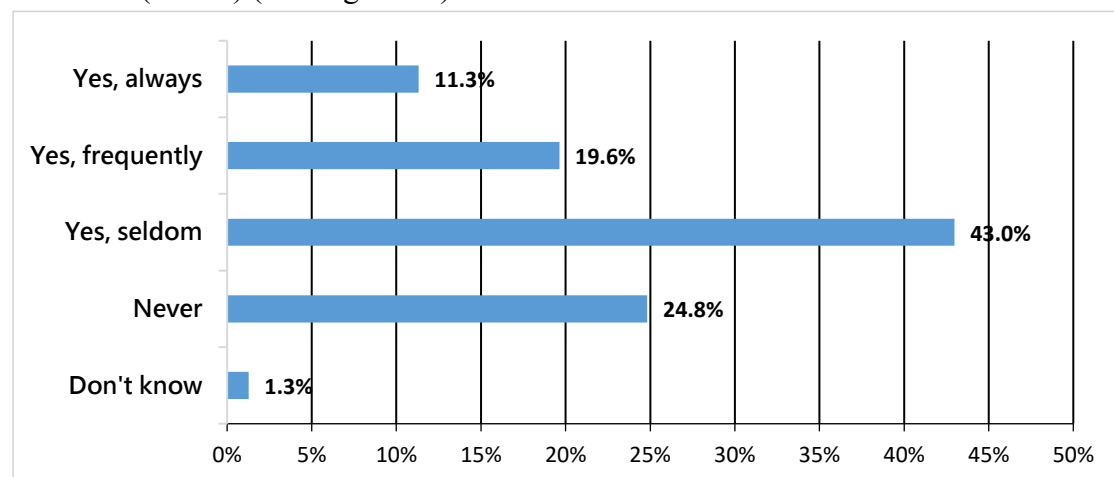
app regardless of age. Among them, 100% of the people aged over 66 use the app while people aged 16-25 only 97.9%. Apart from that, the rate of using Facebook, Facebook Messenger, Instagram, and YouTube accounts and the age are in inverse proportion.

When analyzed by marital status, LINE is the most used social media or instant messaging app regardless of marital status. Among them, the unmarried (98.7%) account for the similar rate as the married (98.9%), while those widowed or separated account for the relatively lower rate of 97.1%. Except for LINE and Juiker, unmarried people have higher rate of using other social media or instant messaging apps accounts than those married and those widowed or separated.

## Content Seen on Social Media That Is Offensive Disturbing Q43 Q44

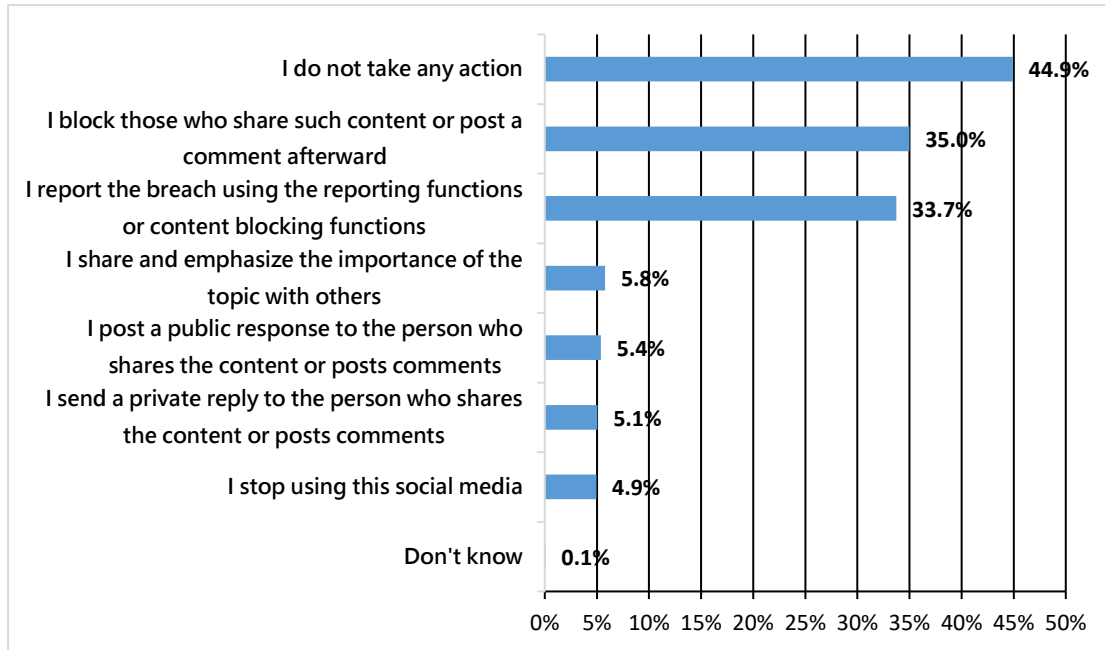
### 1. Overall analysis

In the past 12 months, over seventy percent (73.9%) of people aged over 16 in Taiwan have seen offensive or disturbing content on social media (sum of Always, Frequently, and Seldom), and 24.8% have not seen such content (See Figure 13). With regard to whether people take any action or not after having seen either offensive disturbing content on social media, most (44.9%) do not take any action, followed by people who block those who share such content or post a comment afterward (35%), and those who report the breach using the reporting functions or content blocking functions (33.7%) (See Figure 14).



**Figure 13 Whether the respondents have seen offensive or disturbing content on social media in the past 12 months**

Base: N = 867, single-choice (respondents having accounts of social media or instant messaging)



**Figure 14 Actions taken after having seen offensive or disturbing content**

Base: N = 641, multiple-choice (respondents having seen offensive or disturbing content on social media)

## 2. Comparative analysis

### (1) Analysis of regional differences

The result of Chi-square tests indicates that the rate in people regarding whether people have seen offensive or disturbing content on social media in the past 12 months varies significantly by housing tenure.

The result of cross analysis finds that in the past 12 months, 38.6% in Taipei City, New Taipei City and Keelung have not seen offensive or disturbing content on social media, the majority of in other regions have seldom seen such content with the highest ratios respectively, with the highest (61.7%) in Yilan, Hualien, and Taitung and the lowest (42.4%) in Taichung, Changhua and Nantou. With respect to actions taken after having seen offensive or disturbing content, 42.6% in Taichung, Changhua and Nantou blocked those who share such content or post a comment afterward, while the majority of those in other regions do not take any action, the highest is 56.5% in Yilan, Hualien, and Taitung and the lowest (44.9%) in Taipei City, New Taipei City and Keelung.

### (2) Analysis of basic differences

The result of Chi-square tests indicates that whether people have seen offensive or disturbing content on social media in the past 12 months varies significantly by gender, age, and marital status.

When analyzed by gender, 38.5% men and 47.2% of women have seldom seen offensive or disturbing content on social media in the past 12 months; however, 38.9% of men have either always seen and frequently seen such content compared to 23.4% of women; 28.2% of women have not seen such content is higher the 21.2% of men

who have. With respect to the actions taken after having seen offensive or disturbing content, 45.9% of women, which is slightly higher than the 44% of men do not take any action.

When analyzed by age, in the past 12 months, most people have seldom seen such offensive or disturbing content, with 48.8% of those 16–25 being the highest 36.6% of those 36–45 being the lowest; 46.6% of people aged 66 and over have never seen offensive or disturbing content on social media, however. With respect to the actions taken after having seen offensive or disturbing content, except for 52.7% of 16–25 year-olds and 45.9% 26–35 year-olds who report such content through the reporting function or content blocking function, the majority of people in other age groups have not taken any action, with the rate increasing by age groups.

When analyzed by marital status, the majority of people in all marital statuses have seldom seen offensive or disturbing content on social media in the past 12 months; among them, unmarried people have the highest rate of 48.3%; married people have the lowest rate of 38.5%; however, unmarried people who have never seen such content have a significantly lower rate of 17.7% than married people (29.3%) and those widowed or separated (33.4%). With respect to the actions taken after having seen offensive or disturbing content, the majority of unmarried people who report such content through the reporting function or content blocking function with a rate of 46.1%; the majority of married people and those widowed or separated have not taken any action, with rates of 52.4% and 56.5% respectively.

### **(3) Analysis of differences in social and economic status**

The result of Chi-square tests indicates that whether people have seen offensive or disturbing content on social media in the past 12 months varies significantly by education level and individual average monthly income.

When analyzed by education level, the majority (84.5%) of those with elementary school or lower education have never seen offensive or disturbing content on social media in the past 12 months; people of education other levels have seldom seen such content; among them, people with junior college education have the highest rate of 47.1%; people with a master's degree or higher have the lowest rate of 42.3%. By contrast, people with higher levels of education have frequently seen offensive or disturbing content on social media with significantly higher rates, whereas people with lower levels of education have never seen such content with significantly higher rates.

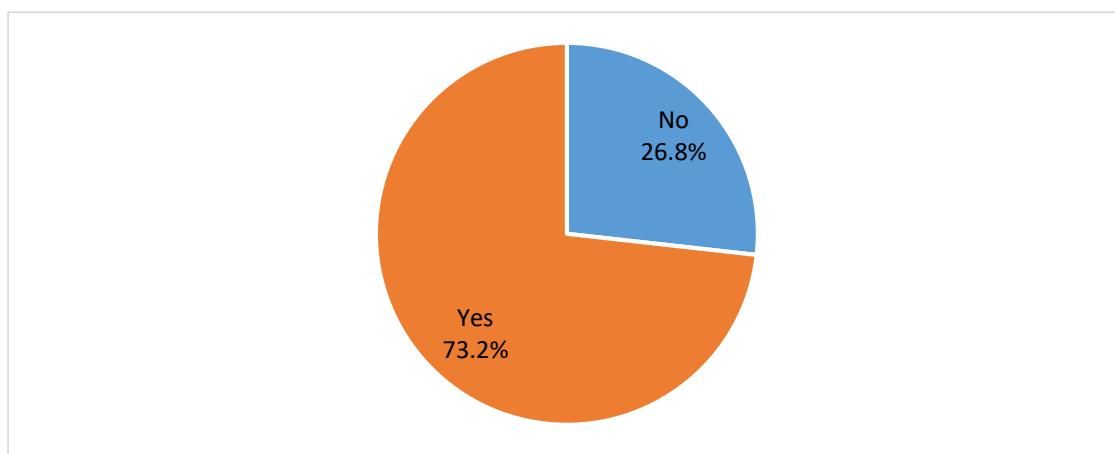
When analyzed by average monthly individual income, except the majority of people in the NT\$1-NT\$9,999 group having never seen offensive or disturbing content on social media in the past 12 months with a rate of 45.5%, people in the other income groups have seldom seen such content; among them, people earning NT\$30,000-NT\$39,999 have the highest rate of 49.8%; people earning NT\$50,000-NT\$59,999

group have the lowest rate of 34.6%; furthermore, people in higher income groups have always or have more frequently seen offensive or disturbing content on social media, whereas people in lower income groups have never seen such content with higher rates.

## Sharing Article Links on Social Media Q48 Q49

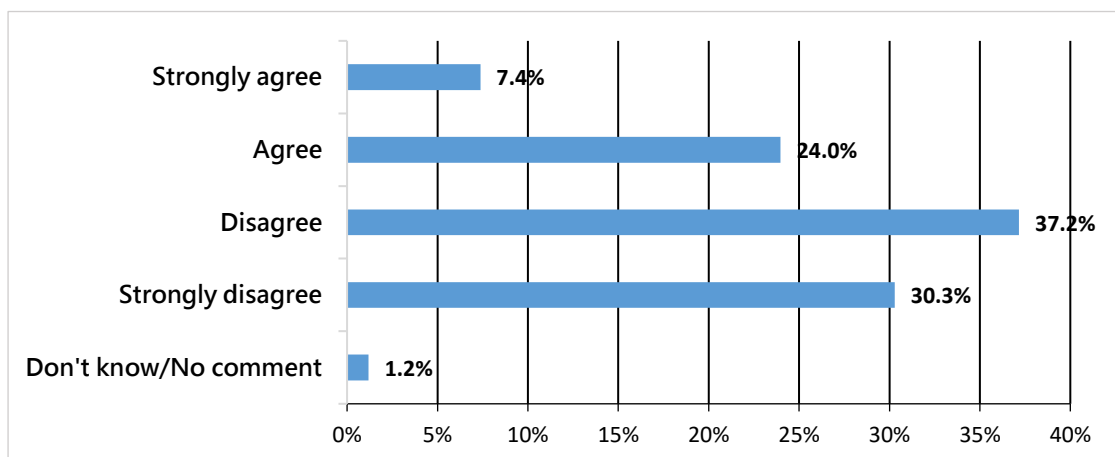
### 1. Overall analysis

The survey shows that the vast majority of people (73.2%) have shared article links on social media (Facebook, Line, etc.) at least once (See Figure 15). Among them, 31.4% agree that they often share article links on social media without reading though them (including Strongly agree and Agree) while 67.5% do not agree (including Disagree and Strongly disagree) (See Figure 16).



**Figure 15 Have You Shared Article Links on Social Media?**

Base : N=867, single-choice (People who have any social media or instant messaging app)



**Figure 16 Often Sharing Links on Social Media without Reading through the Whole Articles**

Base : N=635, single-choice (People who once shared article links on social media)

### 2. Comparative analysis

### **(1) Analysis of regional differences**

Cross analysis shows a significant difference in sharing links on social media without reading through the whole article among different regions.

It suggests that, except for people in Taipei City, New Taipei City and Keelung (65.5%), more than 70% of people in other regions share articles without reading them, with people in Yunlin, Chiayi, and Tainan making up the highest (77.9%). While people in all regions disagree with sharing links of articles on social media without reading through the whole article, those who agree account for the highest in Kaohsiung, Pingtung and Penghu (48.4%) and the lowest rate in Taipei City, New Taipei City and Keelung (20.2%).

### **(2) Analysis of basic differences**

The Chi-square test shows a significant difference in sharing links on social media among people of different ages and marital status.

When analyzed by gender, most men (73.8%) and women (72.7%) have shared article links on social media, but disagree with sharing links on social media without reading through the whole articles. Among those who agree, men (33.1%) account for a higher rate than women (29.8%).

When analyzed by age, most people have shared links on social media but only 56.3% aged 66 and over have. Among people who have, 26-35 year-olds account for the highest rate of 89% while 56-65 year-olds the lowest of 56%. People of all age groups disagree with sharing links on social media without reading through the whole articles. Among those who agree, the highest rate is 36.7% among 16-25 year-olds, while the lowest 22.9% among 66 year-olds and over.

When analyzed by marital status, while most of those widowed or separated do not have the experience of sharing links (51.7%), most of those married (83.2%) and unmarried (69.3) have. People regardless of marital status all disagree with sharing links on social media without reading through the whole articles. Among them, married people account for the highest percentage of 32.3%, while those widowed or separated account for the lowest of 27.4%.

### **(3) Analysis of differences in social and economic status**

The Chi-square test shows a significant difference in sharing links on social media among people of different education level, profession, and individual average monthly income.

When analyzed by education level, most of those who have shared links have done so on social media except for those with elementary school or lower education, most of whom have not (88.3%). Among those who have, people with a master degree or higher has the highest rate (90.4%) while those high school or secondary school education the lowest of 50.4%.

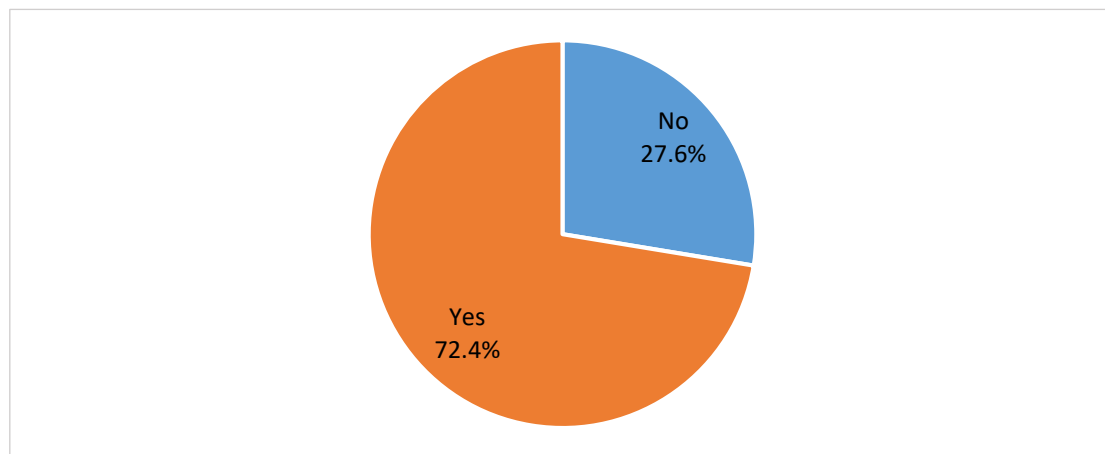
When analyzed by profession, most have shared links on social media although most of the retired have not (56.2%). Among those who have, students account for the highest rate of 86.9% while people in the agriculture, forestry, fishery and husbandry have the lowest rate of 54.7%.

