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A Study on the Acceptance of the 52-Hour Workweek System in Game Industry

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Abstract

Recently, there has been a lot of interest in the game industry, which has become more spotlighted due to the beginning of the metaverse, and the industry is gradually expanding and developing. However, workforces leading the game industry are increasingly complaining of fatigue due to the COVID-19 situation. Also, as the situation crosses online and offline at the same time, a 52-hour workweek is becoming increasingly important. Therefore, this study sought to conduct research on the acceptance of a 52-hour workweek system according to the characteristics of the game industry. This study proposed various research questions and presented academic and practical implications by verifying them.

Keywords: 52-hour workweek system, Game Industry, System acceptance, Opportunism

1. Introduction

The game industry is spotlighted as a major industry in the Korean content industry [17]. According to the recent survey of the content industry by the Ministry of Culture, Sports and Tourism [21], based on 20 years, the sales of the game industry accounted for 14.7% of the sales of the content industry, reaching 18.8 trillion won. In particular, this achievement is becoming more notable in the game industry's share of content industry exports. As of 2020, out of the total export value of the Korean content industry of USD 11,924.28 million, the export value of the game industry was USD 8,194 million, accounting for 68.7% of the total [26]. In addition, the game industry is a field in which various technologies can be integrated, so its potential for future growth is high and it can be applied to various fields. The real-time engine technology used in games is utilized in various fields such as animation, advertising, videos, online concerts, simulation, etc. In addition, as the transition to a non-face-to-face society has recently been highlighted after COVID-19, representative services of the metaverse, which have received a lot of attention, often take the form of games [13].

The game industry is also the representative creative industry. With the passage of some amendments to the Culture and Arts Promotion Act that legally include games within the scope of "culture and art," there is a possibility that many changes will occur in the future from recognizing games only as addictive or unhealthy contents in the past. Like this, the game industry is emerging as a major field in which developers' creativity is realized through technology and influence in various fields. However, there are various problems behind the

rise of the gaming industry. One of the issues that have received the most attention is the issue related to the so-called 'crunch mode', which means grinding people to make the game [19]. The game industry is both an art and a creative industry, but it is also a field where considerable industrialization has progressed. This is a phenomenon that inevitably occurs in the process of developing the game industry. Within the game industry, these problems have been recognized, and changes such as the establishment of labor unions are occurring in representative game companies. The government has also included game companies in the target of the introduction of the 52-hour week, and game companies are also required to adopt this system. However, there are also some opinions that the game industry has different characteristics from the general manufacturing industry and that work must be carried out cooperatively during a specific period of time, so if only appropriate compensation is provided, the system should be introduced in a more flexible form. Studies on the acceptance of these systems in the academic field show that even if government policies act as carrots and sticks, companies may be willing to accept them or oppose them. Naturally, the more opposition to the acceptance of the system, the slower the smooth acceptance and spread of the system [8, 26, 34]. The 52-hour workweek system recently introduced in the game industry is still difficult to know for sure how companies accept the system. This study aims to suggest the implication of the introduction of a 52-hour workweek system by examining game companies' attitudes toward accepting the 52-hour workweek system. The purpose of this study can be summarized as follows. First, related to the acceptance of the system, the study tries to derive the characteristics of game companies. Second, this study aims to examine the attitude of companies about benefits and penalties following the introduction of the 52-hour workweek system. Third, this study aims to examine how this attitude of companies affects the opportunism that comes with the introduction and non-acceptance of the system.

2. Theoretical Background

2.1 Introduction of a 52-hour workweek with the game industry

The 52-hour workweek system is based on a 40-hour workweek, and employees should not exceed 52 hours a week even if they do additional work. Working hours in Korea are long by global standards. As of 2022, this is one of the countries that work the most hours among the OECD countries, excluding the four Latin American countries. As the 5-day workweek system was started implemented in 2004, there were many changes in the work environment. And from July 2018, the 52-hour workweek system was implemented [35]. Recently, as the balance between work and family has become more important, and the concept of lifelong work in the past has gradually disappeared, there is also a difference in the opinions of the older generation and the new generation of employees working in companies. In addition, there are a significant number of game companies with fewer than 5 employees, and some companies that make indie games create a horizontal atmosphere between the founders and employees [19]. If the scale of the company is bigger, there may be considerable differences of opinion between the employer who runs the company and the employees. From the perspective of promoting the system, in order for a new system to be introduced quickly and stably, it is necessary to clearly publicize the need and purpose of the system. On the other hand, if viewed from a company's internal perspective, a culture that emphasizes autonomy is often formed within the organization due to the nature of game companies, so there is a possibility that they will respond negatively to such external interference. Also, the difficulties experienced by game companies in recruitment, such as labor shortages in small and medium-sized enterprises or trends in career recruitment preferences, are factors that can have various effects on attitudes towards system acceptance.

