

The Application of Gamification to Promote Idea Supporting Platform: Focusing on Creative Economy Town in South Korea

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Abstract

Objectives: Recently, people's interest in gamification has gradually increased and this mechanism has been found in diverse fields. **Methods/Statistical Analysis:** This study has also applied gamification to Creative Economy Town, an idea supporting platform which supports commercialization and business startup through the valuation of people's ideas. A core service 'online mentoring' of Creative Economy Town is divided into private mentoring and open mentoring and then we attempt to add gamification elements to open mentoring. **Findings:** When mentees choose open mentoring, a model which introduced gamification elements such as goal, competition and interaction is proposed. As a result, the addition of gamification elements would motivate members to actively participate and be voluntarily cooperative through open mentoring. Diverse gamification elements that this study suggested would be applied to Creative Economy Town at the end of 2016. **Improvements/Applications:** The results of this study would make a contribution to future studies as a gamification-applied case.

Keywords: Creative Economy Town, Gamification, Idea Supporting Platform, Online Mentoring, Open Mentoring, Private Mentoring

1. Introduction

Recently, 'fun' has been recognized as an important element in using products or services. Gamification can make people to get experience about fun using game mechanism¹ and then people's interest in gamification has gradually been on the rise. The term 'gamification' was formally used at 'Gamification Summit' which was held in San Francisco in the U.S. in². Gamification has even been found in various fields including non-game sectors such as education, health, arts and armed forces and so forth.

This study attempted to apply gamification to commercialization and business startup which have generally been perceived as difficult or complex by people. In particular, Creative Economy Town, which was initiated in

2013, is South Korea's main idea supporting platform that makes people's ideas valuable. It has provided essential assistances for commercialization and business startup³. However, people's interest and participation in Creative Economy Town are still low. Therefore, it is needed to consider the promotion of Creative Economy Town using gamification.

2. Concept of Gamification and Case Analysis

If people get interested in something, they tend to get voluntarily involved in it⁴. Gamification is a method to increase users' participation and motivate them to

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achieve their goals by applying game mechanism to the fields other than game. In other words, users get excited and immersed in something just like playing an actual game through gamification. Therefore, game mechanism has been applied to diverse fields such as business and marketing and so forth. In fact, gamification has drawn an attention in academic fields as well. In South Korea, the number of gamification-related papers has increased from 3 in 2011 to 16 in 2015⁵, as shown in Table 1.

Table 1. The number of gamification-related papers

Year	2011	2012	2013	2014	2015	Total
Paper	3	7	12	12	16	50

In case of gamification-applied cases, there is Frequent Flyer Program (FFP); NIKE+’ which added fun’ to sports and so forth. In a public sector as well is found ‘the World’s Deepest Bin⁶. With a sound device attached to the inside, if someone throws trash into the bin, the sound coming from the trash can would replicate that of an item falling down for a long time. This effect of the fun and interesting sound would motivate people to pick up the trash and throw it into the bin voluntarily.

Recently, with the development of ICT, the case of online environments has become more important. For example, Khan Academy has added game elements, which can attract students, such as badge and knowledge map to its online lecture videos⁷. To make an online lecture to be effective, it is important to help students participate in it voluntarily⁸. It is known that gamification is a good approach to increase people’s motivation in online environments⁹. Many studies have suggested goal, competition and interaction as gamification elements for people’s immersion in online environments^{10,11} as shown in Table 2.

Table 2. Gamification elements

Elements	Description
Goal	Point, Level, Badge, Reward
Competition	Challenge, Leaderboard
Interaction	Community, Cooperation

3. Roles of Creative Economy Town

Creative Economy Town is an idea supporting platform supervised by Korean government (Ministry of Science, ICT and Future Planning) and operated

by KISTI (Korea Institute of Science and Technology Information) to spread the culture of ‘creative challenge’. In early 2013, Korean government planned for an open platform that people with innovative ideas can freely participate in and Creative Economy Town was launched in September 2013. In the past, in order for people to launch business or commercialize a product, they took care of all processes alone (‘stand-alone’). Now, they are able to get the needed aids for commercialization and business startup using external knowledge through a lot of idea supporting platforms¹². Especially, Creative Economy Town collects creative ideas and is linked to public and private commercialization programs through professional online mentoring, as shown in Figure 1.



Figure 1. Main process of Creative Economy Town.

People (mentees) who wish to commercialize or start up a business can propose their ideas. Creative Economy Town has experts (mentors) from different fields that can provide online mentoring and realize the proposed ideas into products and services. Mentors also provide assistance in writing up business plans, acquiring intellectual property rights, developing marketing strategies and so forth. Ultimately, excellent ideas recommended through online mentoring can be linked to various commercialization programs. As of December 31, 2015, a total of 88,107 members proposed 28,697 ideas in Creative Economy Town. Among them, 5,602 ideas were connected with commercialization³, as shown in Table 3.

Table 3. Details of commercialization support

Category	The number of cases
Intellectual property rights	957
Feasibility diagnosis	461
Prototype development	138
Connection of public and private programs (projects)	384
Offline consulting	3,662
Total	5,602

However, the number of new members or ideas suggested has been gradually declined in Creative Economy Town. Furthermore, current members' revisit rate is also decreasing. Even though Creative Economy Town upgrades current services and promotes diverse activities such as development of new contents and educational support regarding commercialization and business startup, people have still thought that commercialization and business startup are difficult or complex and that they have nothing to do with any of them. Therefore, it is required to make people freely approach and voluntarily engage in commercialization and business startup by applying gamification elements in Creative Economy Town.

