

Comparison of Product Involvement and Usage Behavior of Smartphone, Computer, and Television Users

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Background

Studies on product involvement have been widely conducted on various items and have revealed differences in the characteristics of different products. However, most studies have examined product involvement for each product, and few studies have compared product involvement across various products. This study investigates how product involvement differs among information and communication technologies (ICT) devices such as smartphones (SP), computers (PC), and televisions (TV) in order to identify differences in the characteristics of involvement with each device.

Survey Method

Survey Method	Web Survey
Subject	Men and women aged 15-79 nationwide
Number of valid responses	6,272
Sampling Method	Quota Sampling, Allocation was conducted in proportion to the percentage of smartphone owners based on the results of preliminary survey.
Period	February 2021

Aggregation by Age

	SP owners	Owners with all 3 types of devices (SP/PC/TV)	
10s	383	286	74.7%
20s	730	500	68.5%
30s	883	616	69.8%
40s	1139	858	75.3%
50s	1043	838	80.3%
60s	1051	896	85.3%
70s	1043	949	91.0%
Total	6272	4943	78.8%

Results

Factor Analysis

- For each device, three similar factors (brand orientation, impulse purchase, and utilization) were analyzed.
 - A common factor structure regarding product involvement was identified for the three ICT devices (SPs, PCs, and TVs).

Questions	Factors	SP			PC			TV		
		Brand Orientation	Impulse Purchase	Utilization	Brand Orientation	Impulse Purchase	Utilization	Brand Orientation	Impulse Purchase	Utilization
I only buy the device from manufacturers or brands whose names I know.		0.74	0.14	0.16	0.83	0.02	0.10	0.87	0.00	0.14
I generally do not choose a device from a manufacturer or brand that I am not familiar with.		0.73	-0.06	0.10	0.77	-0.03	0.03	0.76	-0.04	0.12
I would not change to different manufacturer or brand not matter how cheap it is.		0.70	0.17	0.13	0.70	0.16	0.05	0.71	0.16	0.12
I might sometimes impulse buy if the device has a good reputation.		0.06	0.91	0.11	0.05	0.91	0.06	0.04	0.92	0.07
I may feel compelled to buy the latest model when it is released.		0.09	0.82	0.13	0.04	0.86	0.04	0.04	0.89	0.07
I may feel tempted to buy the device if I like its style, design or color.		0.10	0.71	0.16	0.06	0.78	0.05	0.04	0.80	0.08
I use my device to its full potential.		0.06	0.13	0.85	-0.01	0.11	0.84	0.07	0.07	0.90
I am familiar with the features and services of the device.		0.12	0.13	0.75	0.02	0.12	0.83	0.09	0.04	0.73
The device is helpful to me.		0.17	0.09	0.36	0.13	-0.05	0.52	0.18	0.08	0.45
Contribution Rate [%]		23.3	18.2	16.9	24.8	19.9	18.6	25.7	20.9	18.0

Factor extraction method: Main factor method, Rotation method: Varimax method with Kaiser's normalization

Cluster Analysis

- Each device was classified into four clusters (obsessive use, non-utilization, non-brand orientation, and impulse purchase).
 - From the classification of the four clusters, we confirmed similarities and differences in the tendency of explanatory variables for each device.

SP

Clusters	1. Obsessive Use	2. Non-Utilization	3. Non-Brand Oriented	4. Impulse Purchase
Brand Orientation	0.60	0.45	-0.84	0.21
Impulse Purchase	-0.38	-0.40	-0.24	1.61
Utilization	0.62	-1.26	-0.04	0.13
No. of Cases	1572 (31.8%)	793 (16.0%)	1754 (35.5%)	824 (16.7%)

PC

Clusters	1. Obsessive Use	2. Non-Utilization	3. Non-Brand Oriented	4. Impulse Purchase
Brand Orientation	0.62	-0.01	-1.27	0.11
Impulse Purchase	-0.36	-0.21	-0.31	1.77
Utilization	0.61	-0.84	0.59	0.14
No. of Cases	1583 (32.0%)	1850 (37.4%)	820 (16.6%)	690 (14.0%)

TV

Clusters	1. Obsessive Use	2. Non-Utilization	3. Non-Brand Oriented	4. Impulse Purchase
Brand Orientation	0.44	0.44	-1.27	0.15
Impulse Purchase	-0.34	-0.26	-0.18	1.89
Utilization	0.71	-0.90	-0.10	0.20
No. of Cases	1766 (35.7%)	1391 (28.1%)	1168 (23.6%)	618 (12.5%)

Cluster

Characteristics (gender and age) of each cluster

Characteristics (do most in free time) of each cluster

1. Obsessive Use

Age 15

MaleFemale

SP

TV

PC

Age 79

Cluster → Do most in free time

SP → SP

PC → PC

TV → TV

2. Non-Utilization

Age 15

MaleFemale

PC

SP

TV

Age 79

Cluster → Do most in free time

SP → PC

PC → TV

TV → News Paper

4. Impulse Purchase

Age 15

MaleFemale

SP

PC

TV

Age 79

Cluster → Do most in free time

SP → SP

PC → SP

TV → TV

Discussions

- Various factors contribute to these differences, including market maturity, functionality, price, size, portability, and age.
 - The "impulse purchase" cluster is dominated by young males for each device.
 - Young males are considered to be highly interested in ICT devices in general.
 - Non-utilization clusters tend to use devices that were popular in the previous generation in their free time: SP's non-utilization cluster uses PCs, and PC's uses TVs.
 - When the next generation of ICT devices emerges, those who do not use such devices will likely use their smartphones most often.

Conclusions

- Factor Analysis: A factor structure with similar three factors was identified for product involvement in SPs, PCs, and TVs.
- Cluster Classification: Four clusters were identified, with similar characteristics of factor scores across devices.
- Cluster Analysis: There were differences in cluster characteristics, such as gender and age, among each device, even though the clusters had similar factor scores.