2.2 Benefits and Penalties

Governments may incentivize the implementation of new systems or policies to speed up their introduction and spread. On the contrary, regulations such as legal penalties may be imposed in case of non-compliance [20, 34]. These two carrots and sticks can be seen as old tools in the field of policy. Companies can show an attitude of accepting policies promoted by the government as much as possible. This attitude can be voluntary, but it can also be generated in the process of trying to avoid it because of restrictions. The problem is that compulsory regulation is needed to get companies to accept the new system if they don't welcome it. This is partly because companies have a desire not to be regulated or controlled by the government [15, 34]. If game companies are familiar with the 52-hour workweek system and feel that such a system is necessary, there is a great possibility that a positive attitude towards the system will be formed. In this case, a positive attitude can also be formed for the benefits or penalties of the system. In comparison, game companies regard autonomy as an important thing, so there is a possibility that such government interference will be perceived negatively. In fact, according to media reports, it is argued that the introduction of the 52-hour workweek does not match the characteristics of game companies. In addition, the government's regulation on the introduction of this system may be regarded as a new regulation from the standpoint of SMEs having difficulties in hiring. However, it is difficult to predict the direction of such matters. Therefore, the study tries to establish research questions as follows.

Research question 1: The companies' attitudes toward the system will change depending on the characteristics of the game industry.

Research question 1-1, 1-2: The game companies' attitude about the system (benefits, penalties) will change depending on their awareness of the system.

Research question 1-3, 1-4: Attitudes towards systems (benefits, penalties) will change depending on game companies' need for systems.

Research question 1-5, 1-6: The attitude toward the system (benefits, penalties) will change depending on the internal autonomy of the game companies.

Research question 1-7, 1-8: The attitude towards the system (benefits, penalties) will change depending on how difficult it is for game companies to hire employees.

2.3 System acceptance and opportunism

Companies are likely to actively accept policies promoted by the government as much as possible in order to avoid legal regulation from the government. If a culture of actively accepting innovation policies is formed within the company, the company will actively accept new policies. However, companies also have the idea that they do not want to be regulated or controlled by the government, so they often act passively in response to new policies [32, 34]. This passive acceptance behavior is called opportunism in psychology. Opportunism manifests itself in intentional deception [10] or dishonesty, infidelity, and shirking [8] not to be discovered by supervisors. When companies exhibit opportunistic behavior toward government new systems, even if it may seem like they have temporarily accepted the system, when government surveillance and control are neglected or when they determine that the impact of regulations does not extend to themselves, and when they feel that the punishment for failure to act is weak, there is a possibility of returning to the past state at any time. Therefore, even if companies accept the innovative policy under the compulsion of the government, it is difficult for the new policy to spread rapidly if it has a great tendency for opportunistic behavior. Therefore, it is necessary to find out whether companies accept innovation proactively or opportunistically. Therefore, this study aims to identify companies' acceptance behavior for innovation policies through two factors: active

acceptance behavior and opportunistic acceptance behavior. In particular, as attitudes are regarded as a very useful factor in predicting behaviors, many scholars in psychology claim that there is a lot of relevance between attitudes and behaviors [5]. Scholars who have studied the theory of psychological reactance say that psychological backlash is very closely related to behavior because a repulsive state can be immediately expressed behaviorally [8]. Therefore, the study suggests to establish research questions as follows.

Research question 2: The behavior of accepting the system will change depending on the game company's attitude toward accepting the system (benefits, penalties).

Research question 2-1, 2-2: The behavior to accept the system (acceptance, opportunism) will change depending on the game company's attitude toward system benefits.

Research question 2-3, 2-4: Behaviors of system acceptance (acceptance, opportunism) will change depending on the game company's attitude toward system penalties.

3. Research Method

3.1 Sample Design and Measurement Items

In order to understand the research questions presented in this study, a survey was conducted targeting officials engaged in the game industry. The purpose and content of this study were explained, consent was obtained, and a questionnaire was received from 250 people. The final 232 questionnaires were recovered. Among the recovered questionnaires, 7 questionnaires with missing records or prominent centralization tendency were considered to have no statistical value, a total of 225 copies were used for the final analysis.

