



**HAL**  
open science

# The Development of Sustainable Growth Strategy Model Based on the User Tendency in the Online Game Services

Hyeog-In Kwon, Hi-Yeob Joo, Dae-Jin Kim, Jong-Seok Park

► **To cite this version:**

Hyeog-In Kwon, Hi-Yeob Joo, Dae-Jin Kim, Jong-Seok Park. The Development of Sustainable Growth Strategy Model Based on the User Tendency in the Online Game Services. 9th International Conference on Network and Parallel Computing (NPC), Sep 2012, Gwangju, South Korea. pp.315-319, 10.1007/978-3-642-35606-3\_37. hal-01551329

**HAL Id: hal-01551329**

**<https://inria.hal.science/hal-01551329>**

Submitted on 30 Jun 2017

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

# The Development of Sustainable Growth Strategy Model based on the User Tendency in the Online Game Services

Hyeog-In Kwon, Hi-Yeob Joo, Dae-Jin Kim, and Jong-Seok Park

Chung-Ang University, Art Center 8F-10806, Heukseok-dong, Dongjak-gu, Seoul, 156-756,  
Korea

hikwon@cau.ac.kr, hyjoo74@gmail.com, yauchee@empal.com,  
mercifulrcy@nate.com

**Abstract.** Currently the online game market continues growing, but there is an absence of appropriate strategies of corporation. In addition the strategic game management has been required to respond the reaction of customers as time goes by. So in this study, we analyze the typical forms of user types in MMORPG (Massive Multiplayer Online Role Playing Game) based on PLC. We suggested that there is a difference in the ratio of user types as fighter, leader, socialiser and trader of PLC's phase. Also we presented the service lineup for retaining the users in each phase.

**Keywords :** On-line game, MMORPG, User-type, PLC, PLM, Sustainable Growth Strategy

## 1. Introduction

The game industry and user popularity continue growing throughout the world. For the sustained growth, the game developing companies are focusing on finding new and diverse ideas in terms of the way to play and the game contents. According to the Korea Creative Content Agency Report 2011, the worldwide game market is estimated over \$84.8 billion which is of 0.2% growth in comparison to the year before. Currently, video games have the biggest market share; arcade games are second, followed by online games, mobile games and PC games. For the recent trend of arcade game shrinks and the fast growth of online game, however, they assumed that the online game would occupy the biggest game market share soon. An online game is an internet-based game which is capable of supporting worldwide multiple players playing together, and MMORPG (Massively Multiplayer Online Role-Playing Games) is a representative form.

In case of MMORPG, thousands of game products just have showed up and got disappeared in a very fast cycle, as opposed to the overall market has been growing. This would be from several reasons, and the first is because MMORPG games have developed in exclusive way; until they open for the public test, the developing process goes strongly under secure. To make one final game product, the whole developing process takes high costs and high risks. Thus the game developing companies collect the developing costs early and compose the portfolio for sales diversification. In addi-

tion, many of them have imitated few succeeded examples rather than considering user attributes or trends, and it results deterioration of quality in the overall game industry (Hana Financial Management Institute, 2007). Hence, the purpose of this study is to suggest a strategy for promoting sustainable growth of MMORPG game industry by user analysis.

## 2. Theoretical background and previous research

### (a) MMORPG

MMORPG is a representative genre of internet-based video games. Players perform their given roles by controlling their own avatars, which represent users self in 2D or 3D game environment. MMORPGs provide a naturalistic setting where millions of users voluntarily immerse themselves in a graphical virtual environment and interact with each other through avatars (Yee, 2006). MMORPGs strongly reflect gamers' attributes.

### (b) Product Lifecycle Management(PLM)

In case of most products, user types or attributes keep changing depends on PLC (Product Life Cycle); user types getting more varied and profits increasing until a certain point. PCL shows changes of profit condition from introduction until the dissolution, and it can be divided into four stages: Introduction stage, growth stage, maturity stage and saturation-decline stage.

PLM (Product Lifecycle Management) is the process of constructing information and data share environment for all the interested parties (Jun, 2010). PLM is aimed to find proper strategies for dealing with changing business world. According to Game Planning Theory (2003) published in the Korea Computer Game Society, online games have different characteristics under each lifecycle stage <Table 1>.

