

# The Early History of the Hobbyist Production Field of Video Games and its Impacts on the Establishment of Japan's Video Game Industries

Nobushige Kobayashi (Hichibe)  
Tohoku Gakuin University, natsunokumo2008@gmail.com

Yuhsuke Koyama  
Shibaura Institute of Technology, yuhsukek@gmail.com

## Abstract

The purpose of this study is to clarify the early history of the hobbyist production field of video games and its impacts on the establishment of the personal computer (PC) and console game industries in Japan. To address these two main issues, we studied the role which media and distribution platforms such as computer magazines, Doujin events, retailers, PC communications, and vending machines played in the hobbyist video game production field. We also examined how capitals, like work (game), social relationships, knowledge, reputation and money, and interest in them which were created, accumulated, and circulated in this field and influenced the formation of the Japanese video game industries. To answer these questions, we collected interview data and historical documents. We analyzed the data by using the following concepts: field, capital, proto-market, and platform. We describe the actual situation of the Japanese hobbyist game production field from 1976 to 1990, especially focusing on the 1980s. After the PC boom in the 1970s, computer hobbyists developed a strong interest in (creating and playing) video games. So they began to create games by themselves and interact among them. They participated in various activities, such as reading the programming manuals, entering game programs printed in computer magazines, and posting their original game programs in magazines and communicating with each other. Media and distribution platforms contributed to these activities and supported the formation of the hobbyist game production field. In addition to work and social relationships, the hobbyist game production field also produced other capitals (knowledge, reputation, and money), professionals (creators, editors, and writers), and game companies. This field played a role as a proto-market that produced interest in game creation, various capitals, professionals, and companies. It can be said that this field became one of the foundations in the establishment of the PC and console game industries in Japan.

## 1. Introduction

Video game industries (personal computer (PC) game industry, console game industry, etc.) have not been established in a vacuum. Previous studies revealed that the “hobbyist production field of video games,” where hobbyists create video games mainly for fun, not for money, is one of the origins of game industries in each region.

For example, Levy (1984) and King, Borland, and Stewart (2003) explained that the fields where computer enthusiasts produced games for fun, social relationship, and recognition from peers, became the foundation of the US game industries. Tyni and Sotamaa (2014), Kuorikoski

(2015), Mäyrä (2015), and Kobayashi (2019) claimed that the field called “Demo Scene,” where computer hobbyists showed their programming skills to each other, became the basis of the Finnish game industries.

On the other hand, not much research is written in English on the early history of the Japanese hobbyist production field of video games and the relationship between this field and the game industries. Ito (2007) and Picard (2013) described the features of the games developed by Japanese hobbyists. Hichibe and Tanaka (2016) revealed the characteristics of the independent (hobbyist and indie) game production fields in Japan. However, these studies did not focus on the early history of



the hobbyist production field and its effects on Japanese game industries. In contrast, Hichibe (2013) explored this subject, but it was written in Japanese.

So, by elaborating on Hichibe (2013), this study tries to address following two questions:

- 1) What is the early history of the hobbyist game production field?
- 2) What are the impacts of this field on the establishment of the PC and console game industries in Japan?

To answer these two main questions, we will examine the role which media and distribution platforms such as computer magazines, Doujin events, retailers, PC communications, and vending machines played in the hobbyist game production field; we will also explain how capitals, like work (game), social relationships, knowledge, reputation and money, and interests in capitals, which were created and increased in this field, influenced the establishment of the Japanese game industries.

## 2. Method and Framework

### 2.1 Research Method

To answer the questions of this study, we collected and analyzed interview data and historical documents.

Regarding the interview survey, we interviewed 78 game developers, who have created video games for a hobby or for earning a living. 71 interviewees were male, and seven were female. Regarding occupations, 43 interviewees were professional game developers. As for age, 30 interviewees were in their 20s, 36 were in their 30s, and nine were in their 40s. The ages of five interviewees were not known because interviewees didn't answer the question or we neglected to ask their age.

The interviews were conducted from July 2004 to August 2014. The reason for the long duration of the research was that the first author had to be involved in another project.

The interviews were conducted mainly by the first author, but the second author or other researchers were present at some of the interviews. The interview format was semi-structured, and interviewers explained the main questionnaires beforehand and asked follow-up questions

during and after the interviews to informants. Some informants have created games as a hobby since the 1980s.<sup>1</sup>

We also tried to complement interview data with computer magazines such as “Micom Basic Magazine” and “Tecnoplice,” and other historical documents such as brochures from Doujin events, flyers from retailers and vending machine service providers, plus floppy disks and CD-ROMs containing game programs created by hobbyists.