When analyzed by average monthly individual income, most people have shared links on social media. Among them, those earning NT\$30,000-39,999 accounts for the highest rate of 82% while those earning NT\$10,000-19,999 have the lowest rate of 59.8%.

## **The Authenticity of the News Published on the Social Media Q50 Q51**

### **1. Overall analysis**

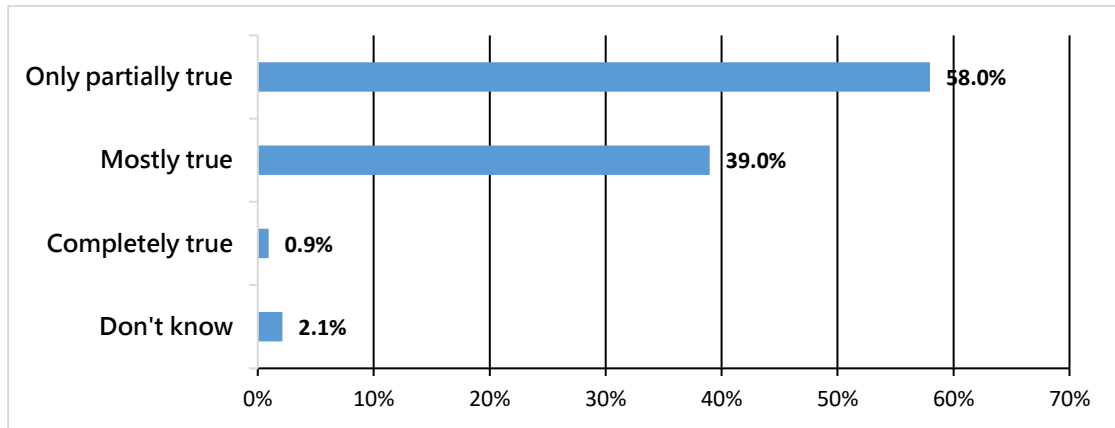
With respect to whether people have thought about the authenticity of the news published on websites or apps while using social media (such as Facebook, LINE, Instagram, etc.), over seventy percent (72.4%) of people aged over 16 in Taiwan have thought of authenticity, and 27.6% aged over 16 have not thought about authenticity (See Figure 17); among people who have thought about the authenticity of news, the majority consider the information only partially true (58%), mostly true (39%), and completely true (0.9%) (See Figure 18).



**Figure 17 Whether respondents have thought about the authenticity of the news published on the websites or apps while using social media**

Base: N = 867, single-choice (respondents having accounts of social media or instant messaging)





**Figure 18 Level of authenticity of the news published on the websites or apps considered by the respondents**

Base: N = 628, single-choice (respondents have thought about the authenticity of the news published on websites or apps)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The result of cross analysis finds that people in all regions have thought about the authenticity of the news published on the websites or apps while using social media with the highest rate of 77% in people in Kaohsiung, Pingtung and Penghu and the lowest rate of 68.2% in people in Taipei City, New Taipei City and Keelung. For people who have thought about the authenticity of the news, except the majority of people in Kaohsiung, Pingtung and Penghu consider the information to be mostly true with a rate of 55.7%, the majority of people in the other of regions consider the information to be partially true, with the highest rate of 72.1% in people in Yilan, Hualien, and Taitung and the lowest rate of 55.1% in people in Taoyuan, Hsinchu and Miaoli.

### **(2) Analysis of basic differences**

The result of Chi-square tests indicates that whether people have thought about the authenticity of the news published on the websites or apps while using social media varies significantly by gender, age, and marital status.

When analyzed by gender, the majority of men and women have thought about the authenticity of the news published on the websites or apps while using social media with the rates of 76.1% and 68.9% for men and women respectively; people who have thought about the authenticity of news, the majority of both men and women consider the information to be only partially true with a rate of 59% for men people and a rate of 56.9% for women.

When analyzed by age, except for the majority of people aged 66 years old and over who have not thought about the authenticity of news (54.1%), the majority of people for other age groups have thought about the authenticity of news and the rates decrease by age group, with the highest rate of 87.4% or 16–25 year-olds and the lowest

rate of 53.7% for 56–65 year-olds. For people who have thought about the authenticity of the news, except for 56–65 year-olds who consider information to be mostly true (49.1%), the majority in other age groups consider information to be partially true, with the highest rate of 65.4% for 26–35 year-olds and the lowest rate of 51.9% for 46–55 year-olds.

When analyzed by marital status on whether people have thought about the authenticity of the news published on websites or apps while using social media, 83.5% of unmarried and 67.2% of married people have thought about the authenticity of news; 50.3% of those widowed or separated have thought about the authenticity of the news and 49.7% have not. For people who have thought about the authenticity of the news, the majority of people regardless of marital statuses consider the information to be partially true; those unmarried have the highest rate of 61.1% and those widowed or separated have the lowest rate of 47.6%.

### **(3) Analysis of differences in social and economic status**

The result of Chi-square tests indicates that whether people have thought about the authenticity of the news published on the websites or apps while using social media varies significantly by education level, profession, and average monthly individual income.

When analyzed by education level, those with elementary school education or lower or educated to high school or secondary school level, have not thought about the authenticity of the news (79.1% and 52.4% respectively); the majority of others have thought about the authenticity of the news, with the highest rate of 87.1% in people with a master's degree or higher, and the lowest rate of 69.4% among those with senior high or vocational school education.

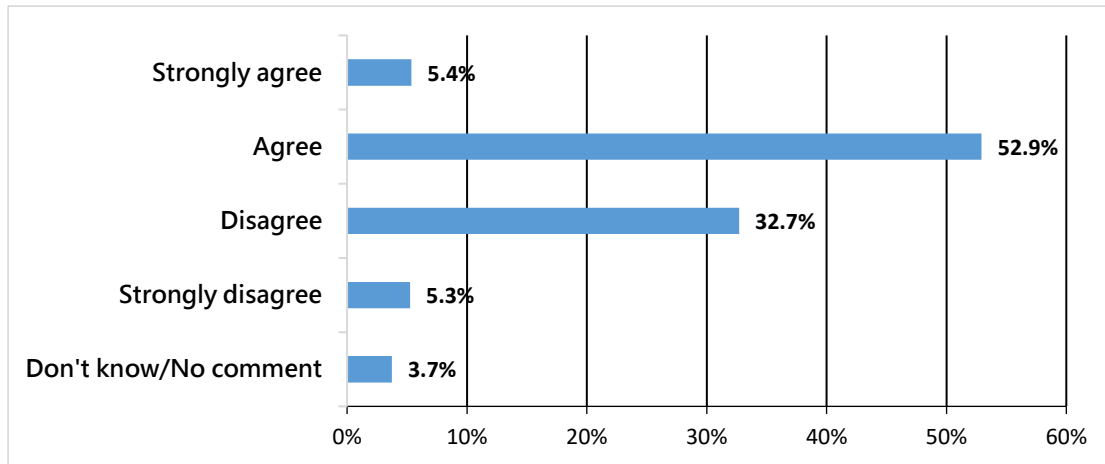
When analyzed by profession, 53.2% of those retired have not thought about the authenticity of the news while the majority of people in other professions have thought about the authenticity of the news, with the highest rate 95.2% of those who work in real estate and the lowest rate 54.5% of those who work in agriculture, forestry, fishery and husbandry.

When analyzed by individual average monthly income, people at all income levels have thought about the authenticity of the news published on the websites or apps while using social media. The highest rate is 83.7% for those earning NT\$60,000 or more and the lowest rate is 61.3% for those earning NT\$10,000-19,999.

## **Believing in What One Reads or Sees on Social Media Q52**

### **1. Overall analysis**

The survey shows that 58.3% either strongly agree or agree that they tend to believe what they see or read on social media (Facebook, LINE, Instagram, etc.), while 38% either strongly disagree or disagree (See figure 19).



**Figure 19 I Tend to Believe What I See or Read on Social Media**

Base : N=867, single-choice (People who have any social media or instant messaging app)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The Chi-square test shows a significant difference in the tendency to believe content on social media among people in different regions.

The cross analysis suggests that people in Yunlin, Chiayi, and Tainan (48.9%) and in Yilan, Hualien, and Taitung (50.9%) have a higher rate to disagree “they believe what they read or see on social media,” while most people in the other regions agree. Among them, people in Taichung, Changhua and Nantou have the highest rate (63.3%) while people in Taoyuan, Hsinchu and Miaoli the lowest (56.7%).

### **(2) Analysis of basic differences**

The Chi-square test suggests that whether one believes what one reads or sees on social media is significantly related to age.

When analyzed by gender, men (56.8%) and women (59.7%) agree that “they believe what they read and see on social media.”

When analyzed by age, most people agree that “they believe what they read and see on social media,” while 36-45 year-olds have the highest rate of disagreement (49.8%). Among those who agree, 26-35 year-olds account for the highest rate of 63%, while people aged over 66 have the lowest of 58.6%.

When analyzed by marital status, all agree that “they believe what they read and see on social media.” Among them, those unmarried account for the highest rate of 61.9% while those widowed or separated account for the lowest rate of 50.6%.

### **(3) Analysis of differences in social and economic status**

Chi-square test suggests that whether one believes what one reads or sees on social media is significantly related to profession and individual average monthly income.

When analyzed by profession, 52.9% of those in the construction industry, 49.8% in publication, audio-video production, mass communication, information, and

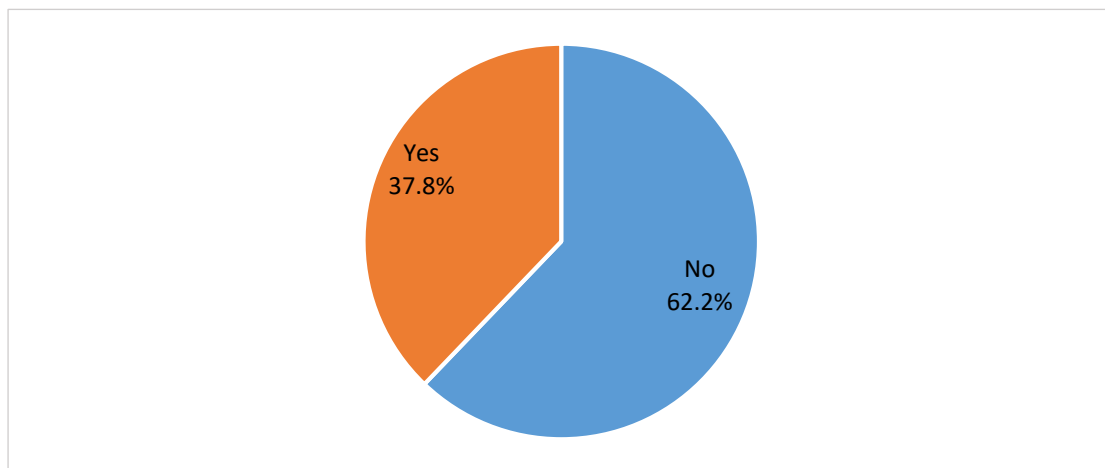
communications, 53.9% professional, scientific and technology services () and 55.5% of those in art, entertainment and recreation services disagree that “they believe what they read and see on social media,” while other groups all have a higher rate to agree. Among them, people in the real estate industry have the highest rate (89.6%) and housekeepers the lowest (44.3%).

When analyzed by individual average monthly income, all groups agree “they believe what they read and see on social media.” Among them, the NT\$30,000-39,999 group account for the highest rate of 70.5% while the NT\$1-9,999 group the lowest of 47.1%.

## **Sharing Opinions with People You Don’t Know on Social Media Q54 Q55**

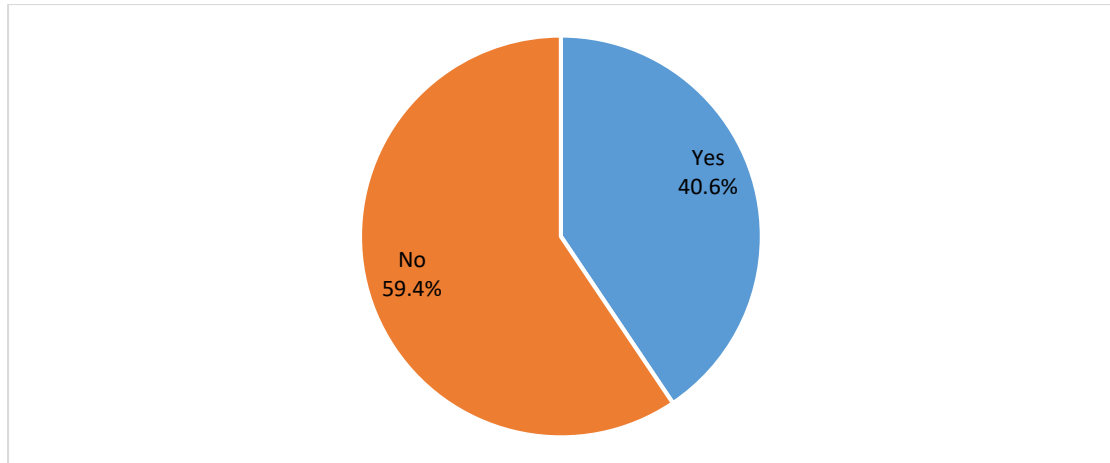
### **1. Overall analysis**

The survey shows that a large majority (62.2%) of people have never shared opinions with people they do not know on social media (Facebook, LINE, Instagram, etc.) (See Figure 20), while 59.4% will not share opinions using their real name (See Figure 21).



**Figure 20 Have You Ever Shared Opinions with People You Don’t Know on Social Media**

Base : N=867, single-choice (People who have any social media or instant messaging app)



**Figure 21 Will You Share Opinions with Your Real Name**

Base : N=867, single-choice (People who have any social media or instant messaging app)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

Cross analysis suggests that most people in all regions have never shared opinions with people they do not know on social media. Among them, people in Yilan, Hualien, and Taitung account for the highest rate of 71%, while Taichung, Changhua and Nantou have the lowest of 55.5%. If it is optional, most people in all regions will not share opinions with their real name. Among them, Yilan, Hualien, and Taitung has the highest rate of 64.7%, while people in Taipei City, New Taipei City and Keelung have the lowest of 57%.

### **(2) Analysis of basic differences**

The Chi-square test shows that whether one has shared opinions with people they do not know on social media is significantly related to gender, age, and marital status. Also, if it is optional, whether one will share opinions with real name is significantly related to gender.

When analyzed by gender, both men (58.8%) and women (65.4%) have higher rates to have not shared opinions with their real name on social media. If it is optional, both genders have higher rates to not to share opinions with their real name, and women (64.5%) are more than men (54.1%).

When analyzed by age, people aged 16-25 (54.7%) and 26-35 (55.5%) have a higher rate to have shared opinions with people they do not know on social media than other age groups. Among those who have never done it, people aged over 66 account for the highest rate of 93.1%, while 36-45 year-olds have the lowest rate of 58.8%. If it is optional, all age groups have higher rates for not sharing opinions with their real name. Among them, people aged 26-35 account for the highest rate of 63.4% while people aged 36-45 have the lowest of rate 54.1%.

When analyzed by marital status, 50.2% of the unmarried have shared opinions

with people they do not know on social media and 49.8% of them have not, while the married (71.5%) and those widowed/separated (67.3%) have higher rates to have not. If it is optional, both those unmarried (61.9%) and married (59.4%) have higher rates for not sharing opinions with their real name, while those widowed or separated have similar rates for sharing (50.3%) or not sharing (49.7%).

### **(3) Analysis of differences in social and economic status**

The Chi-square test shows that whether one has shared opinions with people they do not know on social media is significantly related to housing tenure, education level, profession, and average monthly individual income. Also, if it is optional, whether one will share opinions with real name is significantly related to profession.

When analyzed by housing tenure, both home owners (64.9%) and house renters (53.3%) have higher rates to have not shared opinions with people they do not know on social media.

