



Routledge Research in Digital Media and Culture in Asia

KOREA'S PLATFORM EMPIRE

**AN EMERGING POWER IN THE
GLOBAL PLATFORM SPHERE**

Seongcheol Kim and Dal Yong Jin

ROUTLEDGE


Korea's Platform Empire

Korea's Platform Empire explores the evolution of digital platforms in South Korea's media sphere, and their global political, economic, cultural, and technological influence.

With a focus on Korea in the context of the global platform revolution, the book takes a methodical look at the broader social implications and the impact on cultural production. The authors explore various facets of the media and cultural industries—looking beyond social media to news broadcasting and the music industry—and look at the policy and regulations behind this shifting technological advancement.

This book will appeal to students and scholars working on media industries, digital media, platform studies, information and technology studies, Korean and East Asian media studies, and the creative and cultural industries.

Seongcheol Kim is a professor at the School of Media and Communication at Korea University. He is the Director of the Center for ICT and Society and the Smart Media Service Research Center. He is a co-editor of the *Digital Business* journal, an associate editor of the *Telecommunications Policy* journal, and one of the board members of the International Telecommunications Society.

Dal Yong Jin is a distinguished SFU Professor. Jin's major research and teaching interests are in digital platforms and digital games, globalization and media, transnational cultural studies, and the political economy of media and culture. Jin is the founding book series editor of Routledge Research in Digital Media and Culture in Asia.

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Preface

Korea's digital platforms, from Internet portals to over-the-top (OTT) platforms and music fan platforms, have been rapidly growing and have now become among the most significant and largest components of the media system and the digital economy. Due to their unique growth and usage, many countries, both Western and non-Western, are keen on the major characteristics of the ever-evolving Korean digital platforms. Policymakers, industry leaders, and academics, both researchers and students, in countries around the world are highly interested in learning about Korea's digital platforms to leverage their business models and to gain a better understanding of their own digital platforms.

This book aims to develop a scholarly analysis of Korea's platform empire as an emerging power in the global platform sphere. The authors came to care about the subject because of the unique nature of Korea's digital platform ecosystem. The digital platform ecosystem in Korea has been led by homegrown local platforms as well as so-called global big tech platforms. Korean local digital platforms have a strong presence in some domains, but global digital platforms outperform them in other platform domains. Naver and Kakao have an international presence, mainly with mobile messenger, webtoon, and the metaverse platform. However, various global platforms, such as Google, Facebook, and Netflix have expanded their influence in the Korean market as elsewhere.

Another factor that inspired us to write this book is that Korea has little academic research on digital platforms, while the United States and China, two powerhouses in the realm of digital platforms, are the top two countries for owning the most research regarding digital platforms. Several meaningful academic papers have been published but they could not provide comprehensive insights for Korea to tackle this digital platform hegemony at the academic as well as industry levels. Furthermore, there is no single book on Korean digital platforms written in English, although many researchers in different academic fields are interested in Korea's growing digital platforms.

Both authors are qualified to write about Korea's digital platform empire. Not to mention that by sharing relevant academic credentials and

professional experience, the authors of this book have a passionate and special connection to the subject. We have studied Korean digital platforms as researchers at the Center for ICT and Society (CIS) at Korea University which is supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea. At the same time, we have been active in industry-university collaboration with Korean digital platforms, including Naver.

Accordingly, this book is our response to the calls from the Korean digital platform ecosystem, the academic community, and our research sponsors. From Chapter 1 to 9, we have tried to ask important questions on Korean digital platforms and attempted to figure out our own answers. Do we have all the correct answers? Maybe not. However, we believe that this book may guide people in the right direction. As Mother Teresa said, if we cast a stone across the waters, we would create many ripples. So, we hope that our readers all over the world will learn something about Korea's platform empire from this book.