### 2.2 Analytical Framework

For data analysis, we use the following concepts: field, capital, proto-market, and platform.

First, to demonstrate the characteristics of the social world where video games are created and played, we introduce the concept of “field.” This concept was developed and elaborated by Pierre Bourdieu, a French sociologist. He defined “field” as a relatively independent social world where people share specific interests in a specific stake (capital), like reputation or money, that is deemed to be valuable in that particular space and thus people struggle for it. The participant’s interest in and struggle for a certain stake create a specific field, and this field in turn creates the participant’s specific interest (Bourdieu 1998, 78). Bourdieu researched various fields (economic, political, juridical, etc.), as well as cultural areas such as the “art field” or “literary field” (Bourdieu 1993). In game studies, Kirkpatrick used this concept to analyze the formation of gaming culture in the United Kingdom (Kirkpatrick 2015).

This study defines this concept a bit differently from Bourdieu’s original definition. It defines “field” as a social world where its participants share familiar interests and interact with each other. Social interactions (cooperation, struggle etc.) create specific interests, and the latter may also create the former. When social interactions among people who have specific interests can be seen, we refer to this social world as a “field” (Hichibe and Tanaka 2016).

Second, we use the concept “capital.” Bourdieu, mentioned above, considered field and capital as deeply related concepts, and explained capital can function both as a stake of struggle and as a weapon in a certain field (Bourdieu and Wacquant 1992, 98). He also said capital can be divided mainly into four sub types: economic capital, cultural capital, social capital, and symbolic capital

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<sup>1</sup> If you would like to know more about our interview method and informants, please see Hichibe and Tanaka (2016).

(Bourdieu and Wacquant 1992, 119). These capitals can be converted into other capitals (for instance, knowledge can be converted into money).

We define the concept “capital” slightly differently from Bourdieu’s definition again. It is defined both as an end (goal, purpose) desired, and as a means that can be used to acquire other capitals. In the hobbyist video game production field, the following components can be defined as capitals: work (video game), knowledge, social relationships, reputation, and money.

For example, creating work (video game) or accumulating knowledge is a source of enjoyment, and one of the ends of creation. But games created or knowledge accumulating can be usable for acquiring other capitals, such as reputation or money. In this study, we classify work, social relationship knowledge and reputation as non-economic capital, and money as economic capital.

Third, we introduce the concept of “proto-market” from music studies by Jason Toynbee. According to Toynbee, some music production, such as indie music production, is not based on the economic strategy that commercial companies usually use to monetize music. Toynbee conceptualized “proto-market” as a social world where people create new forms of music for non-economic reasons, such as the pleasure of music creation or the desire for recognition (Toynbee 2000). We consider the hobbyist game production field as proto-market. We also try to explain the relationship between this field as proto-market and the commercial (PC and console) game industries in Japan.

Finally, we use the concept of “platform.” In computer and video game research, this concept is used to mean the hardware or software that underlies a computer system. Especially in game studies, the “platform studies” book series started by Nick Montfort and Ian Bogost is famous, and important research on platforms (PCs and consoles) such as Therrien (2019) has been accumulated.

On the other hand, in economics and business administration, this concept derived from the computer industry has been defined more broadly than computer and video game research as the infrastructure services or goods for realizing other services. Deguchi has analyzed the structure of the network industry using this concept (Deguchi 2004). He used the same concept in his book,

*Content Industries*, which analyzed the characteristics of the Japanese content industries, defining platform as an infrastructure service for distributing or consuming content such as comics, animation, and video games. Also, Deguchi stated that concrete examples of platform are PC, console, and OS as well as Doujin events (which will be described later), book distributors and stores (Deguchi, Tanaka, and Koyama 2009, 6–9). As with Deguchi, we use the concept “platform” to mean an infrastructure service for distributing or consuming video games.

### 3. Results

#### 3.1 Early history of hobbyist production field of video games in Japan

To answer this study’s questions, this section (3.1) first describes the actual situation of the Japanese hobbyist production field of video games from 1976 to 1990, especially in the 1980s. Then we clarify the contributions of media and distribution platforms to the game creation activities by computer hobbyists and to the formation of the hobbyist video game production field. These platforms include computer magazines, Doujin events, retail stores, personal computer communications, and vending machines.