As previously examined, this study compiled metrics based on the prior research related to characteristics of the game industry, the benefits and penalties, and system acceptance and non-acceptance of the system. For the purpose of the study, the items proposed in the first study were modified in accordance with the situation, and the evaluation items were formed. Also, items using a 5-point Likert scale were structured as follows.

Table 1. List of measurement items

Variables	Measurement Items	References
Awareness	I (my company) am kind of familiar with the 52-hour workweek system. I (my company) am kind of very interested in the 52-hour workweek I (my company) have heard about the 52-hour workweek many times.	[12]
Necessity	I (my company) am likely to think that the 52-hour workweek system is important. I (my company) tend to think that the 52-hour workweek system is necessary. I (my company) am ready to apply the government's system of reducing working hours.	[4]
Autonomy	Members actively participate in the decision-making and opinion coordination process within my team (my company). My team (my company) culture is horizontal and quite free. The decision-making within my (my company) team is quick and efficient.	[29]
Difficulties in Hiring	Many difficulties occur in my team (my company) for hiring new employees.	[1]

	My team (my company) often has difficulties in hiring experienced positions. My team (my company) frequently has difficulties in employee recruitment.	
System Acceptance Benefit	I (my company) believe that complying with a 52-hour workweek will help improve employees' job competency in the long term. I (my company) believe that following the 52-hour workweek will help improve employees' creativity in the long run. I (my company) believe that following the 52-hour workweek will help the company's performance in the long run.	[22]
System Acceptance Penalty	I (my company) think the penalty amount when violating a 52-hour work week (20 million won or less) is huge. I (my company) believe that the penalty of imprisonment (less than 2 years) for violating the 52-hour workweek is a significant thing. I (my company) think that if we violate the 52-hour workweek, the government will impose sanctions against us.	[22]
System Acceptance	I (my company) will actively accept the 52-hour workweek system. I (my company) will make efforts to comply with a 52-hour workweek system. I (my company) is positive about a 52-hour workweek system.	[33]
Opportunism	I (my company) think the 52-hour workweek system is unnecessary. I (my company) feel uncomfortable about complying with the 52-hour workweek system. I (my company) do not think the neighboring companies will comply with the 52-hour workweek system properly.	[23]

3.2 Analysis Methods

In order to analyze the causal relationship between the proposed variables, instead of verifying their respective hypotheses, this study used covariance structure analysis to analyze the complex causal relationship. SPSS and AMOS were used as tools for analysis.

4. The Results

4.1 Characteristics of the Samples

The characteristics of samples used for the analysis of this study are as follows. In terms of work history, 21 people (9.3%) were less than 1 year, 70 people (31.1%) were more than 1-year ~ less than 3 years, 101 people (44.9%) were more than 3 years ~ less than 5 years, 16 people (7.1%) were more than 5 years ~ less than 10 years, and 17 people (7.6%) were more than 10 years. Regarding the location, Seoul accounted for 145 (64.4 percent), Gyeonggi province accounted for 74 (32.9 percent), and outside the metropolitan area accounted for 6 (2.7 percent). Regarding the company scale, 25 people (11.1%) work for a company with less than 5 employees, 37 people (16.4%) work for a company with 5 or more and less than 9 employees, and 42 people work for a company with 10 or more and less than 29 employees (18.7%), 54 people (24.0%) work for companies with more than 30 and less than 99 people, and 67 people (29.7%) work for companies with more

than 100 people.

4.2 Reliability and Validity of Measurement Items

The validity of the measurement model was verified using the final collected data (n=225). For verification of the measurement model, the reliability test and validity test are commonly used. Among them, the study tested validity for metrics through convergent validity and discriminant validity. For reliability verification, Cronbach's α coefficient (more than 0.7), which is commonly used in social science research, was used [9]. Also, the study used factor load values from the results of confirmatory factor analysis through AMOS for intensive assessment verification. Also, in general, it is determined that the factor load is significant if it is ±0.4 or more [11].

The validity of discrimination is to verify the extent to which two similar concepts are clearly distinguished. To this end, average variance extraction (AVE) proposed by Fornell and Larcker [6] and the Pearson correlation analysis method were used. If the square root value of AVE in each component concept exceeds the correlation value between the component concept and other component concepts, it is considered that there is discrimination rationality [3].

