

OPP: WORK, LEISURE, & SOCIAL PARTICIPATION

Uncovering diverse internet use patterns among baby boomers using machine learning

E. C. Khor & M. Choi

Purpose The internet enables people to connect to resources, and previous research has contributed to understanding how people use the internet in their later lives (e.g., Llorente-Barroso et al., 2023; Vulpe & Crăciun, 2020). However, a gap exists in knowledge about different clusters of baby boomers who tend to have better digital skills compared to older generations, based on a sophisticated analysis of time spent across a diverse spectrum of online activities. Additionally, little research has discussed older users' perceptions of internet overuse. This study aims to explore different types of internet use patterns among baby boomers, with a focus on perceived internet overuse, while examining the relationship between internet use patterns, social capital, and living arrangements.

Method Data came from the 2022 Smartphone Overdependence Survey in Korea, which included baby boomers in their 60s (N = 4,442). Cluster analysis, empowered by machine learning techniques, was applied to the data to explore the complex patterns of internet use based on 28 features: (a) the proportion of time allocated to four types of internet use (communication, leisure, living, and work), (b) use level across seven categories (search, leisure, communication, commerce, finance, living, and education), (c) use diversity measured using the Shannon index, (d) digital skills assessed through six items, (e) perceived level of internet overuse, (f) perceived level of problematic use, and (g) efforts for healthy internet use. Prior to the clustering analysis, five random subsamples were selected to check the Hopkins statistic for assessing clusterability (Waggoner, 2020). The mean Hopkins statistic is 0.82 indicates good clusterability. The hierarchical clustering method with Ward linkage was chosen after validation testing. Social capital was assessed using three items about family, friends, and society. **Results and Discussion** The results showed six clusters of baby boomers with distinct internet use patterns: (a) balanced all-rounders (n=1,227), (b) leisure connectors (n=1,040), (c) mindful masters (n=949), (d) leisure enthusiasts (n=490), (e) learning communicators (n=477), and (f) basic communicators (n=259). Notably, the cluster called mindful masters (21%) demonstrated the most advanced level of internet use, evident in their engagement with financial or educational purposes and their possession of the highest use diversity and skills. Conversely, the basic communicators cluster (6%) exhibited the lowest use diversity and skills, dedicating approximately 97% of internet use time solely to communication. The results further revealed that mindful masters, balanced all-rounders, and learning communicators displayed the highest levels of social capital, while basic communicators had the lowest. Living arrangements also differed significantly across clusters. Mindful masters and balanced all-rounders were more likely to live with younger generations, whereas basic communicators were more likely to live alone. The findings highlight the diversity in internet use patterns among baby boomers, emphasizing the crucial need to consider the various clusters of older internet users and their social contexts when developing policies to address the digital divide. Additionally, the study suggests the existence of a marginalized group of baby boomers living alone with limited digital skills, underscoring the need for social interventions to support this group.

References

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Addresses: Graduate School of Science and Technology Policy, KAIST, Republic of Korea

Email: kec_1028@kaist.ac.kr

ORCID iD: 0000-0002-1563-2356

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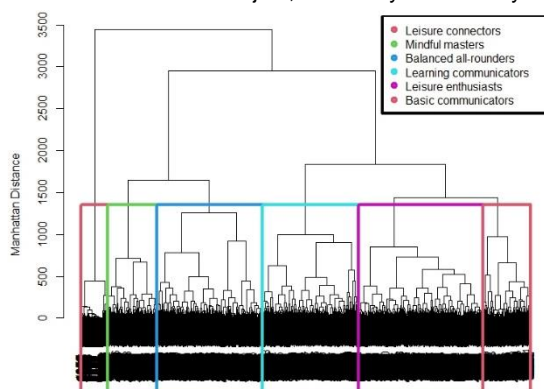


Figure 1. . Clustering dendrogram