When analyzed by education level, while people with a bachelor's degree (52.2%) and those with a master's degree or higher (51.2%) have higher rates for having shared opinions with people they do not know on social media, most of the rest have a higher rate for not doing so. Among them, those with elementary school education or lower have the highest rate of 97.1% while those with senior high or vocational school education have a lower rate of 69.3%.

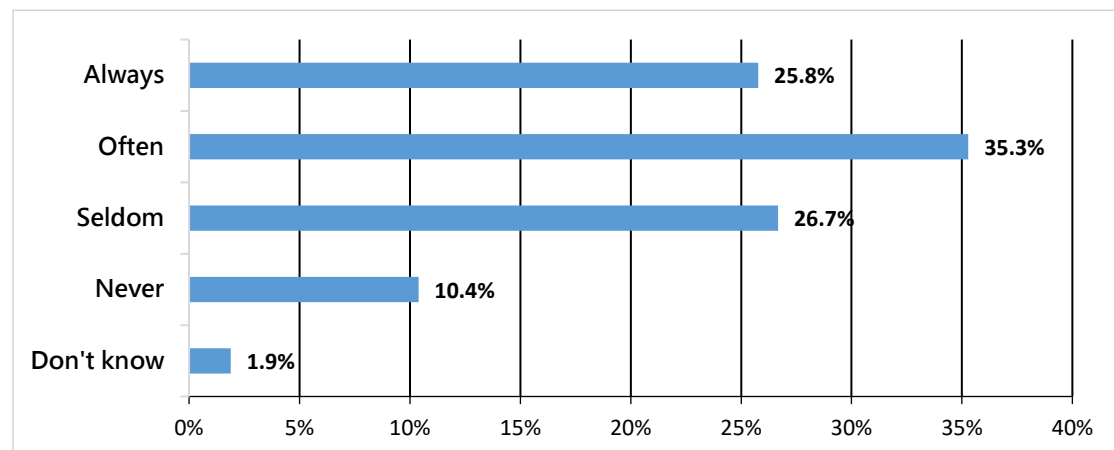
When analyzed by profession, people in transportation and warehousing (54.8%), finance and insurance (56.7%), real estate (86.1%), and professional, scientific and technology services (51.2%) have higher rates to have shared opinions with people they do not know on social media while the rest have higher rate to have not. Among them, the retired have the highest rate of 91.7% while jobseekers have the lowest rate of 50.7%. If it is optional, while people in the agriculture, forestry, fishery and husbandry (70.2%), wholesale and retail trade (55.6%), publishing, audio-video production, mass communication, information, and communications (54.8%), public administration and national defense industries (50.4%), the retired (53.5%), and jobseekers (50.5%) have higher rates to share opinions with their real name while the rest do not. Among them, people in other services industries have the highest rate of 73.8% while people in the manufacturing industry the lowest of 53.1%.

When analyzed by individual average monthly income, while the NT\$30,000-39,999 group (51.9%) have a higher rate to have shared opinions with people they do not know on social media, the rest do not. Among them, the NT\$1-9,999 group have the highest rate of 76.1% while the NT\$50,000-59,999 group the lowest of 58.2%.

## Frequency to Consider Privacy or Safety When Posting Photographs or Tagging Others in Photographs Q56 Q57

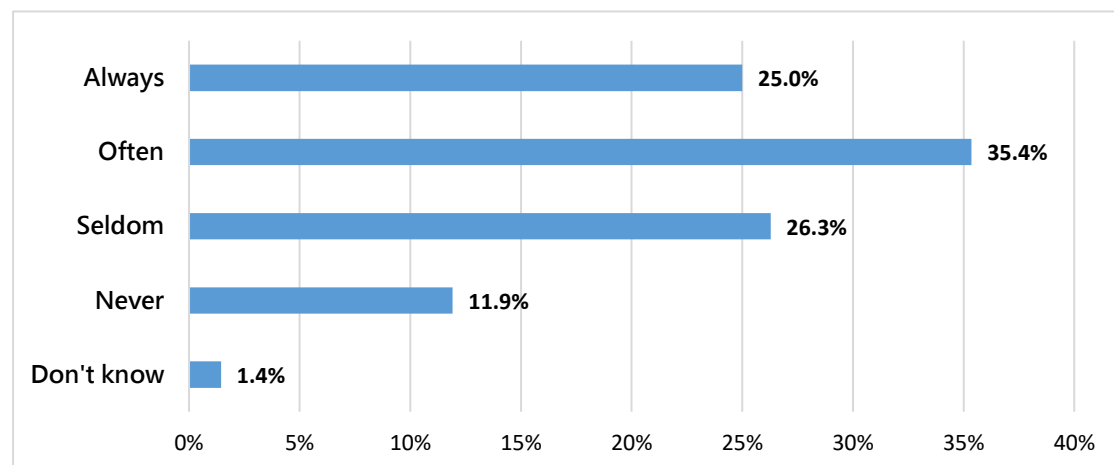
### 1. Overall analysis

The survey shows that 61.1% of people always or often consider privacy or security when posting photographs or tagging others in photographs while 37.1% do seldom or never (See Figures 22). When tagging others in photographs, 60.4% of people consider privacy or security while 38.2% of people do not (See Figure 23).



**Figure 22 Frequency to Consider Privacy or Safety When Posting Photographs**

Base : N=867, single-choice (People who have any social media or instant messaging app)



**Figure 23 Frequency to Consider Privacy or Safety When Tagging Friends in**

Base : N=867, single-choice (People who have any social media or instant messaging app)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The Chi-square test suggests that how often one considers privacy or safety when posting photographs or tagging others is significantly related to living areas.

The cross analysis shows that people in Yilan, Hualien and Taitung have the highest rate of always considering privacy or safety when posting photographs (68.4%), while people in Taipei City, New Taipei City and Keelung have the lowest rate of 53.1%.

When tagging others, over 60% of people often consider privacy or safety except for people in Taipei City, New Taipei City and Keelung (51.6%). Among those who often consider privacy or safety, people in Yilan, Hualien and Taitung have the highest rate of 67.5%.

## **(2) Analysis of basic differences**

The Chi-square test suggests that how often one considers privacy or safety when posting photographs is significantly related to age and marital status while how often one considers privacy or safety when tagging others is significantly related to gender, age, and marital status.

When analyzed by gender, both men (63.3%) and women (58.9%) always consider privacy or safety when posting photographs. When tagging others, both genders also have higher rates of always considering privacy or safety (64.6%, 56.4%).

When analyzed by age, while people aged 66 and over (55.3%) have a higher rate of not considering privacy or safety, the rest all have a higher rate of always doing so. Among them, people aged 26–35 have the highest rate of 72.6% while people aged 56–65 have the lowest of 52.8%. When tagging others, people aged 66 and over have a higher rate of seldom considering privacy or safety (56.2%), while people aged 56–65 have similar rates of always (50%) or seldom (49.9%) considering privacy or safety. The rest have a higher rate of always doing so. Among them, people aged 26–35 have the highest rate of 72.9% while people aged 16–25 the lowest rate of 59.1%.

When analyzed by marital status, both those unmarried (66.8%) and those married (60.7%) have higher rates of always considering privacy or safety when posting photographs, while those widowed or separated have a higher rate of seldom doing so (54.1%). When tagging others, both those unmarried (65%) and those married (60%) have a higher rate of always considering privacy or safety while the widowed or separated have a higher rate to seldom doing so (57.7%).

## **(3) Analysis of differences in social and economic status**

The Chi-square test suggests that how often one considers privacy or safety when posting photographs or tagging others is significantly related to education level, individual average monthly income.

When analyzed by education level, while those with elementary and or lower education have a higher rate (61.8%) of seldom considering privacy or safety when posting photographs, those of other level all have a higher rate of always doing so. Among them, people with a master's degree have the highest rate of 80.2%, while those with high school and secondary school education have the lowest of 49.7%. When tagging others, all education groups always consider privacy or safety, while those with elementary or lower education have a higher rate (73.6%) of seldom doing so. Among those who always do, people with a master's degree or higher have the highest rate of



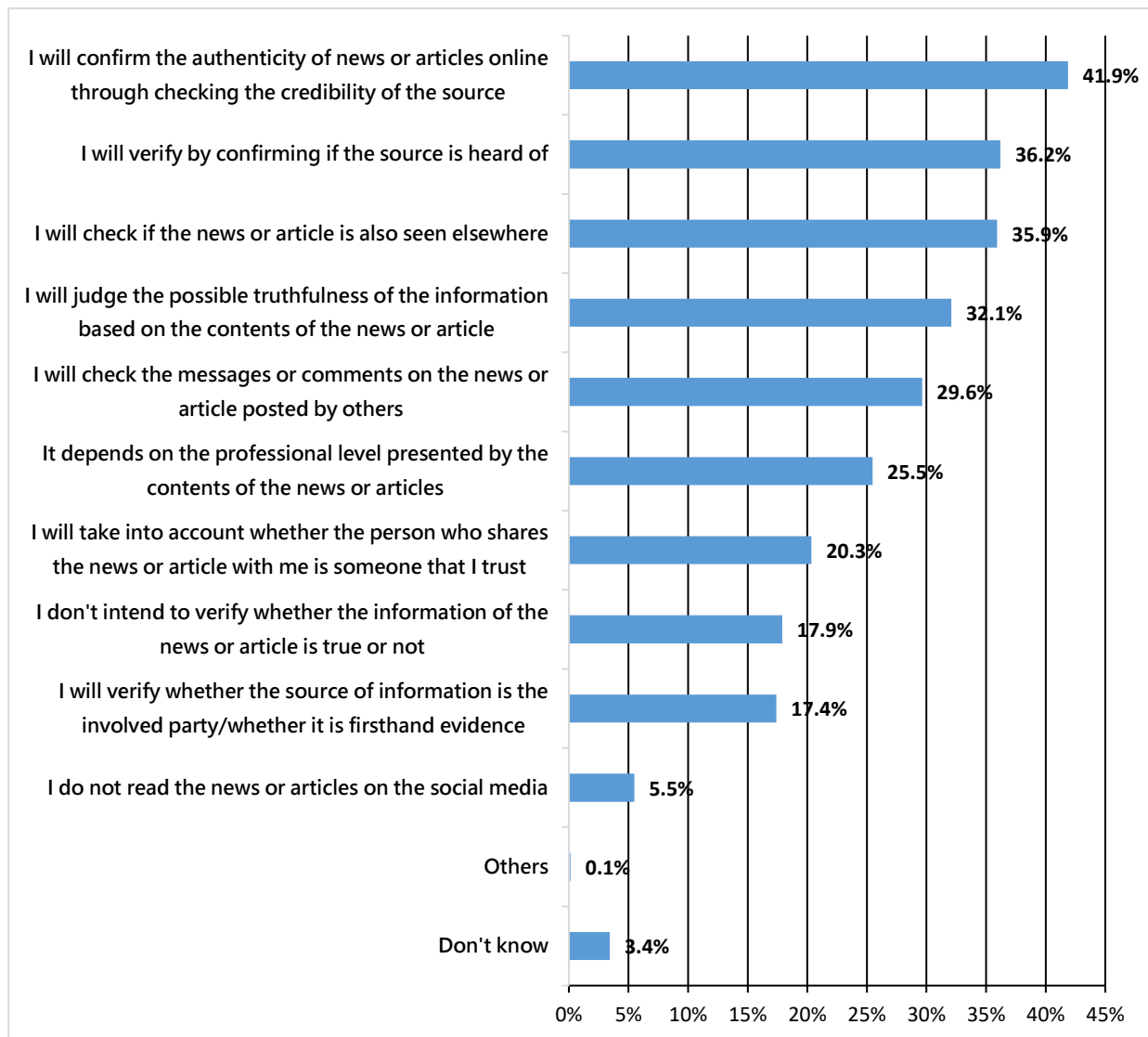
77.2% while those with high school and secondary school education the lowest rate of 50.8%.

When analyzed by individual average monthly income, those earning NT\$10,000-19,999 group have a higher rate of seldom considering privacy or safety when posting photographs (51.4%), the rest all have a higher rate to always do so. Among them, those earning NT\$60,000 or more have the highest rate of 68.6% while those earning NT\$1-9,999 the lowest of 55.1%. When tagging others, all groups always consider privacy or safety, while those earning NT\$10,000-19,999 group have a higher rate of seldom doing so (51.5%). Among those who always do so, those earning NT\$60,000 or more have the highest rate of 71.7%, while those earning NT\$1-9,999 have the lowest, 52%.

## **Actions Taken to Confirm the Authenticity of News or Articles Online Q61**

### **1. Overall analysis**

The survey shows that 41.9% of people confirm the authenticity of news or articles online through checking the credibility of the source, 36.2% verify by confirming if the source is heard of, and 35.9% check if the news or article is also seen elsewhere (See Figure 24).



**Figure 24 Actions taken to confirm the authenticity of news or articles online**

Base : N=867, multiple-choice (People who have any social media or instant messaging app)

## 2. Comparative analysis

### (1) Analysis of regional differences

Cross analysis suggests that people in Taipei City, New Taipei City (36.9%) and Keelung and in Kaohsiung, Pingtung and Penghu (40.4%) verify the news or articles on social media by checking if the news or articles are also seen elsewhere, while the rest check by checking the credibility of the source. Among those who search for the credibility of the source, people in Taichung, Changhua and Nantou account for the highest rate of 51.4% while people in Yunlin, Chiayi, and Tainan the lowest rate of 40%. The rate to never confirm the authenticity is 8.7% in Taichung, Changhua and Nantou, lower than any other area.

### (2) Analysis of basic differences

When analyzed by gender, both genders have a higher rate to verify information

through checking the credibility of the source (46.5% and 37.5%), while women have a higher rate (22.2%) of never confirming the authenticity of information online, with men 13.4%. Men have a higher rate (29.6%) for verifying with information from other websites than that of women (26.1%).

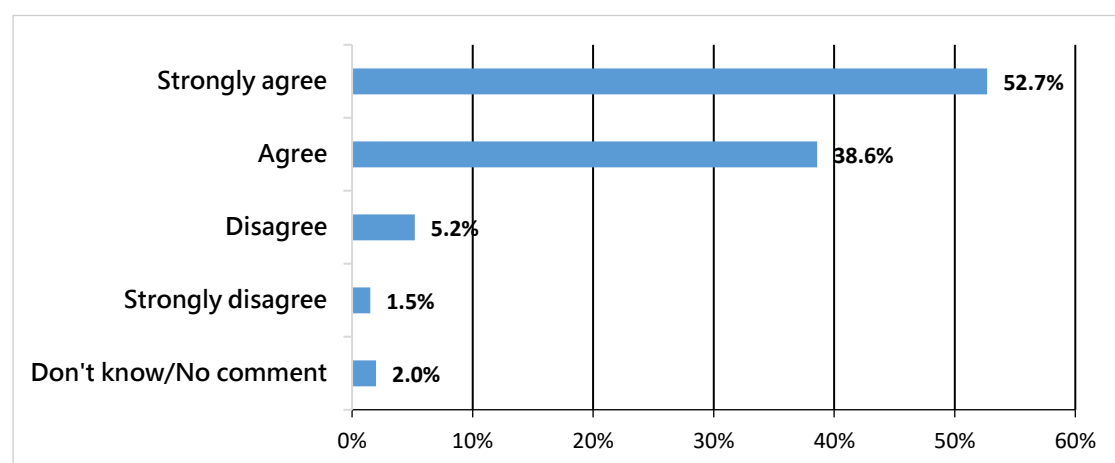
When analyzed by age, 56-65 year-olds and those over 66 have a higher rate (54.9%) for never confirming the authenticity of information online. 16-25 year-olds have the highest rate for checking the credibility of the source (59.6%) and 46-55 year-olds the lowest (35%). Apart from that, the rate to verify the authenticity of information found online decreases by age group.

When analyzed by marital status, those widowed or separated have a higher rate of never confirming the authenticity of information (32.5%), while those unmarried (52.7%) and those married (36.7%) both verify the credibility of the source. Apart from that, the rate for those unmarried who verify the authenticity of information is the highest for every method while those widowed or separated is the lowest.

## Protecting Internet Users from Inappropriate or Offensive Content Q62

### 1. Overall analysis

The survey shows that 91.3% either strongly agree or agree that internet users must be protected from inappropriate or offensive content, while 6.7% either disagree or strongly disagree (See Figure 25).