Introduction Stage	Growth Stage	Maturity Stage	Saturation and Decline Stage
<ul style="list-style-type: none"> <li>- sales game packages</li> <li>- Fee-charging</li> <li>- new customers join in</li> </ul>	<ul style="list-style-type: none"> <li>- new customers increasing</li> <li>- simultaneous log-ins are on the rapid increase</li> <li>- sever extension, updating contents</li> </ul>	<ul style="list-style-type: none"> <li>- server extension slowed down</li> <li>- new customers join stands still</li> <li>- simultaneous log-ins stand still</li> </ul>	<ul style="list-style-type: none"> <li>- existing customers withdraw</li> <li>- new customers decrease</li> <li>- simultaneous log-ins decreasing</li> </ul>

<Table 1> The life-cycle of online games

### (c) User Classification

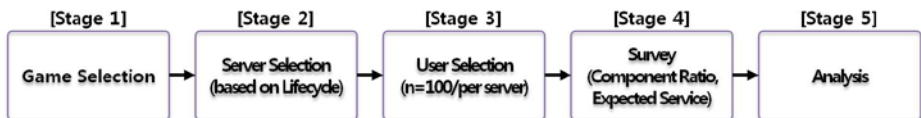
At MMORPG's world, the game players interact to each other while playing individually. MMORPG game players' characteristics can be classified by game types, lifecycle stages, and even what server they connect to. We attempt to restructure several former scholars' player type classification.

Bartle's study(1996) classify as 'killer' who feel fun from outstanding themselves among others. And they have a pleasure from attacking and harassing other players. We redefined the 'killer' as 'fighter'. Lim(2007) suggested in MMORPG, players are trying to organize the 'guild' that cause of many kinds of issues as battle or alliances. In this case they keep causing some process that adjusting crisis and conflict or cooperate with each other. In such a confused situation there is a leader who carries out role such as adjusting dispute between clan member, establishing strategy, implementing strategy and assigning the task. There is one type of user that Barttle(1996), Jung(2006), and Do(2009)'s study being classified in common. It is the most common players who consider interaction and relationship with other players importantly. It can be defined as 'socialiser'. According to Jung(2009), games are become more popular, the trade market of the game items and accounts in the real world is more activated. In addition, there are some players who are trying to make money by game playing professionally. It means that there some players who are trying to buy a rare items or high class of avatar because of deficiency of playing time. They can be defined as 'trader'. As mentioned above, we classified user type as 'Fighter', 'Leader', 'Socialiser' and 'Trader'.

### 3. Developing Process

This research is focused on the analysis of component ratio of players' types and core services that they want. So we plan to conduct a survey of MMORPG players for finding the ratio by user types. We also plan to examine the ratio by user types are depends on the product life cycle stages.

First of all, designate representative game of MMORPG and then proceed our study through user survey. Analysis PLC of game based on time, categorize server that phased opened. And then, analysis user type through survey with a selected sample of user of each server as shown in the <Figure 1>



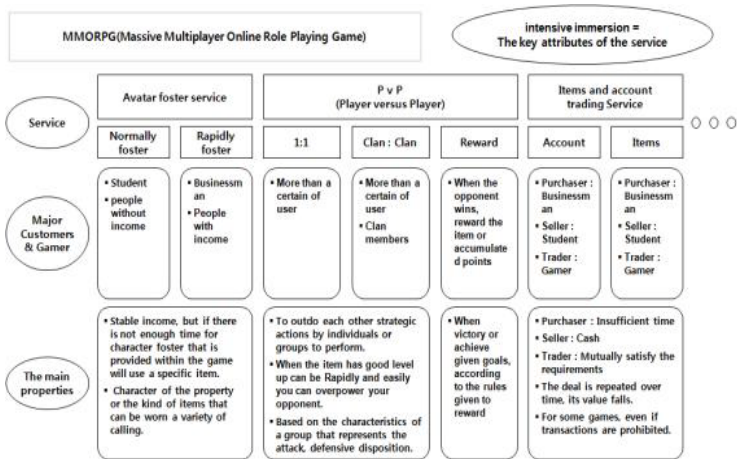
<Figure 1> Research design

### 4. Expected Outcomes

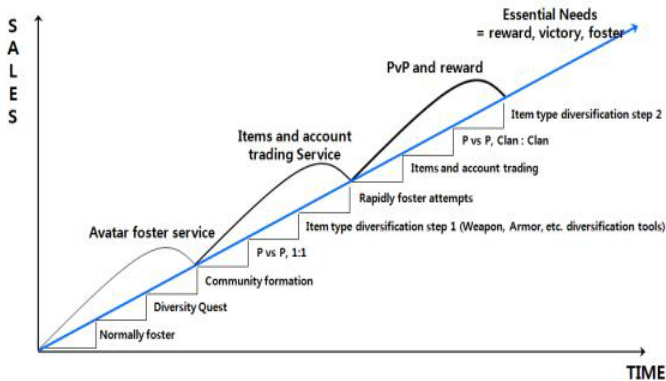
This study expected outcomes as below of service, major customer, and main properties in MMORPG as shown in the <Figure 2> ~ <Figure 4>.