4. Gamification-applied Creative Economy Town

According to customer satisfaction surveys of Creative Economy Town from 2014 to 2015, complaints and suggestions for the improvement of online mentoring were the highest. Online mentoring is a key service among a lot of services provided by Creative Economy Town. However, members aren't able to find out if online mentoring is being given well, because it is provided in a non-disclosed manner. Besides, mentees may not be able to get decent services when a mentor is lack of expertise in a certain field, since it is one-on-one mentoring between mentor and mentee.

Therefore, this study attempts to add gamification elements to the 'online mentoring' service in Creative Economy Town. Online mentoring is largely divided into private mentoring and open mentoring, as shown in Figure 2 and then we try to add gamification elements to open mentoring.

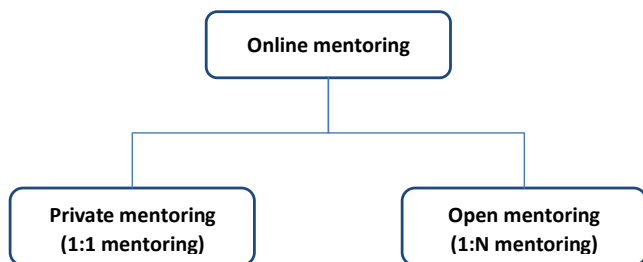


Figure 2. Classification of online mentoring.

While private mentoring is still available like before, if mentees select open mentoring, they are able to get mentoring from all members (including mentors). To encourage

members to participate in open mentoring, attractive gamification elements such as point, level, badge and virtual investment can be applied. Furthermore, outstanding members could be named by the 'Leader board' every week or month and internal/external rewards would be awarded. Mentees would also be able to get diverse advices through '1:N mentoring', not one-on-one mentoring. As a result, the addition of gamification elements would motivate members to dynamically participate and be voluntarily cooperative through open mentoring as shown in Table 4. Thus, Creative Economy Town could be further facilitated through the application of gamification.

Table 4. Application of gamification elements

Elements	Application plan in open mentoring
Goal	Members participating in open mentoring can get points, and receive more cyber money if the idea that they invested is commercialized.
Competition	The mentees who proposed ideas are able to recommend good advices among open mentoring, and the results are disclosed on the 'Leaderboard'.
Interaction	Members can share their knowledge and capabilities without any separation between mentors and mentees through '1:N mentoring'.

5. Conclusion

Recently, gamification has emerged as the hottest issue. Therefore, this study suggests the application of gamification to facilitate Creative Economy Town. Online mentoring is known as a main service in Creative Economy Town and then it can encourage many members to participate by carrying out gamification-applied open mentoring as well as private mentoring.

There are still a lot of matters to be discussed to perform open mentoring in Creative Economy Town. In case of the ideas whose intellectual property rights are not acquired, for example, they couldn't be protected during the process of open mentoring. It appears that this kind of problem could be solved by benchmarking how collective intelligence is openly utilized in domestic and foreign idea supporting platforms^{13,14}. Besides, there is a possibility of damaging intrinsic values by paying attention to internal/external rewards only through gamification elements rather than focusing on commercialization and business startup. It is also needed to handle the difficulty of precise

cost estimation to apply gamification in Creative Economy Town¹⁵.

Nevertheless, diverse gamification elements that this study suggested would be applied to Creative Economy Town at the end of 2016 through continued discussions and reviews and the results of this study would be useful for future studies as a good case of gamification.

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7. References

1. Kim J, Jung J, Kim S. The relationship of game elements, fun and flow. *Indian Journal of Science and Technology*. 2015; 8(S8):405–11.
2. Lee D. What is gamification and how gamification will change our life? *Journal of Digital Design*. 2011; 11(4):449–57.
3. Creative Economy Town. 2016. Available from: <https://www.creativekorea.or.kr>
4. Kang AY, Kim HH. The study on effective experience marketing with indulging gamification: Centering on the five strategic experience module by Bernd Schmitt. *Journal of Digital Design*. 2013; 13(3):687–95.
5. Kwon BY, Lyou CG. The meta-analysis of domestic gamification research: Status and suggest. *Humanities Contents*. 2015; 39:97–124.
6. Lee HL, Woo JH, Park MS, Lee DY, Jeong EJ. A research on the effective development of gamification through case study: Based on game mechanics and game dynamics. *Korean Society for Computer Game*. 2014; 27(1):141–51.
7. Khan Academy. 2016. Available from: <https://www.khanacademy.org>
8. Sundar PVP, Kumar AVS. A systematic approach to identify unmotivated learners in online learning. *Indian Journal of Science and Technology*. 2016; 9(14):1–6.
9. Boopathi K, Sreejith S, Bithin A. Learning cyber security through gamification. *Indian Journal of Science and Technology*. 2015; 8(7):642–9.
10. Kim JW, Jeong EJ. A study on development direction of public interest contents through gamification case analyses in domestic and foreign environmental fields. *Journal of Korea Game Society*. 2014; 14(5):161–82.
11. Min SG, Kim SH. A study on utilizing gamification of smart e-Learning to improve learners flow. *Journal of the Korean Society of Design Culture*. 2015; 21(4):177–87.
12. Chung DB, Kim SJ, Song YJ, Hwang YH. A study on the status of the idea supported platform: Focusing on the diffusion of the Creative Economy Town. *Asia-pacific Journal of Multimedia Services Convergent with Art, Humanities and Sociology*. 2015; 5(4):37–44.
13. Quirky. 2016. Available from: <https://www.quirky.com>
14. Idea Audition. 2016. Available from: <http://www.ideaaudition.com>
15. Kim S. An observational research on the limitations and side effects of gamification in educating human resources. *Journal of Korea Game Society*. 2015; 15(3):87–96.