This endeavor has been a golden opportunity to work with our valued friends and mentors. We enjoyed working together and learned from each other when we wrote this book. We want to express our thanks to faculty members, researchers, and students at the Center for ICT and Society (CIS) and the School of Media and Communication at Korea University, as well as the Digital Democracy Institute and the Transnational Culture and Digital Technology Lab at Simon Fraser University (SFU). In particular, the SFU-Korea University Symposium held at the Digital Democracy Institute in February 2023 helped us to validate the scope and direction of this book. In addition, we would like to thank Naver's president of ESG and external policy, Chae Seon-ju, for her support during our studies on digital platforms. We are also grateful to Yongkab Yee for his warm friendship and encouragement.

Finally, we must acknowledge that there are two previously published journal articles adapted for this book. One is "The decoupling within the Korean music streaming industry: The growth of YouTube music and the downturn of MelOn," which was published in *The Journal of Korean Institute of Communications and Information Sciences* in November 2023. The other is "Platformization of Korean Internet portals toward mega-platforms: A historical approach," which was published in *First Monday* in Spring 2023. They are updated and revised from the original versions.

Seongcheol Kim and Dal Yong Jin

1 Introduction

Why Do Digital Platforms Matter?

Introduction

In the early 21st century, digital platforms have rapidly grown to be some of the most important infrastructures and deeply influenced people's daily lives. Several forms of digital platforms, such as social media, over-the-top (OTT) services, search engines, and operating systems, become new driver engines in the digital economy in many countries. Cultural creators in the broadcasting industry, journalists in the press industry, and cultural performers in the music industry have heavily relied on these digital platforms in production, while general people as consumers are dependent on a multitude of digital platforms. Policymakers and industry leaders have to pay attention to advancing relevant policy measures in creating, developing, and utilizing digital platforms.

While both Western countries and non-Western countries have vehemently invested in digital platforms and artificial intelligence (AI), South Korea (henceforth Korea) has shown its unique business models, investments, and use of these cutting-edge technologies. Korea was a latecomer to the Internet age; however, it swiftly enhanced other digital technologies, greatly influencing people's daily activities. Various forms of industry sectors, including telecommunications, broadcasting, journalism, and Internet portals, have jumped on the platform bandwagon. Korea is not only developing local-based digital platforms after learning from other countries but also is becoming a model for many non-Western countries in the field of digital technologies, including digital platforms.

Despite the importance of digital platforms, comprehensive reviews on the topic are still limited, and there is no study addressing why digital platforms matter in Korea. Therefore, to emphasize the importance of digital platforms, this chapter, as the foundation of the book, discusses digital platform hegemony in the global platform sphere and examines the competitive position and prospects of home-grown local digital platforms. In addition, this chapter explains why and how users perceive digital platforms as indispensable. Finally, this chapter stresses the need for a concept and framework for digital platform literacy.

2 *Why Do Digital Platforms Matter?*

How to Understand Digital Platforms

The term “platform” indicates essential infrastructures for electronic commerce, online communication, and digital social relationships (Quarta, 2020). A digital platform might be defined as “a programmable digital architecture designed to organize interactions between users” (Van Dijck et al., 2018, p. 4). Digital platforms can also be defined as “open, participative [inter]mediaries for interactions and exchanges that create value for all participants” (Ha et al., 2023, p. 15). A digital platform is a business based on interactions between external producers and consumers (Parker et al., 2016). Furthermore, a digital platform is also described as an open, participative infrastructure that can set governance for value-creating transactions (Sharam et al., 2018). In other words, it can be explained as an open, participative intermediary for interactions and exchanges that can create value for all participants.

Considering the complex nature of digital platforms, digital platforms can be understood through three perspectives: the technical system perspective, the market-based perspective, and the socio-technical perspective (Hwang & Kim, 2022). First, the technical system perspective focuses on infrastructure and the software affordances that enable developers to offer a variety of services. Digital platform architecture is comprised of core components, which designate specific interface design rules, and of peripheral components, which developers can decompose and recombine to accommodate the heterogeneous needs of users (Yoo et al., 2010). The combination of core and peripheral components is an essential toolkit that provides both stability and creativity to content firms (Hein et al., 2020). As pertains to stability, the core architectural modules create an environment conducive for content firms to reduce development costs and leverage economies of scale and scope.