In August 1976, Nippon Electric Company (NEC), a manufacturing company of IT products, released an 8080-based single-board computer kit, “Training Kit  $\mu$ COM-80 (TK-80)”. It was originally developed to introduce microprocessors to engineers and train them, but it also became popular among computer hobbyists.

The popularity of TK-80 raised a microcomputer and home or personal computer boom. In November 1976, Japan's first microcomputer magazine "I/O" was published, and “Monthly ASCII” and “Monthly Micom” were launched in 1977. After them, many microcomputers, PCs, and game consoles were released one after another by Japanese manufacturing companies, such as MZ-80K (released in 1978), PC-8001 (1979), PC-6001, PC-8801, FM-8 (1981), PC-9801, FM-7 (1982), MSX, and Family Computer (1983). Distributors<sup>2</sup> and retailers<sup>3</sup> of computers also appeared, and the personal computer market was rapidly formed (Sekiguchi 2000, 180–202).

After the PC boom, game production as a hobby became popular. There are two main reasons for the

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<sup>2</sup> Otsuka-shokai, Softbank and so on.

<sup>3</sup> For example, T ZONE, Sofmap TSUKUMO and Laox in Akihabara, Tokyo and J&P Technoland in Nipponbashi, Osaka.

popularity. First, at that time there was little software for PCs, especially video games that were popular among users. Second, commercial games were rather expensive, especially for children and young people. Computer hobbyists had a strong interest in (creating and playing) games. So they began to create games by themselves and interact among them. They undertook the following activities:

- 1) Reading the programming manuals included in PC packages;
- 2) Entering game programs printed in computer magazines and playing them;
- 3) Modifying or copying commercial game programs;
- 4) Creating their original game programs;
- 5) Posting their original game programs in magazines or selling them to retailers;
- 6) Communicating with other hobbyists.

Media and distribution platforms contributed to these activities. In other words, these platforms played an important role in generating and increasing computer hobbyists' interest in creating games, playing games, and adding to social interaction among them. This means they supported the formation of the hobbyist game production field. The contribution of each platform can be explained as follows.

### Computer Magazine

As noted above, many computer magazines were launched in 1970s and 1980s. As they printed game programs for PCs, hobbyists bought them and programs to play them. Among these magazines, "Micom Basic Magazine" (Figure 1), released from 1982 to 2003 by Dempa Shimbun, was the most popular computer magazine of the time. It published 300,000 copies each month in its heyday. It became popular because it posted the following articles more than other magazines did:

- 1) Many BASIC language program lists that were easy to enter, some of which were created and posted by readers;
- 2) Program lists available for minor hardware that was not popular or out of production;
- 3) Articles about game walkthroughs.



Figure 1. Micom BASIC Magazine

Additionally, "Monthly LOGiN," released from 1983 to 2008 by ASCII (later ENTERBRAIN), was born as a separate volume of "Monthly ASCII." It printed program lists of games (or components of games) and construction tools and sold via mail order and the vending machine "TAKERU," which is described later. These tools were named "ASCII Tkool Series" and developed for PC-8801, PC-9801, Windows PC, and consoles. In 1988, ASCII even held a contest of games created with Tkool called "the First Login Cup Construction Tool Contest." Some of the best works were also sold.

Tkool series lowered the difficulty of game production and greatly contributed to the activation of hobbyist game production (Nihei 2006).

Another interesting magazine was "Technopolice" (Figure 2), published from 1982 to 1994 by Tokuma Shoten. After seeing the popularity of video games distributed at Doujin events (described later), it published a feature article about "Doujin Soft[ware] (Doujinshi Soft)" in 1986. The issue with this article was that it sold in great numbers. So Technopolice actively introduced Doujin Soft (Game) and a mail order from Doujin Circle (a hobbyist group participating and distributing games at Doujin events). A writer from this magazine whom we interviewed explained why Doujin games articles in Technopolice were popular as follows:

- 1) Information about Doujin games was insufficient at the time;
- 2) Doujin games sold through mail order were cheaper than commercial games;
- 3) Whereas the graphics of commercial games (adult PC games) were mainly realistic, Doujin games with Japanese anime-like characters had great impact;

- 4) As the program list with many pictures was long, it was difficult for other magazines to print the list of Doujin games.