**Figure 25 Internet Users Must be Protected from Inappropriate or Offensive**

Base : N=899, single-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

Cross analysis suggests that over 90% in all regions (95.2% of people in Yilan, Hualian and Taitung) agree that “Internet users must be protected from inappropriate or offensive content,” except for 87.4% in Yunlin, Chiayi, and Tainan.

## (2) Analysis of basic differences

The Chi-square test suggests that whether one agrees that “Internet users must be protected from inappropriate or offensive content” is significantly related to gender.

When analyzed by gender, men (89.7%) and women (92.7%) agree that “Internet users must be protected from inappropriate or offensive content.”

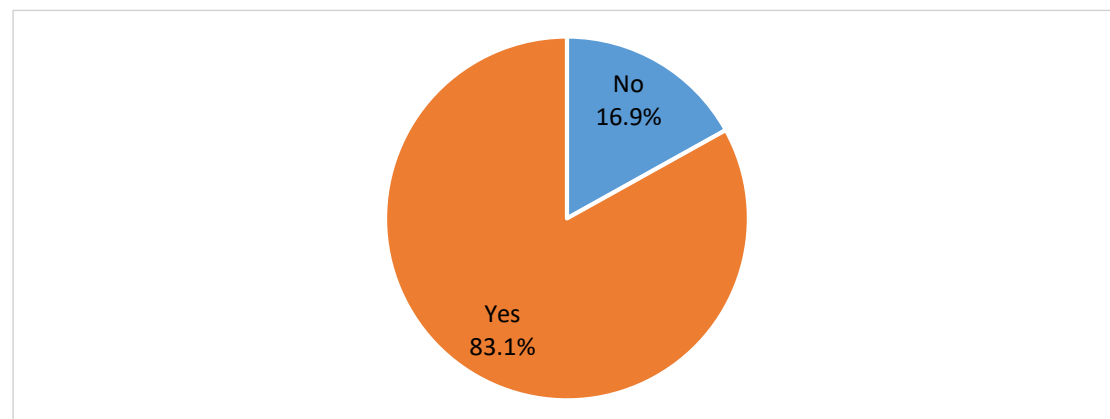
When analyzed by age, all age groups agree that “Internet users must be protected from inappropriate or offensive content” except for those over 66 (87.8%). Among those who agree, 46-55 year-olds have the highest rate of 93.5%.

When analyzed by marital status, those unmarried have the highest rate (91.9%) of agreeing that “Internet users must be protected from inappropriate or offensive content,” while those widowed or separated have the lowest (89.6%).

## Do You Know Reporting Inappropriate Content through the Report Button or Tag is Possible on Facebook? Q63

### 1. Overall analysis

The survey shows that 83.1% of people know that reporting inappropriate content through the report button or tag is possible on Facebook while only 16.9% do not (See Figure 26).



**Figure 26 Do You Know Reporting Inappropriate Content through the Report Button or Tag on Facebook?**

Base : N=728, single-choice (People who are still using Facebook or Facebook Messenger)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The cross analysis suggests that only 72.9% of people in Taoyuan, Hsinchu and Miaoli know that reporting inappropriate content through the report button or tag is possible on Facebook while over 80% of people in the other regions do; those in Taipei City, New Taipei City and Keelung have the highest rate of 87.4%.

#### (2) Analysis of basic differences

The Chi-square test shows that whether one knows that reporting inappropriate

content through the report button or tag is possible on Facebook is significantly related to gender, age, and marital status.

When analyzed by gender, most 88.2% men and 78.3% women know that reporting inappropriate content through the report button or tag is possible on Facebook.

When analyzed by age, whether one knows that reporting inappropriate content through the report button or tag is possible on Facebook is significantly related to age. While 95.1% of people aged 16-25 know, only 54% of those over 66 do.

When analyzed by marital status, 93% of the unmarried know, which is more than those married (75.5%) and those widowed or separated (72.5%).

### **(3) Analysis of differences in social and economic status**

The Chi-square test show that whether one knows that reporting inappropriate content through the report button or tag is possible on Facebook is significantly related to education level and individual average monthly income.

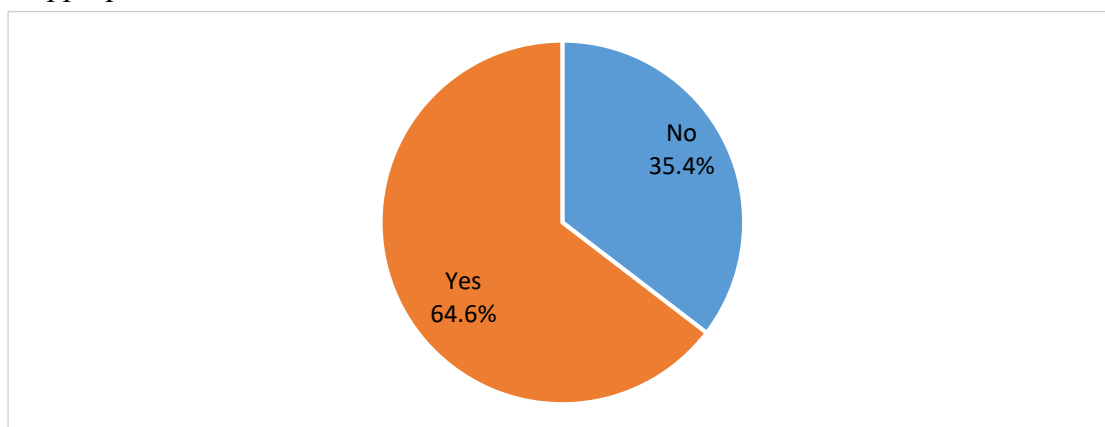
When analyzed by education level, those with elementary school or lower education have the lowest rate of not knowing (56.2%). People with a bachelor's degree have the highest rate (92.6%) of knowing while those with high school or secondary education have the lowest of 53.6%.

When analyzed by individual average monthly income, over 80% of all groups know that reporting inappropriate content through the report button or tag is possible on Facebook, except for those of no income (79.4%) and the NT\$10,000-19,999 (64.6%).

## **Report the Inappropriate Content on Facebook Q64 Q65**

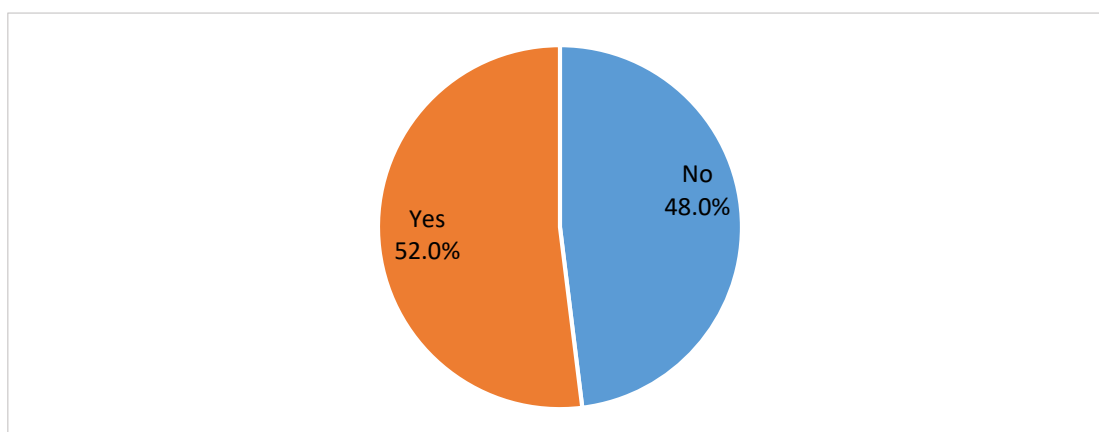
### **1. Overall analysis**

Over 60 percent (64.6%) of people aged over 16 in Taiwan have seen the inappropriate content on Facebook; about half of them (52%) have reported inappropriate content to Facebook.



**Figure 27 Whether people have seen the inappropriate content on Facebook or not**

Base: N = 728, single-choice (respondents having accounts of Facebook or Facebook Message)



**Figure 28 Whether the respondents have reported inappropriate content to Facebook**

Base: N = 471, single-choice (respondents having seen the inappropriate content on Facebook)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The result of Chi-square tests indicate that whether have seen inappropriate content on Facebook varies significantly by housing tenure.

The result of cross analysis indicates that the majority of people in all regions have seen inappropriate content on Facebook with the highest rate 87.1% in Yilan, Hualien, and Taitung and the lowest rate 58.9% in Kaohsiung, Pingtung and Penghu. For people who have seen inappropriate content, 53% in Taoyuan, Hsinchu and Miaoli and 63.1% in Yilan, Hualien, and Taitung have not reported inappropriate content, but the majority of people in the remaining regions have reported inappropriate content, with the highest rate of 58.2% for people in Taipei City, New Taipei City and Keelung and the lowest rate of 51.5% for people in Yunlin, Chiayi, and Tainan.

### **(2) Analysis of basic differences**

The result of Chi-square tests indicates that whether people have seen the inappropriate content on Facebook varies significantly by age, and whether people have reported inappropriate content to Facebook varies significantly by age and marital status.

When analyzed by gender, the majority of both men and women have seen the inappropriate content on Facebook with a higher rate of 67.2% in men and a higher rate of 62.2% among women; the majority of both men and women who have seen inappropriate content have reported inappropriate content to Facebook, with the rates of 52.3% and 51.6% respectively.

When analyzed by age, the result shows that, except for 66 year-olds and over having not seen inappropriate content (58.8%) , the majority in other age groups have seen content on Facebook that they consider to be inappropriate; the rate decreases by age group, with the highest rate of 72.7% among 16-25 year-olds and the lowest rate

51.1% among 56-65 year-olds. Among people who have seen inappropriate content, except 16-25 year-olds and 26-35 year-olds who have reported content to Facebook, with the highest rates of 75.1% and 63.9% respectively, the majority of those in the other age groups have never reported content to Facebook; the rate of decreases by age group, with only 3.7% 66 year-olds and over.

When analyzed by marital status, the majority regardless of marital status have seen inappropriate content on Facebook, with the highest rate of 68.7% among unmarried people and the lowest 61% among those widowed or separated. Among people who have seen inappropriate content, except for the majority of unmarried people having reported inappropriate content to Facebook, the majority of both married people and those widowed or separated people have not reported inappropriate content to Facebook, with the respective rates of 61.1% and 60.2%.

### **(3) Analysis of differences in social and economic status**

The result of Chi-square tests indicates that whether people have seen inappropriate content on Facebook varies significantly by education level, profession, and average monthly individual income; the rate whether people have reported inappropriate content to Facebook varies significantly by housing tenure and education level.

When analyzed by housing tenure, 51.1% of home owners have not reported the inappropriate content to Facebook and 59.7% of house renters have reported inappropriate content to Facebook.

When analyzed by education level 75.5% of those with elementary school education and lower have not seen inappropriate content on Facebook, while the majority of people at other education levels have seen inappropriate content on Facebook, with the highest rate of 86.1% among those a master's degree or higher and the lowest rate of 51.4% among those with senior high or vocational school education. Among those who have seen inappropriate content on Facebook, 63.7% of those with a bachelor's degree and 50.4% with a master's degree or higher have reported inappropriate content to Facebook, while the majority of people at other education levels have not reported the inappropriate content to Facebook, with the highest rate of 82.2% among those with junior high school or secondary school education and the lowest rate of 52.3% among those with senior high or vocational school education.

When analyzed by profession on whether people have seen the inappropriate content on Facebook, 60.7% in support services have not seen the inappropriate content on Facebook and 50% of retired people have seen inappropriate content on Facebook, while the majority of those in other professions have seen inappropriate content on Facebook, with the highest rate of 87.4% among those in professional, scientific and technology services and the lowest rate of 50.7% among those in the hospitality and

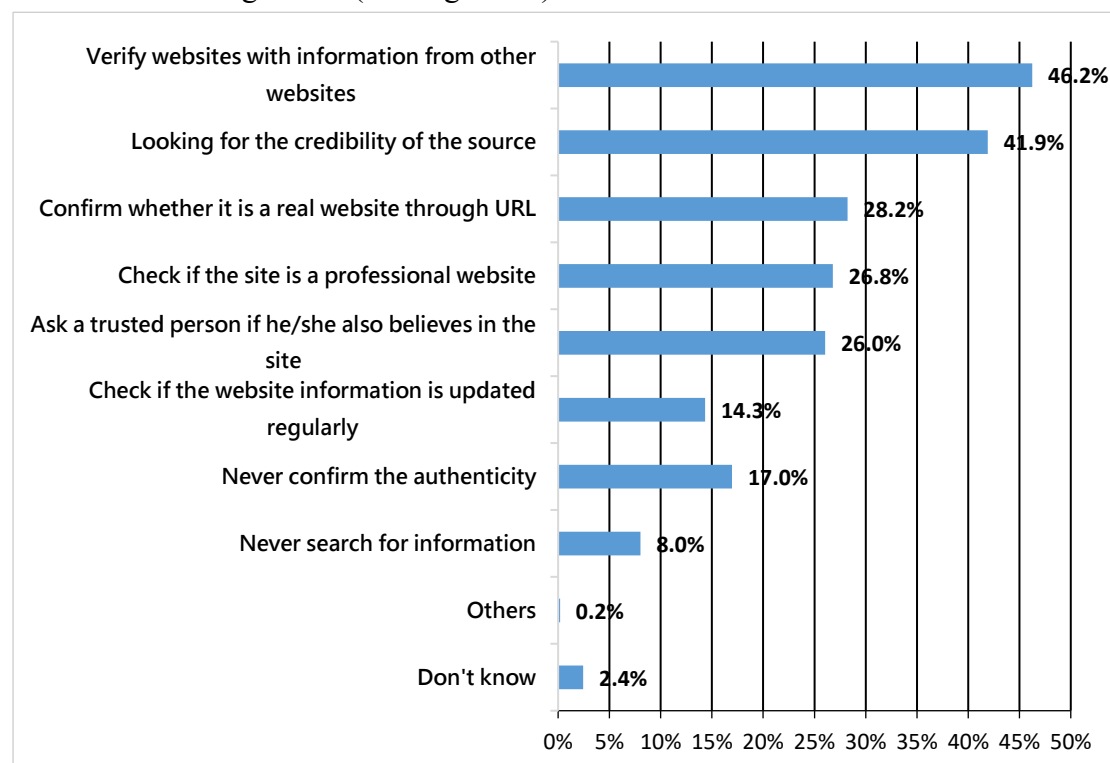
catering industries.

When analyzed by average monthly individual income, except people in the 51.4% of those earning NT\$10,000-19,999 have not seen inappropriate content on Facebook, while the majority of those with other income levels have seen inappropriate content on Facebook, with the highest rate of 78.9% of those earning NT\$60,000 or more and the lowest rate of 61.3% of those earning NT\$40,000-NT49,999.

## Methods Confirming the Authenticity of Information on Websites Q69

### 1. Overall analysis

The survey shows that 46.2% of people verify websites with information from other websites, 41.9% verify by looking for the credibility of the source (such as the name of the writer, link to the original source, etc.), and 28.2% confirm whether it is a real website through URL (See Figure 29).



**Figure 29 Methods confirming the authenticity of information on websites**

Base : N=899, multiple-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The cross analysis suggests that people in Yilan, Hualien, and Taitung have similar rates of verifying with information from other websites (45.7%) and searching for the credibility of the source (45.8%), while the rest all have higher rates of verifying information from other websites. Among them, people in Taichung, Changhua and Nantou and in Kaohsiung, Pingtung and Penghu have the highest rates of 51.3%, while



those in Taipei City, New Taipei City and Keelung have the lowest of 40.1%.

## (2) Analysis of basic differences

When analyzed by gender, men (51.9%) and women (40.9%) have higher rates of verifying information from other websites.