Digital platforms also provide economies of substitution in that content firms can reuse and upgrade platform components (Thomas et al., 2014). Peripheral components, such as various software development kits (SDK) and application programming interfaces (APIs), assist programmers in creating apps or content that hold distinctive value. The combining of core and peripheral infrastructures enables to launch services quickly, as well as upgrade existing services. However, such conveniences are generally found to come at the cost of complementors losing autonomy within the digital platform ecosystem. Acting as technical infrastructures, digital platforms are central to the digital economy (Gawer, 2021; Hein et al., 2020; Stallkamp & Schotter, 2021). Examples of digital platforms include search engines (such as Google and Naver), social media platforms (like Meta and X), e-commerce platforms (such as Amazon and Coupang), messenger platforms (like WhatsApp and KakaoTalk), and ride-hailing services (such as Uber and Gojek).

Second, the market-based perspective views digital platforms as mediators that profit from business conducted between two or more parties (Rochet & Tirole, 2003). Digital platforms have altered how we consume and provide

products and services by facilitating transactions among various actors (Hein et al., 2020; Stallkamp & Schotter, 2021). Digital platforms with two-sided markets benefit from network externalities because each additional actor enhances the digital platform's value. However, with complementors registering only with digital platforms that have already accumulated end-users, and end-users utilizing digital platforms that have already accrued many complementors, an intermediary digital platform faces the challenge of accumulating actors on both sides simultaneously. This chicken-and-egg problem creates high entry barriers and generally incumbent digital platform owners, that already have ample resources and have attained information superiority, acquire strong network effects (Caillaud & Jullien, 2003; Eisenmann et al., 2011). Incumbent digital platforms have extended their scope of services to other market segments and leveraged strong network effects; thus, they dominate the digital platform market and create a “winner-take-all” situation (Cennamo & Santalo, 2013).

Third, the socio-technical perspective focuses on the tensions arising from digital platform owners exerting control over decision rights partitioning, portfolios, and pricing policies (Tiwana, 2014). Because digital platform owners dominate the whole development process—from service planning to app design and management—complementors are constantly facing the challenge of meeting the digital platform's standards. The tension heightens as digital platform owners consistently modify boundary resources to secure and control the sovereignty of the digital platform. Despite the efforts of third-party developers to expand the scope and diversity of digital platforms through self-resourcing and app development, digital platform owners' interference and counteracting attempts discourage the proliferation of new knowledge and capabilities in the ecosystem (Ghazawneh & Henfridsson, 2013). Through platform economies and ecosystems, participants can create a “Digital Trust” that enables them to create value (Maffie, 2020). On the other hand, the term “platformization” refers to the dominant infrastructural and economic model of the social web with the rise of platforms (Beresheim, 2020).

In general, digital platforms are important mediators that provide network externalities, a modular technological architecture with core and peripheral components, and/or a governance structure that creates conflicts with platform complementors. To comprehensively understand the two-sided market and the power dynamics between platform owners and complementors, digital platforms are generally interpreted within the framework of ecosystems.

The value of platforms should not be underestimated. The role of platforms is expanding to connecting and facilitating any kind of transaction within society. Platforms are not an option anymore but rather an essential tool and the core of the digital ecosystem. A digital platform wields substantial power and has become pervasive in today's economy. However, not all digital platforms have the same level of influence. In the winner-take-most platform market, a few platforms dominate users and their lives (Van Dijck

4 *Why Do Digital Platforms Matter?*

et al., 2018). The dominant digital platforms not only occupy a high market share but also have a crucial influence on users' lives; indeed, they function as "the operating system of our lives" (Vaidhyathan, 2018, p. 99). People constantly access and utilize dominant platforms throughout their day, from when they wake up to when they fall asleep, to carry out daily tasks and communicate with others. Leaving a digital platform may even equate to leaving social life for some users (Chen et al., 2018). With digital transformations such as platformization and datafication, the capability to utilize digital platforms determines not only firms' competitiveness but also the success of national powers. The digital platform is regarded as an indicator of national competitiveness not only because it plays a key role in the economy but also because it creates value among different social fields.