Table 2 shows the test result of the reliability and validity. According to the result of the reliability measurement, there was no item that hindered the reliability. The Cronbach's α value used for reliability verification ranged from 0.797 to 0.922, indicating more than the recommendation (0.7 or higher), so the reliability of the measurement item is considered to be secured [9]. In addition, the factor loading value to verify the validity was also higher than the standard value suggested in previous studies, so it turned out there was no problem with the validity of the measurement item. Finally, discriminant validity using the average variance extraction value was found to have no problem, so it is judged to have been secured [11]. These results statistically prove the internal consistency and validity of the survey questions. Table 2 shows the results of verification for the reliability and validity of the metrics. In addition, as shown in Table 3, the square root value of the variance extraction value marked on the diagonal is greater than the correlation coefficient of each factor. The validity of discrimination between the constructed concepts has been ensured through it.

Table 2. Confirmatory factor analysis and reliability

Variables	Measurement Items	Factor Loadings	Measurement Errors	Cronbach's α	C.R	AVE
Awareness	AWAR1	0.842	0.219			
	AWAR2	0.874	0.193	0.876	0.901	0.752
	AWAR3	0.801	0.287			
Necessity	NECE1	0.868	0.170			
	NECE2	0.808	0.165	0.894	0.940	0.839
	NECE3	0.910	0.095			
Autonomy	AUTO1	0.892	0.171			
	AUTO2	0.832	0.098	0.922	0.938	0.835
	AUTO3	0.856	0.206			
Difficulties in Hiring	DIFF1	0.862	0.157			
	DIFF2	0.838	0.218	0.873	0.912	0.776
	DIFF3	0.807	0.229			
System Acceptance Benefit	BENE1	0.700	0.383			
	BENE2	0.925	0.113	0.864	0.900	0.751
	BENE3	0.857	0.192			

System Acceptance Penalty	PENA1	0.771	0.440			
	PENA2	0.825	0.254	0.809	0.827	0.616
	PENA3	0.712	0.419			
System Acceptance	ACCE1	0.665	0.582			
	ACCE2	0.751	0.511	0.797	0.801	0.576
	ACCE3	0.859	0.191			
Opportunism	OPPO1	0.826	0.348			
	OPPO2	0.953	0.083	0.901	0.916	0.785
	OPPO3	0.851	0.203			

4.3 Verification of Measurement Model

To verify the reliability and validity of the measurement model, the suitability was tested whether the collected data were suitable for the research model. The verification for suitability of the initial measurement model was conducted with a total of 24 measurement items. There are Fit-indices such as GFI (Goodness-of-fit Index) is 0.9 or higher, NFI (Normal Fit Index) is 0.9 or higher, RMR (Root Mean Square Residual) is 0.05 or lower, CFI (Comparative Fit Index), a p-value (>=0.05) for 0.9 or more were used. According to the results of verifying the suitability of the measurement model, the degree of suitability was x^2= 301.386 (df=224), p = 0.000, x^2/df = 1.345, GFI = 0.905, NFI = 0.913, CFI = 0.976, and RMR = 0.036. Since most of all indices were above the recommended limit, it is determined that there is no problem with the degree of suitability. This can be interpreted that the data collected to verify the research model is suitable for the research model [9].

Table 3. Correlations among Constructs

Variables	Correlation coefficients between variables							
	1	2	3	4	5	6	7	8
(1) Awareness	**0.867**							
(2) Necessity	.015	**0.916**						
(3) Autonomy	.147*	.183	**0.914**					
(4) Difficulties	-.031	.016	.100	**0.881**				
(5) Benefits	.218**	.046	-.159*	-.061	**0.867**			
(6) Penalty	-.035	.321**	.368**	.215**	.005	**0.785**		
(7) Acceptance	.009	.030	-.072	-.096	.043	-.052	**0.759**	
(8) Opportunism	.021	.199**	.608**	.099	-.151*	.529**	-.052	**0.886**
Average	3.670	3.919	3.499	3.532	3.193	3.516	2.637	3.554
Standard Deviation	0.494	0.689	0.826	0.581	0.834	0.814	0.832	0.874

** p<.01, * p<.05, number at the diagonal line is average variance extracted (AVE).

As shown in Table 3, the variance extracted index was larger than the square value of the correlation coefficient of each factor. Therefore, the discriminant validity between constituent concepts was secured [9, 11].