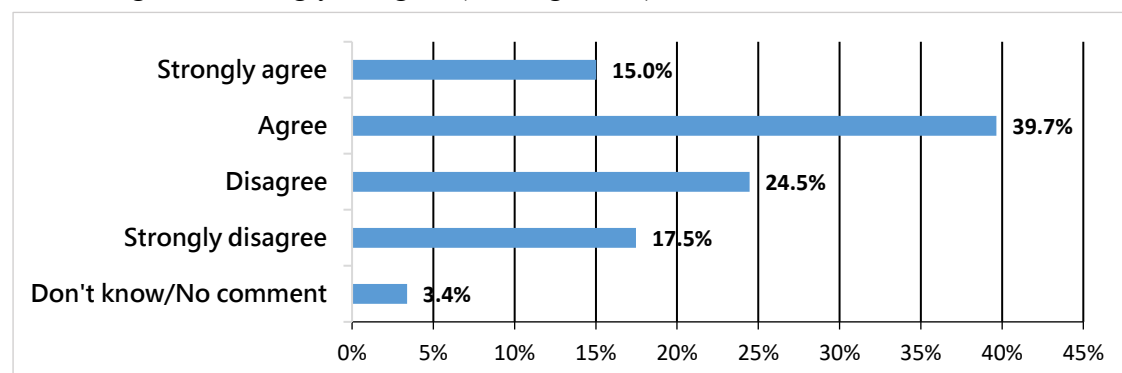
When analyzed by age, people aged 56-65 (30.2% and over 66 (38.7%) have the highest rates of never confirming the authenticity of information online, while most of the rest verify with information from other websites. Among them, 16-25 year-olds have the highest rate of 68.5% while those aged 46-55 have the lowest of 36.7%.

When analyzed by marital status, those unmarried have the highest rate for verifying with information from other websites (64.4%), while those married have the lowest (34.1%).

## Providing Incorrect or False Information on the Website to Protect Personal Identity Q70

### 1. Overall analysis

The survey shows that 54.7% of people strongly agree or agree that “Incorrect or false information should be provided on the website to protect personal identity” while 42% disagree or strongly disagree (See Figure 30).



**Figure 30 Incorrect or False Information Should be Provided on the Website to Protect Personal Identity**

Base : N=899, single-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

Cross analysis suggests that people in Taipei City, New Taipei City and Keelung have a higher rate (50%) of disagreeing that “Internet users must be protected from inappropriate or offensive content,” while the other regions have a higher rate agreeing. Among them, people in Kaohsiung, Pingtung and Penghu have the highest rate of 60.3% while those in Yilan, Hualian and Taitung the lowest of 52.3%.

#### (2) Analysis of basic differences

The Chi-square test suggests that whether one agrees that “Internet users must be protected from inappropriate or offensive content” is significantly related to age and marital status.

When analyzed by gender, both men (56.6%) and women (52.9%) have higher rates of agreement that “Internet users must be protected from inappropriate or offensive content.”

When analyzed by age, while people aged 56-65 (53.2%) and over 66 (60.1%) have higher rates of disagreement, those of other age groups have higher rates to agree. Among them, people aged 26-35 have the highest rate of 68.7% while those aged 46-55 the lowest, at 54.2%.

When analyzed by marital status, both those unmarried (66.2%) and married people (49.3%) have higher rates to agree that “Internet users must be protected from inappropriate or offensive content,” while those widowed or separated have higher rate to disagree (59.9%).

### **(3) Analysis of differences in social and economic status**

The Chi-square test suggests that whether one agrees that “Internet users must be protected from inappropriate or offensive content” is significantly related to education level, profession, and individual average monthly income.

When analyzed by education level, those with elementary school education or lower (61.9%) and those with high school or secondary school education (52.7%) have higher rates to disagree that “Internet users must be protected from inappropriate or offensive content,” and others have higher rates to agree. Among them, those with junior college education have the highest rate of 63.2% while those with senior high or vocational school education have the lowest of 49.9%.

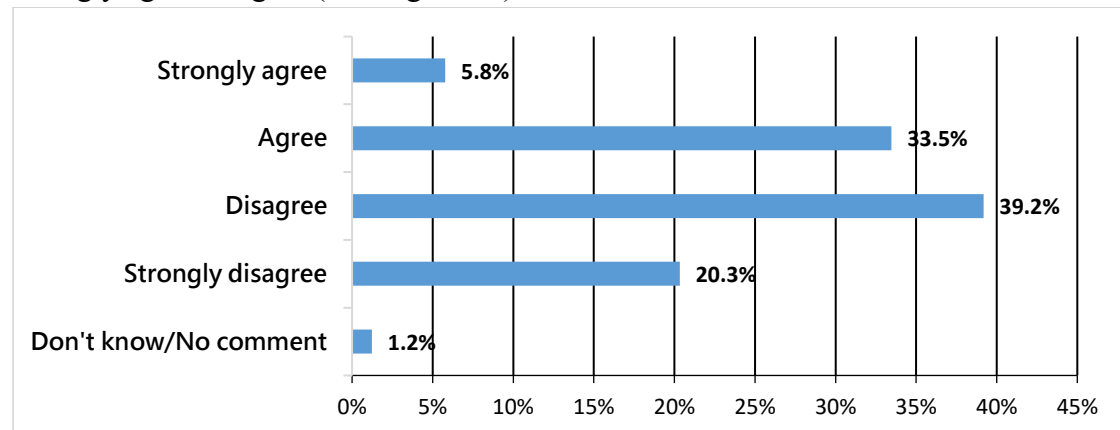
When analyzed by profession, people in the agriculture, forestry, fishery and husbandry industries (58.1%), the wholesale and retail trade (51.5%), the hospitality and catering (55.7%), housekeepers (55.9%), and the retired (58.6%) have higher rates disagreeing that “Internet users must be protected from inappropriate or offensive content,” the rest all have higher rate to agree. Among them, people in the real estate have the highest rate of 85.7% while those in the support services the lowest of 51.5%.

When analyzed by individual average monthly income, the NT\$10,000-19,999 group (60%) and the NT\$60,000 or more group (53.6%) have higher rates to disagree that “Internet users must be protected from inappropriate or offensive content,” while most of the rest agree. Among them, the NT\$30,000-39,999 group have the highest rate of 70.8% while the NT\$10,000-19,999 group the lowest of 48%.

## Providing Personal Information to Get What One Wants on the Web Q71

### 1. Overall analysis

The survey shows that 59.5% of people either strongly disagree or disagree that “Personal information can be provided to get what one wants on the web,” while 39.3% strongly agree or agree (See Figure 31).



**Figure 31 Personal information can be provided to get what one wants on the web**

Base : N=899, single-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The Chi-square test shows that whether one agrees that “Personal information can be provided to get what one wants on the web” is significantly related to area where one lives.

The cross analysis suggests that people in Yunlin, Chiayi, and Tainan have the highest rate (67.3%) of disagreeing that “Personal information can be provided to get what one wants on the web,” while those in Kaohsiung, Pingtung and Penghu have the lowest (53.5%).

#### (2) Analysis of basic differences

The Chi-square test suggests that whether one agrees that “Personal information can be provided to get what one wants on the web” is significantly related to age.

When analyzed by gender, both men (58.3%) and women (60.7%) have higher rates of disagreeing that “Personal information can be provided to get what one wants on the web.”

When analyzed by age, all age groups have high rates to disagree. Among them, people aged over 66 have the highest rate of 76.2% while those aged 46-55 the lowest of 51%.

When analyzed by marital status, the married (60.1%) have the highest rate to disagree that “Personal information can be provided to get what one wants on the web” while those widowed or separated the lowest (53.2%).

### (3) Analysis of differences in social and economic status

The Chi-square test suggests that whether one agrees that “Personal information can be provided to get what one wants on the web” is significantly related to education level, profession, and individual average monthly income.

When analyzed by education level, people with a master’s degree or higher have a higher rate (50.9%) to agree that “Personal information can be provided to get what one wants on the web,” while the most of the rest disagree. Among them, those with elementary school education or lower have the highest rate of 78.4% while those with junior college education have the lowest of 52.5%.

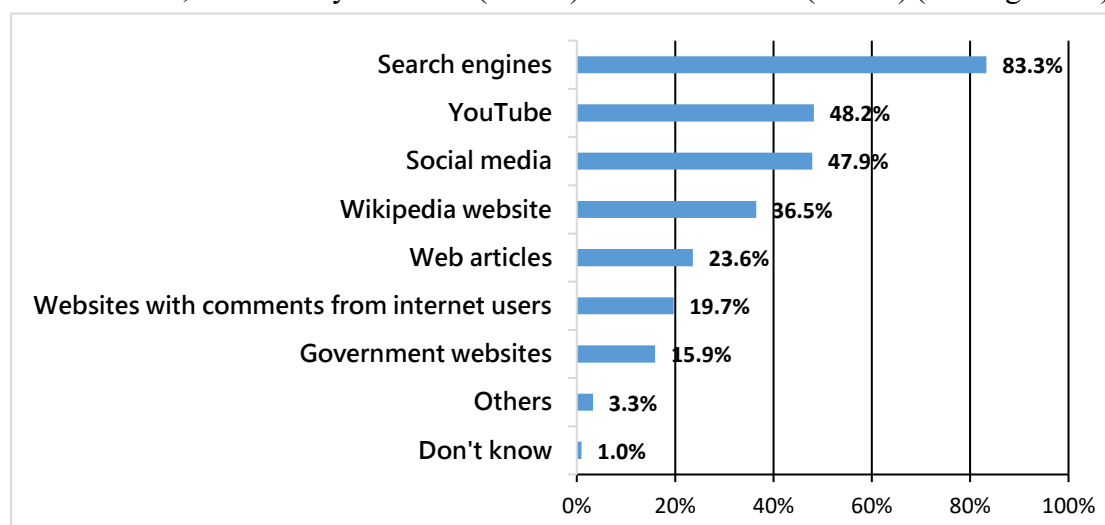
When analyzed by profession, people in the construction industry (57.1%), transportation and warehousing (59.5%), finance and insurance 54.7%), real estate (57.1%), professional, scientific and technology services (62.1%) have higher rates to agree while most of the rest disagree. Among them, people in public administration and national defense have the highest rate while of 75% while those in the hospitality and catering industries the lowest of 51.5%.

When analyzed by individual average monthly income, the NT\$50,000-59,999 group have similar rates to agree (49.2%) and disagree (49.5%), while most of the rest disagree. Among them, those earning NT\$1-9,999 have the highest rate of 75.4% while those earning NT\$430,999-39,999 have the lowest of 50.9%.

## What Methods Are Used to Obtain Information on Internet Q73

### 1. Overall analysis

When people aged over 16 in Taiwan search information on internet, over 80 percent of people (83.3%) use search engines (such as Google) to obtain the information, followed by YouTube (48.2%) and social media (47.9%) (See Figure 32).



**Figure 32 While searching information on internet, what methods have been used to get information**

Base: N = 899, multiple-choice (respondents having a surfing internet/net age large than 0 year)

## 2. Comparative analysis

### (1) Analysis of regional differences

The result of Chi-square tests indicates that when people search information on the internet, the majority of people in all regions use the search engines to obtain information, with a highest rate 89.7% for people in Kaohsiung, Pingtung and Penghu and the lowest rate of 72.2% for people in Yunlin, Chiayi, and Tainan. In particular, people in Kaohsiung, Pingtung and Penghu who use various methods for obtaining information all have higher rates than those for other regions.

### (2) Analysis of basic differences

When analyzed by gender, when people search information on the internet, 86.7% men and 80.1% women mainly use search engines to obtain information.

When analyzed by age, when people search information on the internet, the majority of people of all age groups mainly use the search engines to obtain information, with 94.4% of 26–35 year-olds the highest rate and 53.4% of 66 year-olds and over the lowest.

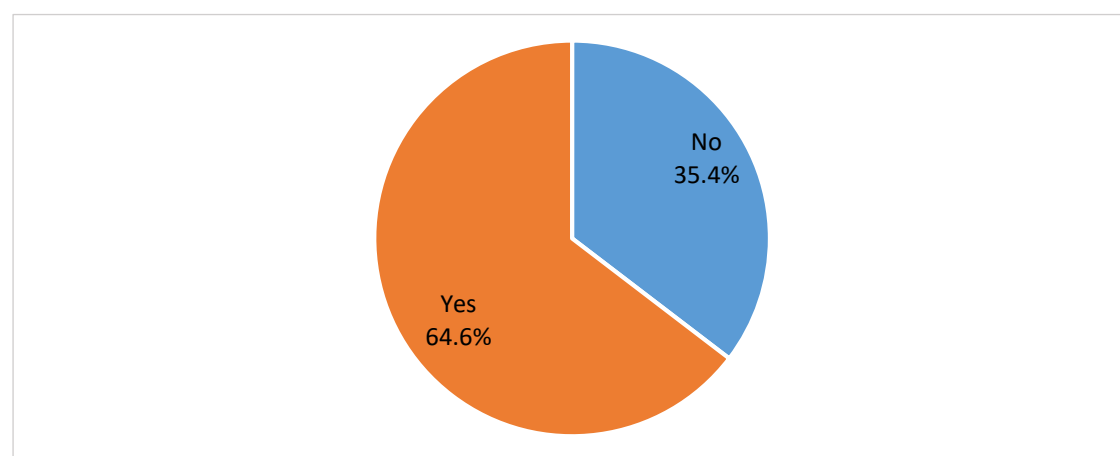
When analyzed by marital status, when people search information on the internet, the majority of people mainly use search engines to obtain information, with the highest rate 89.4% of those unmarried and 73.1% of those widowed or separated the lowest.

## C. Online Transactions

### Searching for Product Information and Comparing Prices Online Q74

#### 1. Overall analysis

The survey shows that most people (64.6%) have searched for product information and compared prices online (See Figure 33).



**Figure 33 Experience in Searching for Product Information and Comparing Prices Online**

Base : N=899, single-choice (Internet users)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

The Chi-square test suggests that whether one has experience in searching for product information and comparing prices online is significantly related to area where one lives.

The cross analysis shows that among people who have the experience, those in Taichung, Changhua and Nantou have the highest rate (73.6%) while those in Yunlin, Chiayi, and Tainan the lowest (51.2%).

### **(2) Analysis of basic differences**

The Chi-square test suggests that whether one has experience in searching for product information and comparing prices online is significantly related to age and marital status.

When analyzed by gender, both men (64.8%) and women (64.4%) have experience in searching for product information and comparing prices online.

When analyzed by age, people aged 56-65 (64.7%) and over 66 (82.2%) have higher rates of having never searched for product information and comparing prices online, while most of the rest have had the experience. Among them, people aged 26-35 have the highest rate of 84.6% while those aged 46-55 the lowest of 61.2%.

When analyzed by marital status, most of the unmarried (80.5%) and married (58.4%) have experience in searching for product information and comparing prices online, while most of the widowed/separated do not (71%).

### **(3) Analysis of differences in social and economic status**

The Chi-square test suggests that whether one has searched for product information and compared prices online is significantly related to education level, profession, and average monthly individual income.

When analyzed by housing tenure, both home owners (62.5%) and house renters (71.3%) have searched for product information and compared prices online.

When analyzed by education level, those with elementary or less education (97.7%) and those with high school and secondary school education (65.9%) have higher rates of never searching for product information and comparing prices online, while most of those in other groups have. Among them, people with a master's degree and above have the highest rate (86.8%) while the senior high and vocational school the lowest (53.4%).

When analyzed by profession, people in the agriculture, forestry, fishery and husbandry industries (56.2%), housekeepers (51.7%), and the retired (81.4%) have higher rates to never search for product information and compare prices online, while most in the other groups have. Among them, people in publishing, audio-video production, mass communication, information, and communications industries have the highest rate of 93.8% while those in the transportation and warehousing the lowest of

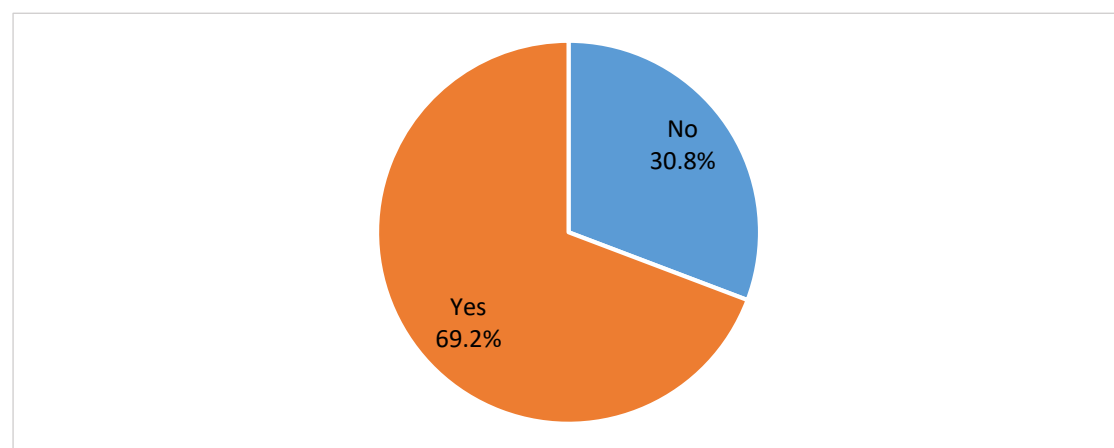
54.5%.