Digital Platform Hegemony

The United States (henceforth US) and China are fiercely competing by promoting their digital platforms globally (Ha et al., 2023). The US owns multiple digital platforms in various industries such as Meta in social media, Amazon as a global e-commerce company, and Google as a search engine. China has also succeeded in providing global social media platforms such as TikTok and has created a considerable influence on e-commerce with Alibaba as well. Europe, on the other hand, lacking its own digital platform, suffers from a so-called platform gap and is trying to cope with the current situation through internal cooperation and active regulations (Hermes et al., 2020).

In this vigorous competition, evaluating hegemony in the digital platform industry is an important step to analyze the current situation. To determine the dominant players among digital platforms, statistical data about digital platforms were utilized. The Herfindahl–Hirschman Index (HHI) was utilized to analyze market concentration in terms of the leading corporations and countries.¹ The HHI is a common measurement for market concentration and is used to determine market competitiveness. The HHI is the sum of the squared market shares for all firms in a given market.

To analyze hegemony in the digital platform industry, social media platforms and e-commerce platforms are selected as the two exemplary sectors due to their increasing roles in people's daily lives. To analyze hegemony using the HHI of social media platforms, data from globally leading social media services were collected as of July 2023 and ranked according to the active number of users (Data Reportal, 2023; Statista, 2023). Services were classified according to the corporations and the countries that own the service for the numerical measurements. The data are provided in Table 1.1, which shows the HHI calculated in terms of corporations and countries.

In terms of corporations, the HHI turned out to be 2,080, which is greater than 1,500 but less than 2,500, meaning the market is moderately concentrated. However, assembling the corporations according to their

Table 1.1 HHI of Social Media Platforms (as of July 2023)

Corporation/Country	Number of active users (million)	S^2	HHI
Facebook (Meta, Instagram)	8,027	1,614	2,080
Google	2,527	160	
Tencent	1,916	92	
ByteDance (TikTok)	1,824	83	
Reddit	1,660	69	
Snapchat	750	14	
Telegram	700	12	
Kuaishou	654	11	
Sina Weibo	593	9	
Twitter	564	8	
Pinterest	463	5	
Quora	300	3	
United States	14,291	5,117	5,762
China	5,033	634	
Russian Federation	654	11	

originating countries, the HHI increased to 5,762, which is way over 2,500, meaning the market is highly concentrated within specific countries and can be inferred as a monopolized competition. The HHI of the US itself is over 5,117, clearly indicating that the US is grasping control over social media platforms, followed by China. Exceptionally, Russia owns Telegram and ranks seventh in global social media platforms. However, it is noticeable that Korea has almost no presence among the top global social media platforms even though there are a few local social media platforms in Korea.

Meanwhile, the top e-commerce services by market capitalization were collected from [companiesmarketcap.com](https://www.companiesmarketcap.com) as of October 2, 2023. E-commerce companies that are not publicly traded were excluded from the list. Market cap is interpreted as a unit to calculate the market concentration of the e-commerce platform. Table 1.2 shows the HHI calculation accounting for e-commerce services by corporation and country.

In terms of e-commerce corporations, the HHI is 3,948, indicating a highly concentrated marketplace in the e-commerce platform sector. Similar results can be seen in the countries' concentration level as well; the HHI is 4,893, which is way over 2,500. The US and Amazon both take the largest portion with more than 65% of the total market capitalization, indicating a prominent influence within the global market. China and Alibaba follow, showing their power in the e-commerce industry with 24%. The US and China have dominant digital platforms in e-commerce, and the HHI in terms of the market cap is a plausible indicator to support their platform hegemony in the real world. Though an actual hegemony can be seen in the e-commerce market share of the US and China, it is interesting that Korea owns Coupang and shows some influence among global e-commerce platforms.