Figure 2. Article about “Doujin Soft” in Tecnopolic

### Doujin Events (Doujinshi Sokubaikai)

A Doujin event (Doujinshi Sokubaikai) is an event where participants distribute and buy self-published works such as comic books (Doujinshi), video games and music produced by individuals and groups called “Doujin.” The first Doujin event was “Comic Market (Comiket),” which has been held since 1975. In the winter of 1983 at Comiket, “SF-Z association (SF Study Group)” of the University of Electro-Communications distributed “Niko-Niko Girls Puzzle” for PC-8801. And the following year, Doujin circle, “Empire Software,” which were members of SF-Z association, distributed “Mermaid's Tears” for PC-8801, which was named “Doujin Soft.” As of 1989, more than 200 circles participated in Comiket (Comiket 1989).

Since 1988, in addition to the Comiket, a Doujin event “Pasoket” where only Doujin games were distributed, had been held nationwide every month (Figure 3). According to the participants of Pasoket we interviewed, creators at Pasoket often distributed upgraded versions of their games and had sales of about one-third or one-fourth the sales level of Comiket. Creators and buyers at Pasoket were closer than at Comiket, and knowledge of the machine language (about which there were no books at that time) seemed to be spoken.

In addition, the informant participating in both Comiket and Pasoket answered why Doujin events at the time was lively as follows:

- 1) Participants had a strong desire to create and play games, and the distance between creators and players was short;
- 2) Although there were few games, there was no production manual, and there were high barriers to making games.<sup>4</sup>



Figure 3. Pamphlet of Osaka Pasoket

### Retailer (Retail Store)

Games created by hobbyists were sometimes purchased by PC retailers and used as PC bonuses, or sold by consignment.

At times, the PC retailer staff themselves created and sold games (Koyama 2016, 70–71). One of the most famous creators is Takanari Suzuki. He created and sold the game as a part-time worker at PC retailer TSUKUMO in Akihabara. Later he posted his game program in computer magazine “I/O” and his pen name “Geimu Kyōzin” became famous among computer and game hobbyists.

Some retailers like Hudson put mail-order advertisements for games in computer magazines (described in section 3.2).

<sup>4</sup> According to this informant, the grammar and genre of games were not established in the early 1980s, and everyone created games by feel, but

by the late 80s the grammar of commercial games had spread, and creators imitated it to produce their games.

### Personal Computer Communication

After the privatization of the Nippon Telegraph and Telephone Public Corporation in 1985, telephone lines became usable for more than just telecommunication. After PC communication services such as ASCII-net (operated from 1985 to 1997), PC-VAN (1986-2003), NIFTY-Serve (1987-2006) and grassroots BBS<sup>5</sup> started, free games were distributed on them.

However, because downloadable capacity was limited, games with pictures were distributed not on PC communications but at Doujin events. Some creators who distributed free games on PC communications participated in Doujin events.

Many games were created and distributed freely on PC communications, and the creators of these became famous and built reputations. The most famous creators are Bio\_100% and kuni-soft. The former later joined to Dwango and created the system of Nico Nico Douga, and the latter participated in a commercial game creator audition "Let's Create Games!" launched by Sony Computer Entertainment in the 1990s, and also created a game "Panekit" for PlayStation.

### Vending Machine

In April 1986, the manufacturing company Brother Industries started a vending machine service called "Soft Bender TAKERU" to sell software, especially games. At its peak, about 300 machines were in operation and sold 2,000 pieces of software, mainly at retail stores nationwide (Yasutomo 2004). When users selected item and deposited money, the data distributed from the host computer was written to cartridge, floppy disk, or CD-ROM. Users could get software, manuals, and receipts printed by the built-in printer.

From around 1990, consignment sales of Doujin games started on TAKERU. According to the flyer of Brother given by an informant, "For digital indies. How about selling your software on Soft Bender TAKERU," as creators contracting with Brother could receive 50% to 60% of the sales. Over 300 independent games for all ages were on sale.

Through TAKERU, those who lived in local areas and could not participate in Doujin events were able to buy Doujin games, and creators could make money from game

sales. This platform contributed to Japan's hobbyist game production.

### 3.2 Impacts of the hobbyist game production field on the establishment of video game industries

As mentioned in the previous section, there was clearly strong interest in games and creating games and interacting socially among computer hobbyists. Interest in games and social interaction helped generate each other, and through this symbiotic process, works (games) and social relationships as capital were produced, and the hobbyist game production field was established.