When analyzed by average monthly individual income, the NT\$10,000-19,999 group have higher rate to never searched for product information and compared prices online (58.4%) while the most in the other groups have had the experience. Among them, the NT\$60,000 and more group has the highest rate of 84.1% while the NT\$1-9,999 group had the lowest, 50.5%.

## Experience in Online Shopping Q77

### 1. Overall analysis

The survey shows that 69.2% of people have experience in online shopping (See Figure 34).



**Figure 34 Do You Have Any Experience in Online Shopping?**

Base : N=899, single-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The Chi-square test suggests that whether one has experience in online shopping is significantly related to area where one lives.

The cross analysis suggests that people in all areas have higher rates to have experience in online shopping than those who have not, with people in Taichung, Changhua and Nantou having the highest rate (79.4%) and those in Yunlin, Chiayi, and Tainan the lowest (58.3%).

#### (2) Analysis of basic differences

The Chi-square test suggests that whether one has experience in online shopping is significantly related to age and marital status.

When analyzed by gender, most men (68.4%) and women (70%) have experience in online shopping.

When analyzed by age, people aged 56-65(59.1%) and over 66 (74.4%) have higher rates of never having shopped online, while most of the other groups have had

the experience of shopping online. Among them, people aged 26-35 have the highest rate of 91.1% while those aged 46-55 the lowest of 65.2%.

When analyzed by marital status, the widowed/separated (59.7%) have lowest rate, while the unmarried (85.6%) and the married (61.7%) have higher rate.

### **(3) Analysis of differences in social and economic status**

The Chi-square suggests that whether one has experience in online shopping is significantly related to education level, profession, and average monthly individual income.

When analyzed by housing tenure, most home owners (67%) and house renters (77.3%) have the experienced in online shopping.

When analyzed by education level, those with elementary and lower education (97.7%) and those with high school and secondary school education (51.1%) have the highest rates of never having shopped online while most of the rest have had the experience. Among them, people with a master's degree and above have the highest rate of 89.3%, while those with senior high and vocational school education the lowest of 56%.

When analyzed by profession, the retired have the highest rate to have never shopped online (79.6%) while most of the rest have experience of shopping online. Among them, people in publication, audio-video production, mass communication, information, and communications have the highest rate of 93.8% while housekeepers have the lowest rate of 52%.

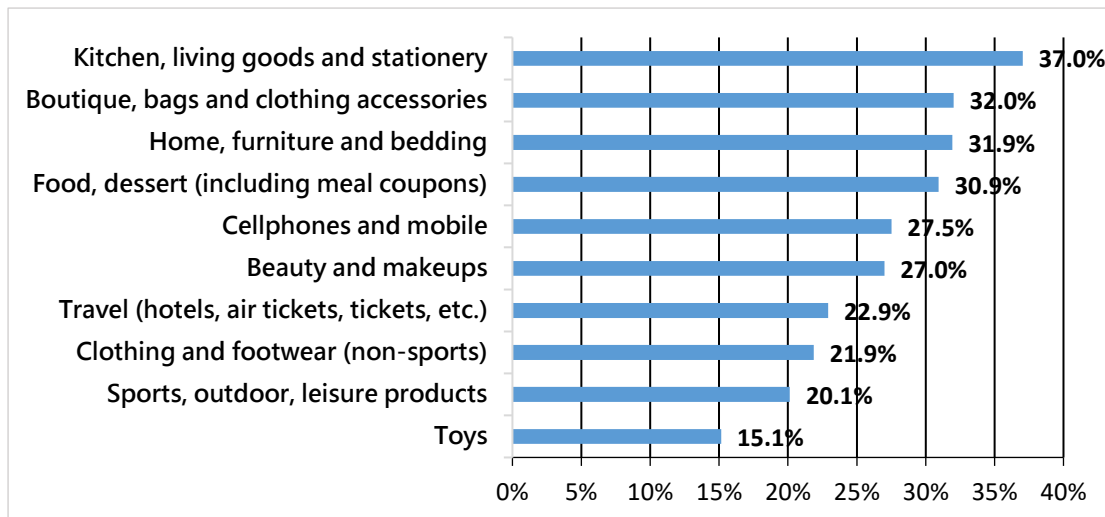
When analyzed by average monthly individual income, the NT\$10,000-19,999 (51.3%) has the highest rate to never shop online while the rest all have higher rate to have shopped online. Among them, the NT\$60,000-69,999 group has the highest rate of 83.9% while the NT\$1-9,999 group the lowest of 54.1%.

## **Products bought online in the last 12 months Q79**

### **1. Overall analysis**

The survey shows that kitchen, living goods and stationary accounts for the largest share (37%) of the products bought in the last 12 months, followed by boutiques, bags and clothing accessories (32%) and home, furniture and bedding (31.9%) (See Figure 35).





**Figure 35 Products bought online in the last 12 months (Top 10)**

Base : N=507, multiple-choice (People who have bought products online)

## **2. Comparative analysis**

### **(1) Analysis of regional differences**

Cross analysis suggests that among the products bought online, people in Taoyuan, Hsinchu and Miaoli have the highest rate (42%) to have bought home, furniture and bedding, while people in Taichung, Changhua and Nantou have the highest rate (34.8%) to have bought boutiques, bags and clothing accessories. The rest have the highest rate to have bought kitchen, living goods and stationary. Among them, people in Yunlin, Chiayi, and Tainan have the highest rate of 44% while people in Taipei City, New Taipei City and Keelung the lowest of 34.7%.

### **(2) Analysis of basic differences**

When analyzed by gender, men have the highest rate to have bought cellphones and mobiles (38.4%) while women have the highest rate to have bought beauty products and makeup (47.2%).

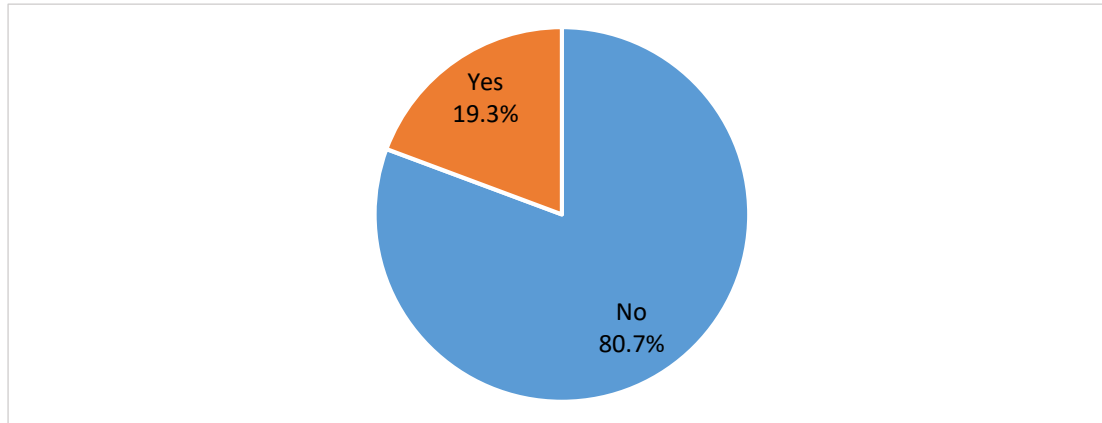
When analyzed by age, people aged 16-25 (44.1%) and 26-35 (39.9%) have the highest rate buying boutiques, bags and clothing accessories, while those aged 36-45 (48.2%), 46-55 (37.6%), and 56-65 (36.5%) have the highest rate to have bought kitchen, living goods and stationary. People aged over 66 have the highest rate (31.9%) to have bought clothing and footwear (non-sports).

When analyzed by marital status, the unmarried people have the highest rate for buying boutiques, bags and clothing accessories (38.2%) while the married have the highest rate to have bought kitchen, living goods and stationary (43.5%). Those widowed or separated have the highest rate for buying food or desserts (including meal coupons) (43.9%).

## Experience in Selling Products Online Q84

### 1. Overall analysis

The survey shows that the vast majority of people (80.7%) do not have experience in selling products online (See Figure 36).



**Figure 36 Experience in Selling Products Online**

Base : N=899, single-choice (Internet users)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The cross analysis suggests that up to more than 75% of people do not have any experience in selling products online. Among those who have experiences, people in Taipei City, New Taipei City and Keelung account for the largest share (22.5%) while those in Yunlin, Chiayi, and Tainan the lowest (12.1%).

#### (2) Analysis of basic differences

The Chi-square test shows that whether one has ever sold products online is significantly related to age and marital status.

When analyzed by gender, both men and women have higher rates to have no experience in selling products online (79.5%, 81.8%).

When analyzed by age, people aged 16-25 have the highest rate (34.4%) to have experience in selling products online, while people aged over 66 have the lowest rate (1.6%).

When analyzed by marital status, all have higher rate to have no experience online regardless of marital status. Among those who have experience in selling products online, the unmarried have the highest rate of 25.2% while the married the lowest of 15.1%.

#### (3) Analysis of differences in social and economic status

The Chi-square test shows that whether one has ever sold products online is significantly related to education level and individual average monthly income.

When analyzed by education level, people with a bachelor's degree have the highest rate (29.9%) for having ever sold products online while those with elementary

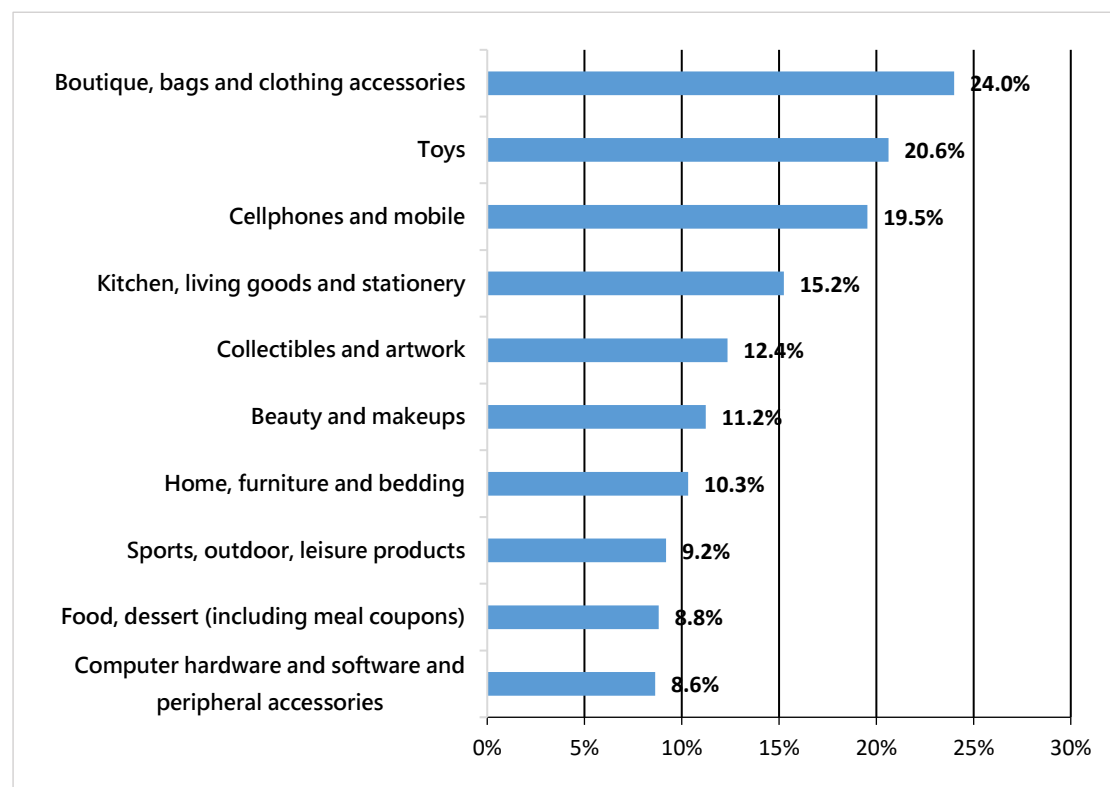
education and lower have the lowest rate (1.3%).

When analyzed by individual average monthly income, those earning NT\$30,000-39,999 has the highest rate of 27.4% while those of no income the lowest of 11.7%.

## Products Sold Online in the Last 12 Months Q86

### 1. Overall analysis

The survey shows that 24% of people have sold boutiques, bags and clothing accessories online, 20.6% have sold toys, and 19.5% have sold cellphones and mobile in the last 12 months (See Figure 37).



**Figure 37 Products Sold Online in the Last 12 Months (Top 10)**

Base : N=95, multiple-choice (People who have sold any product online)

### 2. Comparative analysis

#### (1) Analysis of regional differences

The cross analysis suggests that among the products sold online, people in Taipei City, New Taipei City and Keelung (28.8%), Taoyuan, Hsinchu and Miaoli (27.9%), and Kaohsiung, Pingtung and Penghu (32.3%) have the highest rate to have sold boutiques, bags and clothing accessories online. People in Taichung, Changhua and Nantou have the highest rate to have sold toys (24.6%) online while those in Yunlin, Chiayi, and Tainan kitchen, living goods and stationary (51.6%).

#### (2) Analysis of basic differences

When analyzed by gender, men have a higher rate to have sold toys online (28.2%)

while women have a higher rate to have sold boutiques, bags and clothing accessories (41.9 %).

When analyzed by age, people aged 16-25 (29.3%) and 36-45 (33.1%) have a higher rate to have sold boutiques, bags and clothing accessories. People aged 26-35 have a higher rate (25.7%) to have sold toys online while those aged 46-55 (34.9%) food and dessert (including meal coupons).

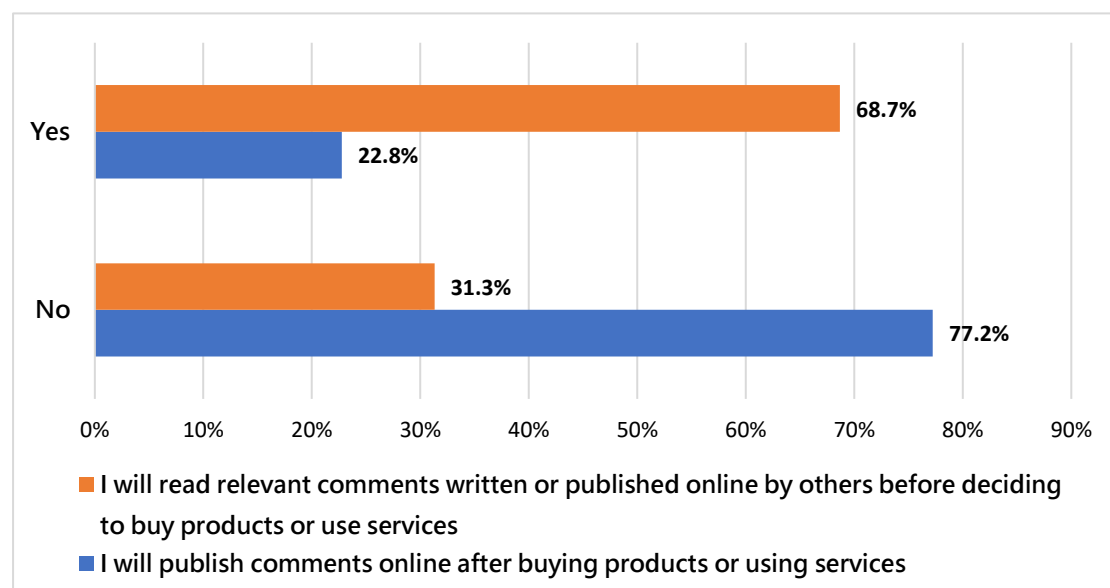
When analyzed by marital status, the unmarried (23.5%) and widowed or separated (45.8%) have higher rates to have sold boutiques, bags and clothing accessories online while the married have a higher rate (28.9%) to have sold toys.

## D. Searching and Sharing Information Online

### Sharing Information Online Before and After Buying Products or Using Services Q89 Q90

#### 1. Overall analysis

The survey shows that 68.7% of people read relevant comments written or published online by others before deciding to buy products and 22.8% publish comments online after buying products or using services (See Figure 38).



