The Analysis of Online Game in an Industrial Level

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Abstract

We intend to analyze how a specific industry of multi layered platforms successfully organize and operate numerous stake holders. Using the online game industry as a reference, we track and define the ecosystem and provide evidence for further study.

A proposal is made to investigate how the change in consumers' attitude and the technological capacity is influencing the whole ecosystem. Also suggested is to extend the findings and apply it on various tech-based ecosystems for a more thorough understanding of the industry.

Ⅰ. Introduction

The online gaming industry is a young industry, roughly 20 years old, but is recognized as a multi-billion-dollar industry. Not only does it include a simple relationship between the service providers, the consumers of the game and the game itself, but it also includes other complicated non-game factors such as international leagues (offline festivals), product advertisements, IP (Intellectual Property) based contents creation, and more. In total, it creates a massive self-sustaining ecosystem consisting multiple entities on multiple layers of platform.

As online environments do not have any physical boundaries and the information exchanged is massive, individual's involvement in technical change and innovation can be observed notably. Online gaming is a compact of a much bigger digital industry. Not only does it successfully reflect how and why the technical innovations are altering the industry itself but also the digital industry as a whole.

However, the context of online game research so far was focused on the simple relationship of user and the game; user reaction on the game or their intake of various contents introduced on a game. As a consequence, research questions such as 'Why do people play games?' (Yee 2007), 'Does engaging in a game community (e.g. guilds) effect the user life span of games?' (Deng et al. 2013), 'Does game help student's learning capability?' (Hamari et al. 2016), or 'What influences a user to select a service platform when playing a game' (Cenamor et al. 2013) were treated and none was addressed on an industry level.

Therefore, through this paper, we intend to analyze how this specific industry successfully organizes and operates numerous stake holders on layers of platform. Starting from defining how the ecosystem is formed on this research, we will conclude with providing evidence for further study to investigate how the change in consumers' attitude and the technological capacity is influencing the whole ecosystem.

Ⅱ. Literature Review

2.1. Digital Industry and Technology

Most of the industries were heavily influenced by the advance of technology (e.g. computers to day trade centers and stock market). In cases, it even affected the shape of the industry. In the entertainment industry, for example, the

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emergence of 'Netflix' gave a ground shifting impact to the films industry. Not only do they produce and distribute various type of films in a different way compared to traditional production, it also detects user preference on views, accumulates it as a big data and uses the data to create new films that guarantees maximum customer interest and profits. The recent dispute between theater and Netflix on the distribution of the film 'OKJA', and the active discussion whether online-only provided films be nominated on renowned film festivals partially show the influence of technology enabled new business models to the existing industry.

For the importance and the impact of the digital industry is growing, many investigations were conducted accordingly. The results of these research evidently show that by the new technologies, the participation of users in the production level grew, and is still growing. It accelerated new terms such as 'prosumers' meaning 'producers = consumers' (Toffler 1984). While most of the businesses started first on offline and later was greatly influenced with the introduction of internet and various IT technology, online gaming industry started on IT technology and internet platforms. With less physical barriers, the online gaming industry is more sensitive to innovation and stakeholder's fast reaction.

2.2. DMSP (Digital Multi-Sided Platform)

The DMSP is a platform focusing more on the stakeholder transactional relationship occurring within the platform as is emphasizes 'Multi-Sided'. The studies using the term DMSP (Tan et al. 2016; Tan et al. 2015) all specify and elaborate the transaction of multi entities within the platform thus, forming the industrial ecosystem.

With Sun and his colleagues defining the digital platform as 'a technological base allowing residing components to split, merge, create, modify and delete among themselves and with components outside and during its course leading to transactions by stakeholders within the ecosystem' is in their paper, studies regarding the platform of IS are picking up its speed. Some research aim on providing research agendas for this newly emerging field, some illustrate the stakeholder relationships and conditions in the market while others investigate how the new infrastructure is influencing the previous system (Table 1). Major innovations, all in different

forms occurred based on platforms starting from Microsoft windows, Apple's IOS and Google's Android to YouTube, Facebook and Instagram and lot is yet to be investigated. Research on defining the model of a platform are significant because in most cases, platforms represent and explain a large portion of the industry. For instance, the research of Tan et al. 2016 show how technology geared a successful new business which otherwise would not exist. The research of Mantena et al. 2010 investigate the stakeholders' on-platform relationship and its background in forming the market.

<Table 1> Research on Digital Platforms

Category	Research
Research Agenda	Tilson et al. 2010
On platform relationships	Cenamore et al. 2013, Tan et al. 2015
Influence to previous systems	Tan et al. 2016,

Understanding the formation of the DMSP and the interaction on it is the core to understanding the ecosystem and the strategy of the industry. By analyzing the DMSP of the online gaming industry, we expect to provide a meaningful explanation and a reference to the technology enabled innovation changing the course of an industry and its stakeholders.

III. Method and Data

Due to the nature of DMSP and the complicated stakeholder interactions, objective approach using only figurative data might not be enough to explain the phenomena (Koch, Schultze 2011). Because research on all factors; DMSP, generativity and online games, are all genuinely new, no specific model exist to address the hows and whys within. Therefore, we use the case study research method as our main methodology, allowing us to interpret ideas and actions of entities relevant to the phenomena (Siggelkow 2007). Generating an adequate model through extensive interviews, we expect to properly address the questions 'In what shape is the ecosystem of the online gaming industry formed?', and 'How does each stakeholder act/react on this platform'. The model will contribute to better understand how the other

sectors of the digital platform business will change in the upcoming years.

As for the field case study, we have selected NEXON, the largest game service providing company in Korea. NEXON has service operation on numerous online games in various genre (RPG, FPS, RTS etc.) in various regions including the US, China, Vietnam and Europe. Given such, NEXON has a variety of applicable individual cases and so was found to be suitable for this specific case study.

Ⅳ. Expected Results

Preliminary interviews conducted reveal the basic format of the ecosystem (figure 1). Further detailed interviews with each group of entities should fill the missing links with anymore possible stakeholders. Also, appropriate coding is needed to further specify the actual relationship.

We point out that during the preliminary interviews, all interviewees notably commented on how the users position change to prosumer with the advance of technology is affecting the relationship. This change in relationship is expected to have influence on all other stakeholders. For example, prosumers in the music industry can now contribute in creating idol groups which, in the past, used to be provided in a complete form only to be consumed. More and more businesses models in wide range of digital industrial platforms are seeing the changes by the 'technology-armed' prosumers. Digital platforms for online game industry are a fast responding miniature of the digital industry. Additional detailed research that can be applied globally is recommended to fully understand the ecosystem level change and the role of stakeholders affecting the platform.

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