6 Why Do Digital Platforms Matter?

Table 1.2 HHI of E-commerce Platforms (as of October 2023)

	<i>Market capital (in billion)</i>	<i>HHI</i>
Corporation	Amazon (\$1,311.00), Alibaba (\$222.73), Pinduoduo (\$130.29), Meituan (\$91.47), Shopify (\$70.00), Mercado Libre (\$63.51), Jingdong Mall (\$46.27), Copart (\$41.25), Coupang (\$30.32), Sea (Garena) (\$24.99), Ebay (\$23.46), JD Health (\$16.50), Adevinta (\$11.94), Ocado (\$8.77), Vipshop (\$8.67), Alibaba Health Information Technology (\$8.44), Rakuten (\$8.32), Instacart (\$8.21), Etsy (\$7.94), Chewy (\$7.85)	3,948
Country	United States (\$1,400), China (\$599), Canada (\$70), Argentina (\$63), South Korea (\$30), Singapore (\$25), Norway (\$12), Japan (\$8.3)	4,893

Table 1.3 HHI of Digital Platform Publication (from 2018 to 2021)

<i>Affiliated country of authors</i>	<i>Number of papers</i>	<i>S²</i>
European Union	507	979.46
United States	271	279.84
China	202	155.48
United Kingdom	147	82.34
Australia	88	29.51
India	39	5.80
Russian Federation	39	5.80
Canada	30	3.43
South Korea	25	2.38
Brazil	21	1.68
Total/HHI	1,224	2,726

Source: Ha et al. (2023, p. 8).

According to Ha et al. (2023), the academic world of digital platform research is highly concentrated in certain countries. While the EU accounts for the most papers, when focusing on individual countries, the US, China, and the United Kingdom are the key players in studying digital platforms. The HHI is 2,726, which is greater than 2,500. Korea published only 25 papers among 1,224 papers on digital platforms which were published from January 2018 to December 2021. Table 1.3 presents the HHI in terms of digital platform research from the top ten affiliated countries.

Thus, the US's and China's dominance of digital platforms was confirmed through the calculation of the HHI for social media and e-commerce. Interestingly, they turned out to be the top two countries for owning the most research regarding digital platforms as well. There might be a possible correlation between these global players' market dominance in digital platform industries and their heavy academic research compared with other countries.

With the platform gap already in hand and with its domination by the US digital platforms, the EU dives into digital platform research as a defense mechanism to protect its continent. And then what about Korea who has small local digital platforms and little academic research? What would be Korea's survival strategy regarding digital platform dominance by the US and China? Korea needs to tackle this hegemony at the academic as well as industry level.

Digital Platform Indispensability

A few US and Chinese digital platforms have taken hold of every sector of contemporary society (Van Dijck et al., 2018). These dominant platforms have evolved into *infrastructuralized* platforms to ensure sustainable market power (Plantin et al., 2018). *Infrastructuralized* platforms still follow platform logic—a modular structure of core and complementary components, participation-based innovation, and programmable architecture (Baldwin & Woodard, 2009). However, like infrastructure, these platforms have become essential to everyone at every moment.

Infrastructural platforms act as gatekeepers of digital market by providing key online facilities and controlling data flow. Digital platforms operated by the US Big Tech such as Google and Amazon were defined as infrastructural platforms (Van Dijck et al., 2018). Similarly, as Chinese platforms have grown rapidly with governmental support, Chinese social media platform WeChat (Plantin & de Seta, 2019) and ride-hailing service DiDi (Chen & Qiu, 2019) have also been recognized as utilities of Chinese social life.