**Figure 38 Sharing information online before and after buying products or using services**

Base : N=899, single-choice (Internet users)

#### 2. Comparative analysis

##### (1) Analysis of regional differences

The cross analysis suggests that most people read relevant comments written or published online by others before deciding to buy products. Overall, people in Taichung,

Changhua and Nantou have the highest rate (73.1%), while those in Yunlin, Chiayi, and Tainan the lowest (66%). After buying products or using services, more than 70% of people do not publish comments online. Among those who do, people in Yilan, Hualien, and Taitung have the highest rate (26.9%), while people in Yunlin, Chiayi, and Tainan the lowest (15.8%).

## **(2) Analysis of basic differences**

The Chi-square test suggests that whether one reads relevant comments written or published online by others before deciding to buy products or publish comments online after buying products or using services is significantly related to age and marital status.

When analyzed by gender, both men (69.1%) and women (68.3%) read relevant comments written or published online by others before deciding to buy products. The rates for men and women to publish comments online after buying products or using services are 22.9% and 22.6%, respectively.

When analyzed by age, people aged 56-65(50.9%) and over 66 (76.7%) have higher rates of not reading relevant comments written or published online by others before deciding to buy products while most of the rest do read them. Among them, 89.3% of those 16-25 is the highest rate and 62% of those 46-55 is the lowest. All age groups have highest rates of not publishing comments online after buying products or using services. Among those who have published comments, people aged 16-25 have the highest rate (37.1%) while those aged over 66 the lowest (1.3%).

When analyzed by marital status, most of the unmarried (83.9%) and married (60.5%) read relevant comments written or published online by others before deciding to buy products, while most of those widowed or separated (51.7%) do not. People regardless of marital status tend not to publish comments online after buying products or using services. Among those who publish comments, the unmarried have the highest rate (32.1%) while the widowed/separated the lowest (15.5%).

## **(3) Analysis of differences in social and economic status**

The Chi-square test suggests that whether one reads relevant comments written or published online by others before deciding to buy products is significantly related to housing tenure, education level, profession, and average monthly individual income and that whether one publishes comments online after buying products or using services is significantly related to housing tenure, education level, profession.

When analyzed by housing tenure, most home owners (66%) and house renters (76.2%) read relevant comments written or published online by others before deciding to buy products. Both home owners and house renters tend not to publish comments online after buying products or using services. The rates for the two groups for publishing comments are 21.3% and 28.3%.

When analyzed by education level, those with elementary education or below

(86.7%) and those with high school or secondary school education (61.8%) have higher rates of not reading relevant comments written or published online by others before deciding to buy products while the rest all have higher rates for reading comments. Among them, people with master's degree or higher have the highest rate of 93.4% while those with senior high or vocational school education the lowest of 59.7%. All groups tend not to publish comments online after buying products or using services. Among those who publish comments, people with a bachelor's degree have the highest rate of 31.3% while those with elementary or lower education have the lowest rate of 2.2%.

When analyzed by profession, the retired have the highest rate (76.8%) of not reading relevant comments written or published online by others before deciding to buy products while the rest all have higher rates to read. Among them, people in the professional, scientific and technology services have the highest rate of 89.7% while housekeepers the lowest of 54.5%. People of all professions tend not to publish comments online after buying products or using services. Among those who publish comments, people in the finance and insurance have the highest rate of 43.5% while the retired the lowest rate of 2.5%.

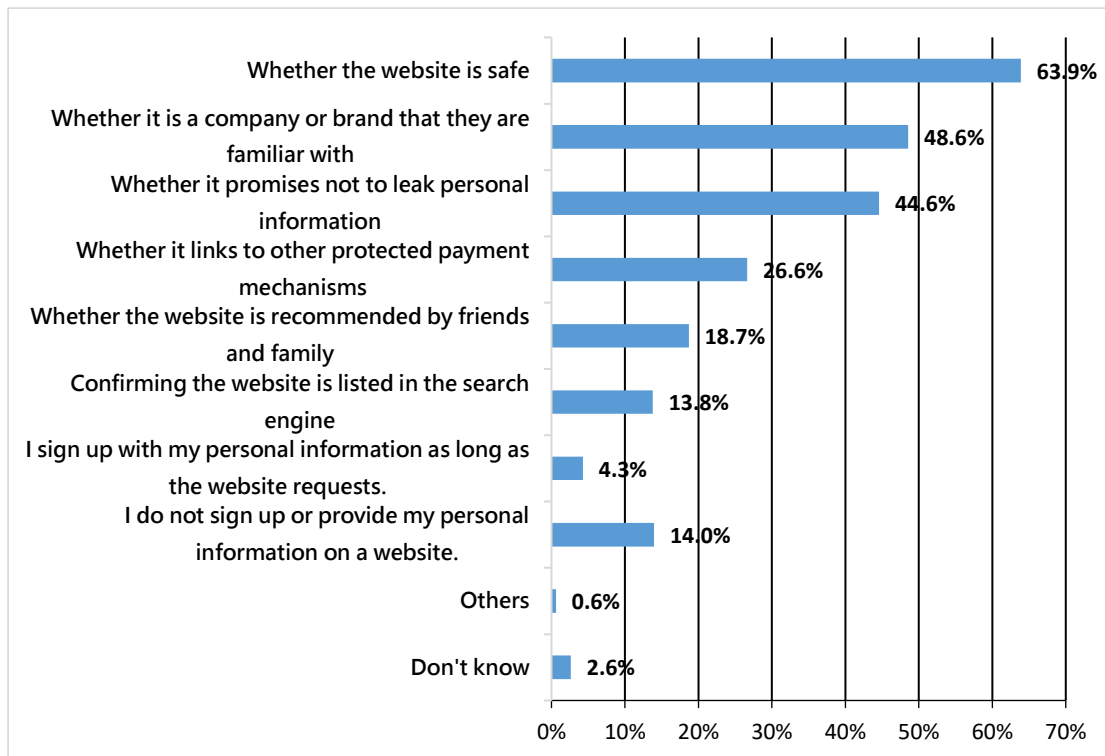
When analyzed by individual average monthly income, those earning NT\$10,000-19,999 have the highest rate (58.3%) of not reading relevant comments written or published online by others before deciding to buy products while the rest all have higher rates to read. Among them, those earning NT\$50,000-59,999 have the highest rate of 84.7% while those earning NT\$1-9,999 have the lowest of 55%.

## **E. Online Information Verification and Information Security**

### **Considerations Before Signing Up on a Website with Personal Information Q93**

#### **1. Overall analysis**

The survey shows that before signing up on a website with personal information, 63.9% of people consider whether the website is safe, 48.6% consider whether it is a company or brand that they are familiar with, and 44.6% consider whether it promises not to leak personal information (See Figure 39).



**Figure 39 Considerations before Signing Up on a Website with Personal Information**

Base : N=899, multiple-choice (Internet users)

## 2. Comparative analysis

### (1) Analysis of regional differences

Cross analysis suggests that before signing up on a website with personal information, people in Taichung, Changhua and Nantou have the highest rate (71.2%) to consider whether the website is safe, while people in Taipei City, New Taipei City and Keelung have the lowest (54.8%). People in Taipei City, New Taipei City and Keelung (23.3%) and Yilan, Hualien, and Taitung (20.4%) have higher rates of not signing up or providing personal information on the Web.

### (2) Analysis of basic differences

When analyzed by gender, before signing up on a website with personal information, most men (66.1%) and women (61.8%) consider whether the website is safe.

When analyzed by age, before signing up on a website with personal information, people aged 66 and over have the highest rate (42%) to not sign up or provide personal information on the Web while most of those of other groups consider whether the website is safe. Among them, people aged 26-35 have the highest rate of 79.9% while those aged 56-65 the lowest of 50.8%. Except for that, the rate for people to not sign up or provide personal information on the Web increases with age.

When analyzed by marital status, before signing up on a website with personal information, most people consider whether the website is safe. Among them, the

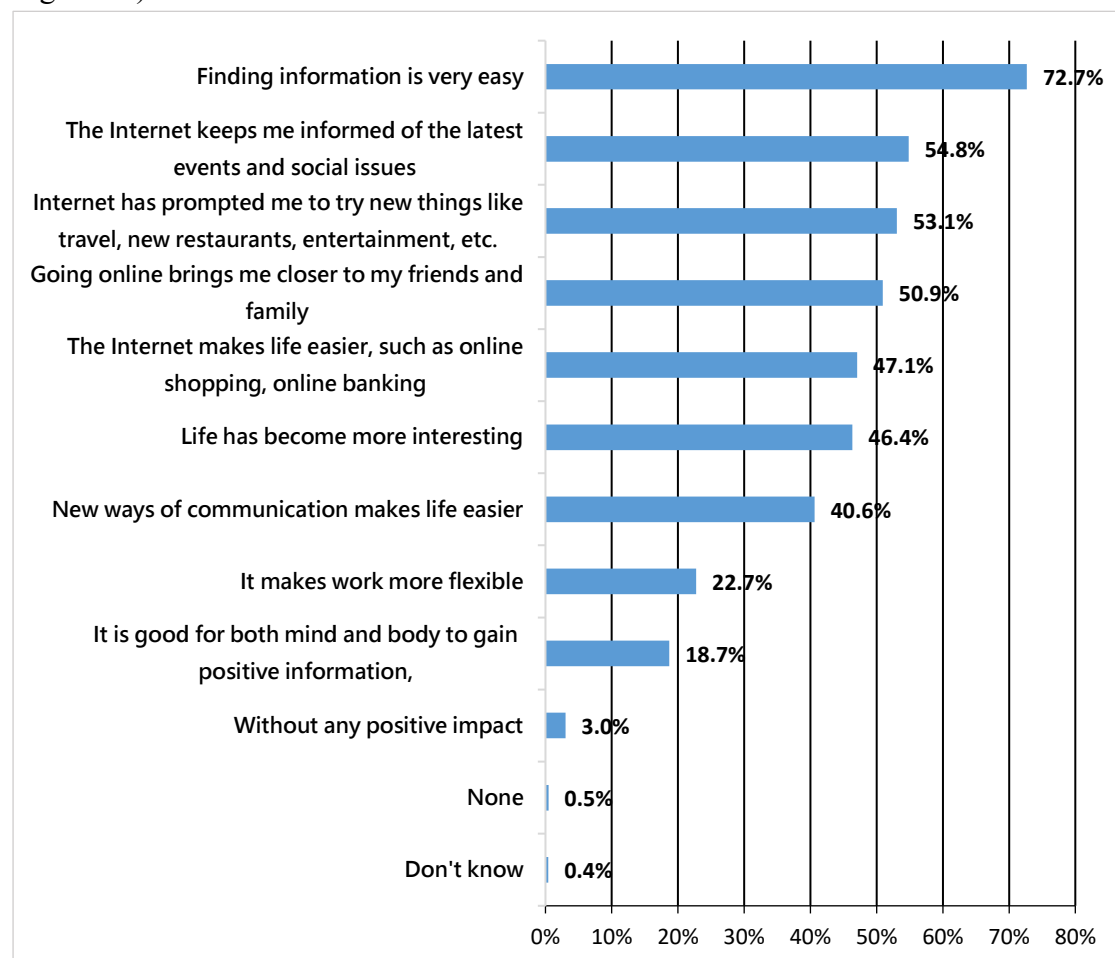
unmarried have the highest rate of 73.2% while those widowed/separated have the lowest of 42.4%. Those who widowed or separated have higher rate of 26% of not signing up or providing personal information on the Web, while only 6.8% the unmarried only do so.

## F. Impacts of Internet Use on Work or Daily Life

### Positive Impacts of Internet Use on Work or Daily Life Q94

#### 1. Overall analysis

The survey shows that among the positive impacts of Internet use on work or daily life, 72.7% think “Finding information is very easy,” and 54.8% think “The Internet keeps me informed of the latest events and social issues,” and 53.1% think “Internet has prompted me to try new things (traveling, new restaurants, and entertainment)” (See Figure 40).



**Figure 40 Positive Impacts of Internet Use on Work or Daily Life**

Base : N=899, multiple-choice (Internet users)

#### 2. Comparative analysis

##### (1) Analysis of regional differences



The cross analysis suggests that among the positive impacts of Internet use on work or daily life, people in every region all rate “Finding information is very easy” the highest. Among them, people in Kaohsiung, Pingtung and Penghu have the highest rate of 83.3%, while those in Yunlin, Chiayi, and Tainan the lowest of 63.1%.

## **(2) Analysis of basic differences**

When analyzed by gender, among the positive impacts of Internet use on work or daily life, both men (75.6%) and women (70%) have higher rates of thinking that “Finding information is very easy.”

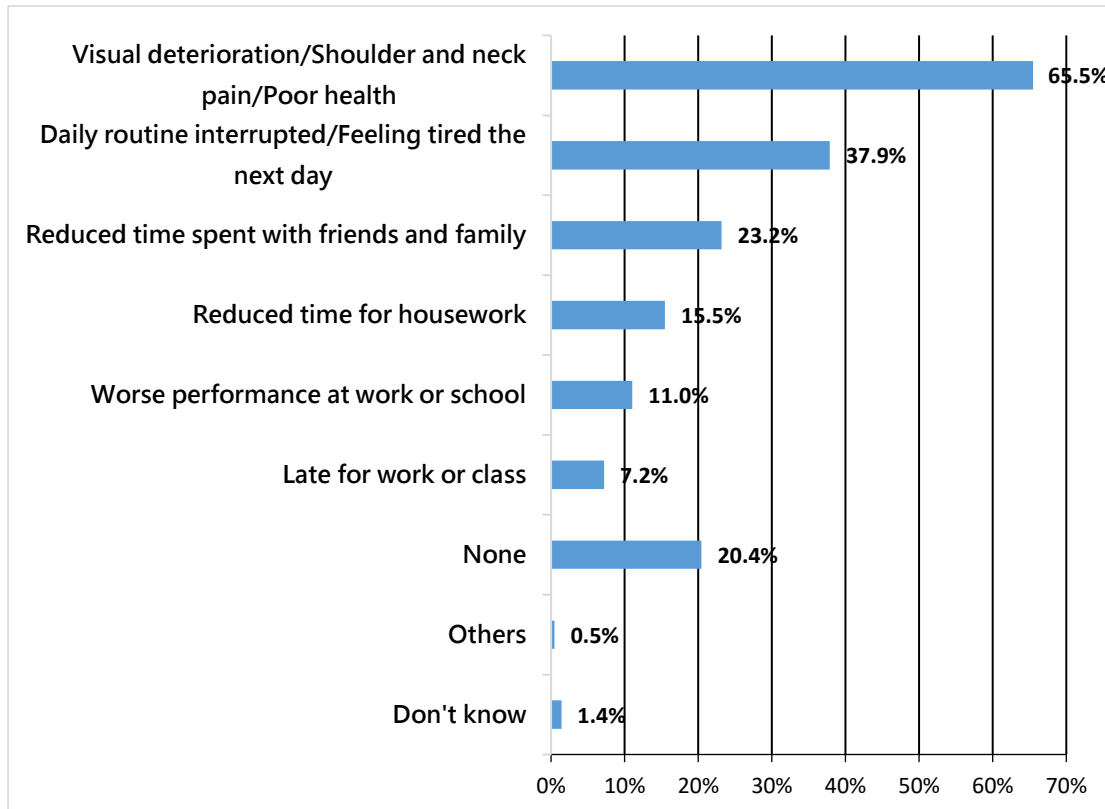
When analyzed by age, among the positive impacts of Internet use on work or daily life, people aged over 66 have a higher rate of thinking “Going online brings me closer to my friends and family”(49.4%)and “Life has become more interesting”(49.4%), while most of the rest tend to think “Finding information is very easy.” Among them, people aged 26-35 have the highest rate of 81.7% while those aged 56-65 the lowest of 60%.

When analyzed by marital status, among the positive impacts of Internet use on work or daily life, the unmarried (80.6%) and married (69.4%) both have higher rates of thinking “Finding information is very easy” while the widowed or separated (62.8%) tend to think “Going online brings me closer to my friends and family.”

## **Negative Impacts of Internet Use on Work or Daily Life Q95**

### **1. Overall analysis**

The survey shows that among the negative impacts of Internet use on work or daily life, 65.5% of people choose “Visual deterioration/Shoulder and neck pain/Poor health,” and 37.9% choose “Daily routine interrupted/Feeling tired the next day,” and 23.2% choose “Reduced time spent with friends and family” (See Figure 41).



**Figure 41 Negative Impacts of Internet Use on Work or Daily Life**

Base : N=899, multiple-choice (Internet users)

## 2. Comparative analysis

### (1) Analysis of regional differences

Cross analysis suggests that among the negative impacts of Internet use on work or daily life, most people in all regions choose “Visual deterioration/Shoulder and neck pain/Poor health.” Among them, people in Kaohsiung, Pingtung and Penghu have the highest rate (71.3%) while those in Yilan, Hualien, and Taitung the lowest (54.8%).