Additionally, this field produced other capitals (such as knowledge, reputation and money), professionals (creators, editors, and writers), and game companies. In this section, we clarify how these various capitals, professionals, and companies influenced the formation of the Japanese game industries.

First, we focus on non-economic capitals created, accumulated, and circulated in this field. Through media and distribution platforms (magazines, Doujin events, retailers, PC communications, vending machines etc.), information about games was actively exchanged among hobbyists. Those who had information and skill about PCs and games were praised by their friends and acquaintances at home, school or in retail stores, and by their peers gathering in computer magazines, Doujin events and PC communications. For computer hobbyists nationwide, the hobbyist production field became not only a good place to try their knowledge and skill but also a grand stage where they could display their talents (Takita 2000, 26-7; Noda 1987, 69). Thus, hobbyists gained pleasure and motivation for game production, as well as non-economic capitals such as works (games), knowledge, reputations, and social networks.

The field also produced professional creators, editors, and writers. At the time, there was great demand for games and professional game creators. Game companies posted job advertisements in computer magazines and recruited talented amateur creators, especially program contributors to magazines, who were famous among hobbyists. Many interviewees working in commercial game companies now, who had grown up when there was no school for game education, said they acquired game production skills

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<sup>5</sup> Grassroots BBS is a local (not nationwide) and small PC communication operated by an individual or group.

through production of games as a hobby and interaction with others (see also NHK Interview Team [2011, 51-52]). This fact became officially recognized within the Japanese game industries. In 2010, the Computer Entertainment Developers Conference (CEDEC) gave a “Programming and Development Environment” award for the former Micom Basic Magazine editorial department and program contributors.

Many contributors to computer magazines were recruited not only by game companies. They were often hired by publishers as writers or editors, and wrote articles about computers and games (Noda 1987, 40, 52). One of the most famous writers is Yuuzou Koshiro, who later created music for commercial video games like “Ys” series and the “Streets of Rage” series. He contributed a game music program to Micom Basic Magazine, was hired by the magazine’s publisher as a writer, and started a serial article “The Video Game Music Program” when he was only 17 years old in 1985 (Koshiro 2019). In short, the hobbyist production field produced not only professional game creators, but also professional writers and editors.

In addition, the hobbyist production field also gave creators economic capital, money, since the creators sold their games in various ways, some of which were mentioned earlier:

- 1) Creators contributed their game programs to magazines and received economic rewards;
- 2) Creators consigned game sales to magazine publishers;
- 3) Creators put game advertisements in magazines and sold games by mail order;
- 4) Creators sold game program to retailers;
- 5) Creators consigned sales of games to retailers;
- 6) Creators sold games on Floppy disks (Figure 4), etc., with game programs at Doujin events;
- 7) Creators consigned game sales to vending machines operators.



Figure 4. Game sold at a Doujin event (for PC-8801)

For example, creators consigned sales of games in cassettes to the publishers of the magazine “I/O” (Kohgaku-Sha) and received a royalty (10% to 20 % of sales price [3,000 yen]). On the other hand, Hudson, originally an amateur radio and computer retailer, put an advertisement for games produced by a part-time worker, and Koei, originally a dyeing wholesaler, placed an advertisement for historical games produced by its president as a hobby. After the advertisement, both companies came to receive cash registered mails amounting to 300,000 to 400,000 yen in a card box every day (Takita 2000, 32–49; Aida and Ogaki 1997, 236–42).

When game production as hobby began to yield money, the hobbyists’ “play” gradually became a “profession” and ultimately an “industry.” For instance, Koichi Nakamura, who was earning revenue by selling games posted in a magazine when he was a high school student, came to believe that “Games will be a business” from the time he earned 1 million yen by his second game. After entering a university, he established a game company, Chunsoft, with his friends (Takita 2000, 32; Kobayashi 2004, 100). On the other hand, some companies held game contests to acquire creators and games. For example, ENIX held “The 1st Game Hobby Program Contest” in 1982 (Takita 2000, 154–60). By absorbing hobbyists and their games, some companies such as ENIX, Square, Koei, Hudson, Chunsoft, Game Arts, Compile, and others, entered and established the commercial PC game market and industry.

In addition, many PC game companies began to enter the commercial console game market to produce commercial games especially for Family Computer (NES), released in 1983. At the time, in order to produce and sell

Family Computer games, companies had to do following things (Yada 1996, 38–39):

- 1) Purchase a high-priced (5 million yen) tool for game production;
- 2) Outsource the manufacturing of game cartridges to Nintendo, and pay a manufacturing fee in advance and purchase the game;
- 3) Pay a license fee to Nintendo.