4.4 Verification of Structural Model and Research Question Verification

After verifying the validity of the measurement model, the study performed structural equations (SEM) to verify the effects between variables presented in the research model. Two important results could be derived from structural-equation analysis. The first result is the degree of suitability of the structural model. Looking at the degree of suitability for the research model, it was found that x^2=379.231 (df=234), p=0.000, CMIN/DF=1.621, RMR=0.056, NFI=0.891, CFI=0.955, GFI=0.880, AGFI=0.846, TLI=0.946, and IFI (Delta2) = 0.955. When looking at the suitability index focusing on CFI, TLI, and RMR presented as an index of model suitability, it was confirmed that the overall suitability of the research model was good [11].

The research question verification results are shown below. First, the study examined the relationship between exogenous variables and parameters. First, awareness of the system (0.308, p<0.01) has been shown to have a positive effect on attitudes toward the benefits of the system. However, the remaining factors were not significant in their impact. In comparison, the necessity for a system (0.309, p<0.01) and autonomy within the company (0.476, p<0.01) had a significant impact on attitudes towards system penalties, but it was found that the remaining factors did not have a significant impact. Next, the study looked into the relationship between parameters and dependent variables. Attitudes toward the benefits of the system have been shown to have a positive effect on both acceptance (0.536, p<0.01) and opportunism (0.156, p<0.1). By comparison, the attitude towards penalties was found to have a significant effect only on opportunism (0.695, p<0.01).

Table 4. The result of research model

Path	Path coefficients	Results
Awareness -> Benefits	0.308***	Accept
Necessity -> Benefits	-0.047	Reject
Autonomy -> Benefits	-0.02	Reject
Difficulties -> Benefits	-0.035	Reject
Awareness -> Penalty	0.003	Reject
Necessity -> Penalty	0.309***	Accept
Autonomy -> Penalty	0.476***	Accept
Difficulties -> Penalty	-0.056	Reject
Benefits -> Acceptance	0.536***	Accept
Penalty -> Acceptance	0.034	Reject
Benefits -> Opportunism	0.156*	Accept
Penalty -> Opportunism	0.695***	Accept

*** p<0.01, ** p<0.05, * p<0.1

5. Conclusion

This study aimed to find out how the 52-hour workweek system being introduced in the game industry, which has become a major industry in Korea, is being accepted by companies. Conflicts often arise when the government tries to force companies to accept them in order to spread them quickly [31, 36]. This is because when the new system is accepted and spread, it is difficult to reach an agreement due to the conflict of interests in this process [30], which leads to resistance to the government [7]. In particular, game companies have different characteristics from general manufacturing companies, so it is necessary to look into them. The implication of this study can be summarized as follows.

First, in order to increase game companies' positive attitudes toward the benefits of the 52-hour workweek system, there is a need to inform them about the system. The 52-hour workweek system can be inconvenient

for companies in the short term. However, in the mid-to long-term, it can help improve employee competencies, creativity, and corporate performance. Therefore, informing the purpose of the system to the companies can make their attitude about the benefits of the system positive.

Second, in order to reduce the negative attitude of game companies about the penalty of the 52-hour workweek system, it is necessary to recognize the need for a system and respect corporate autonomy. The government published the "Discretionary Work System Operation Guide" in 2019, and is gradually expanding the scope of application of the system in 2020. However, strong sanctions are being implemented against companies that do not want to accept the system, such as imposing fines of 20 million won or less or imposing prison sentences of up to 2 years. It can be seen that the more companies that recognize the need for the system and the more game companies that value autonomy seem to recognize these regulations.

Third, the strong penalty of 52-hour workweek system seems to be likely to increase opportunism. Therefore, it would be better to increase the benefits instead. Attitudes formed by the benefits of the system increase acceptance of the system, but attitudes formed by the penalties have been shown to increase opportunism about the system. In order for the 52-hour workweek system to be accepted more smoothly, it is necessary to raise awareness of the system, and at the same time increase the benefits associated with acceptance of the system.

If there is a limitation of this study, it is determined that the characteristics of the game industry are divided into the research results, but various other variables can represent the characteristics of the game industry. Therefore, further research is needed according to whether unexpected psychological factors or other changes can be distinguished. In addition, this study was conducted as a cross-sectional study, but future studies need to be conducted in depth as a longitudinal study.

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