### (2) Analysis of basic differences

When analyzed by gender, among the negative impacts of Internet use on work or daily life, most men (62.3%) and women (68.5%) choose “Visual deterioration/Shoulder and neck pain/Poor health.”

When analyzed by age, among the negative impacts of Internet use on work or daily life, people of all ages tend to choose “Visual deterioration/Shoulder and neck pain/Poor health.” Among them, people aged 26–35 have the highest rate of 74.4% while those over 66 the lowest, 48.4%. The rate for people to choose “None” increases with age. Those aged over 66 have the rate of up to 41.6% while those aged 16-25 have the rate of only 9.7%.

When analyzed by marital status, among the negative impacts of Internet use on work or daily life, most people choose “Visual deterioration/Shoulder and neck pain/Poor health.” Among them, the unmarried have the highest rate of 66.8% while

the widowed or separated the lowest of 61.7%. The unmarried have a lower rate (14.1%) to think there are no negative impacts.

## Impacts of Cellphones on Sleep Q96–Q99

The result of the survey is shown with equivalence scales of 1-10, with 1 indicating “strongly disagree” and 10 indicating “strongly agree.”

### 1. Overall analysis

The survey shows that Taiwanese people’s level of agreement with the statement “I make sure my cellphone is around when sleeping” is 5.54; the level of agreement with “I always check my cellphone before sleeping (excluding setting an alarm, checking the time)” is 5.49; the level of agreement with “The first thing in the morning is to check my cellphone (excluding setting an alarm, checking the time)” is 4.98; while the level of agreement with “I always check my cellphone when waking up at night (excluding checking the time)” is 3.33 (See Table 11).

**Table 11 Cellphone Habits When Sleeping**

Statements about Cellphone Habits	Average Level of Agreement (1 for strongly disagree and 10 for strongly agree)
I make sure my cellphone is around when sleeping.	5.54
I always check my cellphone before bed (excluding setting an alarm, checking the time).	5.49
The first thing I do in the morning is to check the cellphone (excluding setting an alarm, checking the time).	4.98
The first thing I do after waking up at night is to check the cellphone (excluding checking the time).	3.33

Base : N=1,129

Source: Results of this research

### 2. Comparative analysis

#### (1) Analysis of regional differences

The one-way ANOVA suggests that how one agrees with the statements “The first thing I do after waking up at night is to check the cellphone” is significantly related to the area where one lives.

Cross analysis shows that people in Kaohsiung, Pingtung and Penghu have the highest average level (5.77) of agreement with the statement “I make sure my cellphone is around when sleeping” while people in Yunlin, Chiayi, and Tainan the lowest (5.25). People in Yilan, Hualian and Taitung have the highest average level (6.02) to agree with

the statement “I always check my cellphone before bed” while people in Yunlin, Chiayi, and Tainan the lowest (4.99). People in Yilan, Hualian and Taitung regions have the highest average level (5.43) of agreement with the statement “The first thing I do in the morning is to check the cellphone,” while those in Yunlin, Chiayi, and Tainan the lowest (4.34). People in Taichung, Changhua and Nantou have the highest average level (3.81) of agreement with the statement “The first thing I do after waking up at night is to check the cellphone,” while those in Yunlin, Chiayi, and Tainan have the lowest (2.81).

## **(2) Analysis of basic differences**

The one-way ANOVA suggests that whether one makes sure the cellphone is around when sleeping is significantly related to age and marital status.

When analyzed by gender, men have higher average levels (5.68) of agreement with the statements “I make sure my cellphone is around when sleeping” than women (5.4). Women have higher average levels (5.51) of agreement with the statements “I always check my cellphone before bed” than men (5.46). Men have higher average levels (5.05) of agreement with the statements “The first thing I do in the morning is to check the cellphone” than women (4.92). Women have higher average levels (3.39) of agreement with the statements “The first thing I do after waking up at night is to check the cellphone” than men (3.27).

When analyzed by age, the average levels of agreement with the statements “I make sure my cellphone is around when sleeping,” “I always check my cellphone before bed,” “The first thing I do in the morning is to check the cellphone,” and “The first thing I do after waking up at night is to check the cellphone” all decrease with age. Among them, those aged 16-25 have the highest rate (7.17, 7.37, 6.86, 5) with those aged over 66 the lowest (3.49, 3.02, 2.73, 1.67).

When analyzed by marital status, the unmarried have the highest average levels of agreement with the statements “I always check my cellphone before bed,” “The first thing I do in the morning is to check the cellphone,” and “The first thing I do after waking up at night is to check the cellphone” (6.85, 6.22, 4.38), while those widowed or separated have the lowest (4.48, 4.1, 2.58). Concerning the statement “I make sure my cellphone is around when sleeping,” unmarried people have the highest average levels of agreement of 6.91 while those married have the lowest of 4.73.

## **(3) Analysis of differences in social and economic status**

The one-way ANOVA suggests that whether one makes sure the cellphone is around when sleeping is significantly related to housing tenure and education level; whether one always checks the cellphone before bed and whether the first thing one does in the morning is to check a cellphone are both significantly related to housing tenure.

When analyzed by housing tenure, house renters have the highest average levels

of agreement with the statements: “I make sure my cellphone is around when sleeping” (6.28), “I always check my cellphone before bed” (6.2), and “The first thing I do in the morning is to check the cellphone” (5.56) than home owners (5.3, 5.26, 4.82 respectively).

When analyzed by education level, people with a bachelor’s degree have the highest average level of agreement with the statement “I make sure my cellphone is around when sleeping” (6.77) while those with elementary education or lower score the lowest (2.85).

## How People Feel about the Internet Q101–Q109

### 1. Overall analysis

The survey results show that people have the highest level of agreement (1 for strongly disagree and 10 for strongly agree) with the statement “Life with the Internet is never boring” (6.35) among all statements, while the agreement levels with statements “Life without Internet becomes boring” (5.72), “I don’t know how to search for data without the Internet” (5.16), and “I don’t know what’s happening out there without the Internet” (5.13) are all higher than 5 (See Table 12).

**Table 12 How People Feel about the Internet**

Statement	Average Score
Life with the Internet is never boring	6.35
Life without the Internet becomes boring	5.72
I don’t know how to search for data without the Internet	5.22
I feel it’s hard to get rid of the Internet	5.16
I don’t know what’s happening out there without the Internet	5.13
I feel anxious when cut off from the Internet	4.46
I feel lost when cut off from the Internet	4.24
I feel disconnected from the real world when cut off from the Internet	4.16
I feel at work when connected to the Internet	3.45

Base : N=899 (Internet users)

Source: Results of this research

### 2. Comparative analysis

#### (1) Analysis of regional differences

The one-way ANOVA suggests that how one feels about the Internet is significantly related to the area where one lives.

Cross analysis shows that people in Taipei City, New Taipei City and Keelung have the highest average agreement level with the statement “Life without the Internet becomes boring” (6.27) while people in Yunlin, Chiayi, and Tainan the lowest (4.7).

People in Yilan, Hualien, and Taitung have the highest average agreement levels with the statement “I don’t know how to search for data without the Internet” (5.52), while people in Yunlin, Chiayi, and Tainan have the lowest (4.43). People in Yilan, Hualien, and Taitung have the highest average agreement levels with the statement “I don’t know what’s happening out there without the Internet” (5.74), while people in Yunlin, Chiayi, and Tainan the lowest (4.45). People in Taipei City, New Taipei City and Keelung have the highest average agreement level with the statement “I feel anxious when cut off from the Internet” (5.08), while people in Yunlin, Chiayi, and Tainan the lowest (3.58). People in Taipei City, New Taipei City and Keelung have the highest average agreement level with the statement “I feel lost when cut off from the Internet” (4.83), while people in Yunlin, Chiayi, and Tainan the lowest (3.19). People in Taipei City, New Taipei City and Keelung have the highest average agreement level with the statement “I feel it’s hard to get rid of the Internet” (5.95), while people in Yunlin, Chiayi, and Tainan the lowest (4.4). People in Taipei City, New Taipei City and Keelung have the highest average agreement level with the statement “I feel disconnected from the real world when cut off from the Internet” (4.73) while people in Yunlin, Chiayi, and Tainan the lowest (3.06). People in Taichung, Changhua and Nantou have the highest average agreement level with the statement “I feel at work when connected to the Internet” (4.02), while people in Yunlin, Chiayi, and Tainan the lowest (2.55). People in Taipei City, New Taipei City and Keelung have the highest average agreement level with the statement “Life with the Internet is never boring” (6.83), while people in Yunlin, Chiayi, and Tainan the lowest (5.64).

## **(2) Analysis of basic differences**

The one-way ANOVA suggests that whether one agrees with the statements on the attitude toward the Internet is significantly related to age, while whether one agrees with the statements “Life without the Internet becomes boring,” “I don’t know how to search for data without the Internet,” “I don’t know what’s happening out there without the Internet,” “I feel anxious when cut off from the Internet,” “I feel lost when cut off from the Internet,” “I feel it’s hard to get rid of the Internet,” and “Life with the Internet is never boring” is significantly related to marital status.

When analyzed by gender, women have higher average level (5.75) of agreement with the statement “Life without the Internet becomes boring” than men (5.7). women have higher average level (5.22) of agreement with the statement “I don’t know how to search for data without the Internet” than men (5.1). Men have higher average level (5.19) of agreement with the statement “I don’t know what’s happening out there without the Internet” than women (5.08). Men have higher average level (4.49) of agreement with the statement “I feel anxious when cut off from the Internet” than women (4.24). Men and women have similar average levels of agreement with the

statement “I feel lost when cut off from the Internet” (4.24, 4.23). Men have higher average level (5.3) of agreement with the statement “I feel it’s hard to get rid of the Internet” than women (5.14). Men and women have similar average levels of agreement with the statement “I feel disconnected from the real world when cut off from the Internet” (4.17, 4.16). Men have higher average level (3.58) of agreement with the statement “I feel at work when connected to the Internet” than women (3.32). Men have higher average level (6.47) of agreement with the statement “Life with the Internet is never boring” than women (6.24).

When analyzed by age, people aged 26-35 have the highest average agreement level (6.98) with the statement “Life without the Internet becomes boring,” while those aged over 66 the lowest (4.15). People aged 36-45 have the highest average agreement level (5.66) with the statement “I don’t know how to search for data without the Internet,” while those aged over 66 the lowest (3.86). People aged 16-25 have the highest average agreement level (6.21) with the statement “I don’t know what’s happening out there without the Internet,” while those aged over 66 the lowest (3.59). People aged 16-25 have the highest average agreement level (5.61) with the statement “I feel anxious when cut off from the Internet,” while those aged over 66 the lowest (3.08). People aged 16-25 have the highest average agreement level (5.23) with the statement “I feel lost when cut off from the Internet,” while those aged over 66 the lowest (2.94). People aged 26-35 have the highest average agreement level (6.33) with the statement “I feel it’s hard to get rid of the Internet,” while those aged over 66 the lowest (3.58). People aged 16-25 have the highest average agreement level (4.87) with the statement “I feel disconnected from the real world when cut off from the Internet” while those aged over 66 the lowest (2.86). People aged 16-25 have the highest average agreement level (3.93) with the statement “I feel at work when connected to the Internet,” while those aged over 66 the lowest (2.41). People aged 16-25 have the highest average agreement level (7.26) with the statement “Life with the Internet is never boring” while those aged over 66 the lowest (5.15).

When analyzed by marital status, unmarried people generally have higher agreement levels with the statements: “Life without the Internet becomes boring” (6.64), “I don’t know how to search for data without the Internet” (5.42), “I don’t know what’s happening out there without the Internet” (5.71), “I feel anxious when cut off from the Internet” (5.18), “I feel lost when cut off from the Internet” (4.93), “I feel it’s hard to get rid of the Internet” (6.04), “I feel disconnected from the real world when cut off from the Internet” (4.58), “I feel at work when connected to the Internet” (3.7), and “Life with the Internet is never boring” (6.95). The widowed/separated generally have lower agreement levels (4.7, 4.69, 3.81, 4.54, 3.65, 2.83) with the statements above, except that the married have the lowest agreement levels with the statements: “I feel

it's hard to get rid of the Internet" (3.77) and "Life with the Internet is never boring"(5.86).

### **(3) Analysis of differences in social and economic status**

The one-way ANOVA suggests that whether one agrees with the statements "Life without the Internet becomes boring," "I feel anxious when cut off from the Internet," "I feel lost when cut off from the Internet," "I feel it's hard to get rid of the Internet," "I feel disconnected from the real world when cut off from the Internet," and "Life with the Internet is never boring" is significantly related to housing tenure; whether one agrees with the statement "Life with the Internet is never boring" is significantly related to education level; whether one agrees with the statements "Life without the Internet becomes boring," "I don't know how to search for data without the Internet," "I don't know what's happening out there without the Internet," "I feel anxious when cut off from the Internet," and "Life with the Internet is never boring" is significantly related to profession ; whether one agrees with the statements "I don't know how to search for data without the Internet," "I don't know what's happening out there without the Internet," "I feel lost when cut off from the Internet," "I feel disconnected from the real world when cut off from the Internet," and "Life with the Internet is never boring" is significantly related to average monthly individual income.

When analyzed by housing tenure, house renters generally have higher agreement levels with "Life without the Internet becomes boring" (6.21), "I feel anxious when cut off from the Internet" (4.88), "I feel lost when cut off from the Internet" (4.71), "I feel it's hard to get rid of the Internet" (5.9), "I feel disconnected from the real world when cut off from the Internet" (4.54), and "Life with the Internet is never boring" (6.74) than home owners (5.54, 4.28, 4.05,4.99,4.03, 6.22).

When analyzed by education level, people with a bachelor's degree have the highest agreement level (7.06) with the statement "Life with the Internet is never boring" while the elementary school and below group the lowest (3.07).

When analyzed by profession, people in the support services and students have the highest agreement level (6.65) with the statement "Life without the Internet becomes boring" while the retired the lowest (3.55). People in the wholesale and retail trade have the highest agreement level (6.13) with the statement "I don't know how to search for data without the Internet" while the retired the lowest (3.05). People in publishing, audio-video production, mass communication, information, and communications have the highest agreement level (6.47) with the statement "I don't know what's happening out there without the Internet" while the retired the lowest (2.98). People in the wholesale and retail trade industries have the highest agreement level (5.63) with the statement "I feel anxious when cut off from the Internet" while the retired the lowest (2.58). People in publication, audio-video production, mass communication,



information, and communications industries have the highest agreement level (7.64) with the statement “Life with the Internet is never boring” while the retired scored the lowest (4.68).

When analyzed by individual average monthly income, people in the NT\$40,000-49,999 group have the highest agreement level (6.33) with the statement “I don’t know how to search for data without the Internet,” while the NT\$1-9,999 group the lowest (3.43). People in the NT\$40,000-49,999 group also have the highest agreement level (5.98) with the statement “I don’t know what’s happening out there without the Internet,” while NT\$1-9,999 group the lowest (3.77). People in the NT\$30,000-39,999 group have the highest agreement level (4.94) with the statement “I feel lost when cut off from the Internet,” while NT\$1-9,999 group the lowest (3.02). People in the NT\$50,000-59,999 group have the highest agreement level (4.9) with the statement “I feel disconnected from the real world when cut off from the Internet,” while the NT\$1-9,999 group the lowest (2.69). People in the NT\$40,000-49,999 group have the highest agreement level (7.01) with the statement “Life with the Internet is never boring” while the NT\$1-9,999 group the lowest (4.95).

**Table 13 One-way ANOVA on Attitudes toward Internet**

<b>Statement</b>	<b>Significantly Related Variables</b>
Life without the Internet becomes boring	Area, age, marital status, housing tenure, profession
I don’t know how to search for data without the Internet	Area, profession, average monthly individual income
I don’t know what’s happening out there without the Internet	Age, marital status, profession, average monthly individual income
I feel anxious when cut off from the Internet	Area, marital status, housing tenure, profession
I feel lost when cut off from the Internet	housing tenure, average monthly individual income
I feel it’s hard to get rid of the Internet	Area, age, marital status, housing tenure
I feel disconnected from the real world when cut off from the Internet	Age, marital status, housing tenure, average monthly individual income
I feel at work when connected to the Internet	marital status
Life with the Internet is never boring	Area, age, marital status, housing tenure, education level, profession, average monthly individual income

Source: Results of this research