However, PC game companies entered the console game market one after another because the more they produced games, the more they could sell games. Although Hudson, mentioned above, was one of the top PC game companies in Japan, selling 300 million yen per year, it still did “a business of 5,000 or 10,000 copies of games.” However, when it entered the NES game market for the first time as a third party (a company that develops and sells games under contracts with other hardware companies), it came to start a “business with over 1 million copies” (Takita 2000, 132).

Companies witnessing Hudson’s tremendous success, and forecasting that high development and manufacturing costs could be recovered, entered the console game market one after another. In this manner, adventure games, role-playing games, and simulation games ported from PC markets to consoles, along with action games ported from game arcades, increased the variety of console games. In addition, these games became repertoires that were referred to when new games were produced, and these repertoires were improved and combined to produce an even wider variety of games. The characteristic of consoles that players could play multiple games influenced sales promotions. Further, the interaction between three markets (arcade, PC, and console) was one of the factors influencing the development of the Japanese game industries (Yada 1996, 36; Aida and Ogaki 1997, 289–90; Takita 2000, 122; Shintaku 2003, 103–7; Koyama 2016).

In short, the hobbyist production field played a role as a “proto-market” (Toynbee 2000) that produced motivation for game production, various capitals (work [game], social relationships, knowledge, reputation and money), professionals (creators, writers, and editors) and game companies. It can be said that this field became one of the major factors in the establishment and development of the PC and console game industries in Japan.

#### 4. Conclusion

This study’s purpose is to clarify the early history of the hobbyist production field of video games and its impacts on the establishment of Japan’s PC and console game industries. To answer our two main questions, we also studied the role which media and distribution platforms, such as computer magazines, Doujin events, retailers, PC communications, and vending machines, played in the hobbyist game production field, and how capitals, like work (game), social relationships, knowledge, reputation and money, and the interest in them which were created and circulated in this field, influenced the formation of Japan’s game industries.

To answer these questions, we collected interview data and historical documents. We interviewed 78 game developers and complemented interview data with computer magazines and other historical documents about hobbyist game production. We then analyzed the data by using the following concepts: field, capital, and proto-markets.

This study described the actual situation of the Japanese hobbyist game production field from 1976 to 1990, focusing on the 1980s. After the PC boom in the 1970s, computer hobbyists began to have a strong interest in creating and playing games. So they began to create games by themselves and interact with others with similar interests. They participated in various activities, such as reading programming manuals, entering game programs printed in computer magazines, and posting their original game program in magazines and communicating with each other. The media and distribution platforms mentioned earlier contributed to these activities and supported the formation of the hobbyist game production field.

In addition to works and social relationships, the hobbyist game production field also produced other capitals (knowledge, reputation, and money), professionals (creators, editors, and writers) and game companies. This field played a role as a proto-market producing interest (motivation) in game creation, various capitals, professionals, and game companies. This field became one of the foundations of the establishment of the PC and console game industries in Japan. This finding contributes to the development of research about Japanese game industries.

Lastly, we present the future task. The hobbyist production field of video games in Japan has greatly changed since the 1990s due to the spread of the Windows PC and new console PlayStation. We will analyze these phenomena at a later date.