Game	Server	Lifecycle	Component Ratio				# of Players
			Fighter	Leader	Socializer	Trader	
Lineage I	Server #1	Decline	15%	10%	70%	5%	239
Lineage I	Server #2	Maturity	20%	15%	50%	15%	1,300
Lineage I	Server #3	Growth	7%	14%	68%	11%	1,800
Lineage I	Server #4	Introduction	5%	10%	80%	5%	500
Diablo III	Server #1	Decline	13%	7%	75%	5%	453
Diablo III	Server #2	Maturity	17%	25%	45%	13%	1,730
Diablo III	Server #3	Growth	7%	11%	70%	12%	2,570
Diablo III	Server #4	Introduction	5%	14%	75%	6%	1,300
Lineage II	Server #1	Decline	10%	30%	56%	4%	170
...	...						

<Figure 2> Component ratio of players' types



<Figure 3> Service lineup for each player's types



<Figure 4> Core services for sustainable growth

The success of game is decided by the number of paid user. The purpose of MMORPG service is that increasing and sustaining of users steadily. As you can see in the <Figure 3>, user is formed around user who enjoys game at the beginning. However, the forming of new game service market and item dealing service appear from extending service. So, such as <Figure 4> new service has to renew and push ahead service development that is customized user's expectation standards which increase steadily. Through this service development, it's easy to create new opportunities.

## 5. Conclusions

For the sustain growth of MMORPGs, we suggest to establish strategies on the basis of players' characteristics. Previous studies have shown that game players have different characteristics depending on the PLC process. The findings from this study would suggest the following:

First, promote games to consider user-incentive strategies in conjunction with campaigns; a campaign can be used as a good marketing tool to gather numbers of people with similar characteristics. Second, promotion events should be planned based upon PLC and player characteristics under each stage. It also should never forget that game player characteristics could be constrained on a per-server basis. Teasing out what players need in every product lifecycle stage is very important. Third, note the service delivery strategy from Microsoft, which was based upon their product life cycle. It would give lessons timing to the companies planning for huge projects like most MMORPGs about proper launching timing.

## <References>

1. Marcus D. Childress, Ray Braswell.: Using Massively Multiplayer Online Role-Playing Games for Online Learning, Distance Education, 27:2, 187-196(2006)
2. Byeong-Cheol, Nam, Ki-Tae Bae.: Quantitative Analysis of Flow in MMORPG Games, Journal of Korea Game Society, 11:3, 73-84(2011)
3. Product Lifecycle Management : Empowering the Future of Business, A CIM data Report(2002)
4. Nick Yee.: The Demographics, Motivations, and Derived Experiences of Users of Massively Multi-User Online Graphical Environments, Presence, 15:3, 309-329(2006)
5. Hong-bae Jun.: A Study on the Concept of Product Lifecycle Management and its Applications for each Lifecycle phase, Enture Journal of Information Technology, 9:1, 159-167(2010)
6. Online Game Industry Research for credit, Hana Institute of Finance(2007)
7. Goan-chul Jung.: A study on the MMORPG User Typology, The Graduate School of Korea University(2006)
8. Young-Yim Do.: Self-recognitions and Self-changes in On-line Game World, The Graduate School Yonsei University(2009)
9. Sohye Lim, Nohil Park.: MMORPG users' Motivation and the Spill-over Effect on their off-line Leadership Development, Korean journal of journalism & communication studies, 51:5, 322-485(2007)
10. Hyung-won Jung.: A Study on the Legalization of cash Transactions in MMORPG Items, Graduate School of Sangmyung University(2009)
11. Hyeong-In Kwon, Yong-Seok Choi, Sang-Woo Lee.: A Study on the Way of On-line Game service, Korean journal of Society For Computer Game, 24:4, 61-71(2011)