Defining a digital platform as infrastructure reflects the essentiality of the platform but also implies the need for regulation (Rahman, 2017). However, digital platforms and infrastructures are fundamentally different. For infrastructures, high industry entry barriers and enormous public investment for establishment could justify the demand for public responsibility. On the other hand, digital platforms have acquired infrastructural properties through their innovation. Furthermore, digital platforms have been positioned as an infrastructure by benefiting users with their competitiveness. Therefore, it may not be acceptable to regulate digital platforms just because they have achieved a dominant position.

To explain the process of digital platforms' power acquisition from the perspective of providers, Chen et al. (2018) introduced the term *super-sticky platform* in the case of WeChat. Specifically, they developed the concept by focusing on platform characteristics that make users stick to the platform. The term "super-sticky platform" emphasizes the excellence and distinctiveness of the platform, explaining its dominant position. However, digital platforms become valuable only when they are used; the excellence of a technology does not guarantee the value of that technology. The value is determined by how users recognize and utilize technology (Jansson, 2014). In addition, stickiness is not enough to describe current user behavior. Stickiness is a concept

that arose with the concept of website design, which refers to the ability of a website to attract users' attention and keep them on the website longer (Zott et al., 2000). In other words, stickiness is appropriate for explaining the characteristics of a single website. Chen and her colleagues applied the concept in developing the term "super-sticky platform" because they were focusing on a single application: WeChat (Chen et al., 2018). However, dominant digital platform corporations provide platform ecosystems rather than a single platform: they build a platform ecosystem, an organically connected platform bundle, and users rely on the entire ecosystem, not on a single service. Therefore, stickiness, which focuses on users' dependency on a single website or app, may not fully represent current digital platforms.

There is a new concept that thoroughly considers how users evaluate the value of dominant digital platforms. According to Park and Kim (2023), an *indispensable platform* is a dominant digital platform that is perceived as essential in users' lives by functioning as an operating system for their lives. Table 1.4 summarizes the concept of indispensable digital platform as well as related similar concepts such as *infrastructural platforms* and *super-sticky platforms*.

To examine users' perceived indispensability of digital platforms and better understand the factors influencing users' perceived indispensability of digital platforms, a comparative study between different countries would

Table 1.4 Indispensable Digital Platform and Related Concepts

	<i>Digital platform</i>			
	<i>Ordinary platform</i>	<i>Infrastructural platform</i>	<i>Super-sticky platform</i>	<i>Indispensable platform</i>
Definition	Programmable digital architecture designed to facilitate interactions between users	Dominant digital platform that includes infrastructural properties such as scale, ubiquity, or criticality of usage	Dominant digital platform with excellent features that lead users to stick to the platform	Dominant digital platform perceived as indispensable in users' lives by functioning as an operating system for their lives
Subject	Every digital platform regardless of market power	Dominant digital platforms	Dominant digital platforms	Dominant digital platforms
Focus	Value of platform structure	Public value of platform	Business value of platform	Final user value of platform
References	Van Dijck et al. (2018)	Plantin et al. (2018)	Chen et al. (2018)	Park and Kim (2023)

be necessary. This is because there is a lack of country-specific comparative study on the users' perceived indispensability of digital platforms. Korea and Finland were chosen for this comparative study.² First, these two countries are among the leading information and communications technologies (ICT) powers in Asia and Europe, respectively, and countries which survive the global ICT ecosystem led by the US and China. Second, these countries have leading ICT manufacturers such as Samsung Electronics and Nokia. These two countries also have global tech startups. For example, there are global mobile apps such as *Angry Birds* and *Clash of Clans* that originated in Finland, and Pinkfong and *Lineage M* from Korea. The ICT infrastructure of the two countries, such as internet usage and smartphone penetration, is rated at or near the world's top (Jang et al., 2021).

However, the levels of the presence of local digital platforms are different in Korea and Finland. While Korea has its home-grown local platforms in search engine, mobile messenger, social media, and so on, Finland lacks its own digital platforms in most platform domains including search engine. In Korea, Naver still ranks first among search platforms, but Google's share in search platforms is dominant in Finland. Finnish people normally use Google for Internet search. Thus, it is suitable to compare Korea and Finland in terms of users' perceived indispensability of digital platforms, in particular search engines.