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## References

- Aida Yutaka, and Atushi Ogaki. 1997. *Video Games, Offence and Defense of Huge Wealth*. Nippon Housou Shuppan Kyokai. (Japanese).
- Bourdieu, Pierre. 1993. *The Field of Cultural Production: Essays on Art and Literature*. Columbia University Press.
- Bourdieu, Pierre. 1998. *Practical Reason: On the Theory of Action*. Stanford University Press.
- Bourdieu, Pierre, and Loïc J. D. Wacquant. 1992. *An Invitation to Reflexive Sociology*. University of Chicago Press.
- Comiket. 1989. *Personal Computer Doujin Soft Catalog*. Kubo Shoten. (Japanese).
- Deguchi, Hiroshi. 2004. *Economics as an Agent-Based Complex System: Toward Agent-Based Social Systems Sciences*. Springer.
- Deguchi Hiroshi, Hideyuki Tanaka, and Koyama Yuhsuke. 2009. *Content Industries: A Japanese Model of Mixing and Propagation*. University of Tokyo Press.
- Hichibe (Kobayashi), Nobushige. 2013. "Independent Game Production Culture as a Key to Growth of Japanese Game Industry." PhD diss., Tokyo Institute of Technology. (Japanese).
- Hichibe (Kobayashi), Nobushige, and Ema Tanaka. 2016. "Content Production Fields and Doujin Game Developers in Japan: Non-Economic Rewards as Drivers of Variety in Games." In *Transnational Contexts of Culture, Gender, Class, and Colonialism in Play*, edited by Alexis Pulos and S. Austin Lee, 43-80. Palgrave Macmillan.
- Ito, Kenji. 2007. "Possibilities of Non-Commercial Games: The Case of Amateur Role-Playing Games Designers in Japan." In *Worlds in Play: International Perspectives on Digital Games Research*, edited by Suzanne De Castell and Jennifer Jenson, 129-42. Peter Lang.
- King, Brad, John Borland, and Roger Stewart. 2003. *Dungeons and Dreamers: The Rise of Computer Game Culture from Geek to Chic*. Osborne.
- Kirkpatrick, Graeme. 2015. *The Formation of Gaming Culture: UK Gaming Magazines, 1981-1995*. Springer.
- Kobayashi, Masakazu. 2004. *Disappearance of Music, Game, Animation Contents*. Kobunsha. (Japanese).
- Kobayashi (Hichibe), Nobushige. 2019. "From Protestant Ethic to <Ludification>: Games, Players and Game Studies in Finland", In *New Era of Game Studies*, edited by Shinichi Nakazawa and Daichi Nakagawa, 67-83. NTT Shuppan. (Japanese).
- Koshiro, Yuzo, 2019. "Talk About Micom Basic Magazine.," Accessed September 27, 2019. [https://www.youtube.com/watch?time\\_continue=2&v=T51bX-qk7rY](https://www.youtube.com/watch?time_continue=2&v=T51bX-qk7rY).
- Koyama, Yuhsuke. 2016. *History of Japanese Digital Game Industry*. Jinbun Shoin. (Japanese).
- Kuorikoski, Juho. 2015. *Finnish Video Games: A History and Catalog*. McFarland.
- Levy, Steven. 1984. *Hackers: Heroes of the Computer Revolution*. Anchor Press/Doubleday.
- Mäyrä, Frans, 2015. "Finland." In *Video Games Around the World*, edited by Mark J. P. Wolf, 159-173. MIT Press.
- NHK Interview Team. 2011. *World Game Revolution*. NHK Shuppan. (Japanese).
- Nihei, Akira. 2006. "Pedigree of Tkool Series." In *Reviving PC-8801 Legend*, edited by ASCII Books Editorial, 168-173. ASCII. (Japanese).
- Noda, Masaaki. 1987. *Research of Computer New Generation*. Bungei Shunju. (Japanese).
- Picard, Martin. 2013. "The Foundation of Geemu: A Brief History of Early Japanese Video Games." *Game Studies* 13, no. 2. <http://gamestudies.org/1302/articles/picard>.
- Sekiguchi, Waichi. 2000. *First Runners of Personal Computer Revolution*. Nikkei. (Japanese).
- Shintaku, Junjiro. 2003. "Development of Software Market by Venture Companies." In *Economic Analysis of Game Industry*, edited by Junjiro Shintaku, Tatsuo Tanaka and Noriyuki Yanagawa, 97-115. Toyo Keizai. (Japanese).
- Takita, Seiichirou. 2000. *Game Great Power Nippon: Rise and Fall of Gods*. Seishun Shuppanya. (Japanese).
- Therrien, Carl. 2019. *The Media Snatcher: PC/Core/Turbo/Engine/Grafx/16/CDROM2/Super/Duo/Arcade/RX*. MIT Press.
- Toynbee, Jason. 2000. *Making Popular Music: Musicians, Creativity and Institution*. Arnold.
- Tyni, Heikki, and Olli Sotamaa. 2014. "Assembling a Game Development Scene? Uncovering Finland's

Largest Demo Party." G|A|M|E Games as Art,  
Media, Entertainment 1, no. 3.

Yada, Mari. 1996. *The Future of Game-oriented Nations:  
All of its world-leading content businesses*. Nikkei  
BP. (Japanese).

Yasutomo, Yuichi. 2004. "TAKERU's Real Face now  
revealed." In *Reviving PC-9801 Legend*, edited by  
*ASCII Books Editorial*, 164-167. ASCII. (Japanese).