Identical online surveys were conducted in each country. In Finland, the data were collected between May and July 2023. The Finnish participants were recruited through multiple channels such as university notice boards and student mailing lists. In Korea, the data were collected in November 2022, in cooperation with a professional online research agency, Micromill Embrain. The survey participants were asked to provide background information on gender, age, highest level of education, and average monthly household income. In addition, they responded to survey items such as habit and frequency of daily use of digital platforms (i.e., Google for Finnish; Naver for Korean), perceived indispensability of digital platforms, and the platform quality factors influencing users' perceived indispensability of digital platforms (i.e., comprehensiveness, usefulness, security risk, and social interaction).

A total of 153 responses were obtained from Finland, and 214 responses were obtained from Korea. Table 1.5 presents demographic information of all survey participants in each country. The Finnish sample consisted of 80 (52%) females, 68 (44%) males, and 5 who identified as "others." The Korean sample contained 142 (66%) females and 72 (34%) males. Most participants were within the age range of 20s–40s (84% for Finnish, 60% for Korean) with an average age of 36.44 years for Finnish participants and 39.63 years for Korean participants. About 77% of Finnish participants and 63% of Korean participants have a bachelor's or higher degree. Their monthly household income was between \$1,500 and \$4,500 (69% for Finnish, 58% for Korean).

Table 1.5 Descriptive Statistics of Survey Participants

		<i>Finland</i> (<i>N</i> = 153)		<i>Korea</i> (<i>N</i> = 214)		<i>M</i> (<i>SD</i>)
Gender	Female	80	52%	142	66%	1.632 (0.510)
	Male	68	44%	72	34%	
	Others	5	3%	-	-	
Age	10s	3	2%	20	9%	3.376 (1.371)
	20s	43	28%	41	19%	
	30s	63	41%	46	21%	
	40s	23	15%	42	20%	
	50s	11	7%	44	21%	
	60s~	10	7%	21	10%	
Education	High school or less	17	11%	55	26%	2.771 (1.062)
	Some college	18	12%	24	11%	
	Bachelor's degree	35	23%	116	54%	
	Graduate degree	83	54%	19	9%	
Monthly household income	<1,500 USD	45	29%	32	15%	2.523 (1.042)
	1,500–3,000 USD	98	64%	69	32%	
	3,000–4,500 USD	8	5%	55	26%	
	4,500–7,000 USD	1	1%	38	18%	
	>7,000 USD	1	1%	20	9%	

Source: Jang et al. (2023).

In terms of digital platform usage, the daily use in Finland (mean of Habit = 4.042; mean of the frequency of daily use = 2.510) is significantly higher than the daily use in Korea (mean of Habit = 3.885; mean of the frequency of daily use = 1.911). Finnish users seem to use digital platforms including search engines more frequently and heavily during the day than Korean users. The users' perceived indispensability of digital platforms was relatively high in Finnish participants (mean = 3.873). Korean participants' perceived indispensability of digital platforms (mean = 3.617) was lower than that of Finnish participants. This result indicates that Finnish users perceive digital platforms to be more indispensable in their lives than Koreans do.

Then, what would make users perceive digital platforms as indispensable to their lives? It seems that users' individual characteristics such as gender, age, education, and income do not influence their perceived indispensability of digital platforms in both counties. In Finland, comprehensiveness and security risk turned out to have negative impacts on users' perceived indispensability of digital platforms. On the other hand, perceived usefulness and habit seem to have significant positive impacts on users' perceived indispensability of digital platforms in Finland. In Korea, perceived usefulness and habit have significant positive impacts on users' perceived indispensability of digital platforms too. It is very interesting that, in Korea, there are no negative factors influencing users' perceived indispensability of digital platforms. Finnish users tend to be sensitive to security risk. In addition, they