

Employee Motivational Factors For the Korean Online Game Industry[†]

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Abstract

Employee motivation is an extremely important issue in Korea's online game industry where the recruiting and retention of company professionals is a key to survival. This study was conducted with the specific goal of determining the primary motivational factors for Korea's online game industry workers. Self-perceived motivational factors focus on having interesting/favorable jobs followed by additional rewards/incentives and feelings of contribution. Using a statistical framework, self-actualizing factors such as having an interesting job or feelings of contribution at work were identified as being of higher motivational worth than financial compensation in many cases. However, as workers age, the desire for job security and work/life balance does not outweigh the motivation provided by incentives and salary. This study offers valuable direction to Korean game industry HR managers and executives in designing employment, worker development and retention packages.

I. Introduction

The Korean online game industry has experienced extreme growth in terms of

both size and scope since its inception in the latter half of the 1990s. Creativity, game development and operational ability, rapid expansion and various commercial and governmental promotions have been identified as key success factors. Although it possesses only a little more than a decade of existence, the industry is seen as one of the most important service contents produced in Korea and

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is viewed by the government as being one of the new growth engines for the next generation. The outlook for the industry isn't without its issues though. Problems such as an insufficient infrastructure, poor original sources, and rapidly changing customer needs and technical requirements are seen as some of the limitations to continued expansion (Korea Creative Content Agency, 2009).

Another issue of critical importance to game development companies is based on the recruitment and retention of talented, professional employees. In recent years, the average salary of game professionals has skyrocketed and the average turnover rate in the online game industry has surpassed 20% per year despite the high national unemployment rate (Jobkorea). In addition, developers have shown a tendency to continually pursue new experiences and success, which has also contributed to the high turnover rate. Lastly, many employees appear to lack self-motivation and don't appear to be as engaged as required to add proper value to their organizations. These trends are viewed with great concern by industry executives and HR managers due to the creative and value-added nature of the business that requires a continual inflow

of creative ideas, design competency, new IT technologies and operational excellence.

To resolve these issues, online game companies' HR managers and executives must have an interest in the factors that directly and indirectly influence their employees' individual and organizational performance and design programs that improve employee self-motivation, company attractiveness and assist in continued retention. To achieve these goals, managers must first understand employee motivational factors that affect them from a general standpoint as well as more specific insights as applied to different job levels or salaries.

This study was conducted with the specific goal of determining the primary motivational factors of Korea's online game industry professionals. The determination of these factors will provide valuable information for the recruitment, motivation and continued retention of key game development professionals. This information will not only be critical for online game companies' HR managers and executives, but potentially also those of other IT related companies as well.

This paper is organized into 6 parts. Part II will include a review of the liter-

ature on motivational theory that relates to this study. In part III, the Korean online game industry and associated human resource matters are briefly explored. The following section introduces the data and methodology. Part V offers the empirical framework and results of the data analysis. The last section provides an explanation as well as potential implications to Korea's online game industry for HR managers and executives.

II. Literature Review

Due to employee motivation being regarded as a critical factor in organizational success, the study of motivation has been of great interest to business people and researchers since groups of people began to work together. During this time, researchers have extended many different theoretical concepts of how motivation, job satisfaction and work performance relate to and influence each other. Motivation theorists developed and refined this notion so that at least three different aspects of movement or action can be specified (Locke and Latham, 1994; Pintrich, Marx, and Boyle, 1993). Motivation is seen to directly impact the

selective direction of behavior (Why is one behavior chosen over another? What is the purpose of the behavior?), the selective energization of behavior (How much effort is devoted to the behavior?), and the selective regulation of behavior (Should a particular behavior be maintained, altered or terminated?). In addition to these three aspects, by definition, motivation means many things to many different people. Golembiewski (2000) found more than 140 formal definitions for the term. For this study, motivation is operationally defined as the inner power that drives individuals to accomplish personal and organizational goals.

Encompassing the characteristics of that inner power, this research focused on four high level theoretical areas of motivation. No one specific theory or concept of motivation was chosen as it was felt that this would limit the overall ability to understand the complex environment of the game industry. The high level cross-section of chosen areas involves concepts of motivation regarding economic needs, social needs, self-actualization needs, and the complex-man theory.

The economic needs area, also referred to as the rational-economic concept of

motivation, was pioneered by researchers such as Frederick Taylor and focused on the belief that people are motivated the most through economic means. Specifically, Taylor believed that people are rational, respond as individuals and are mostly concerned with maximizing their economic gains (Kovach, 1987). His research indicated that specific motivational factors, such as salary, rewards for performance, fringe benefits and ultimately job security, are the most efficient and effective ways of motivating and managing a workforce.

The second area dealing with motivation that was factored into this study was that of social needs. This area has been the focus of a great deal of emphasis starting with the work of Maslow and followed by many other researchers. Maslow (1943), within the context of his hierarchy of needs, identified that the need to belong to a group could be a powerful motivator. Additional works, such as those by Alderfer, also continued to develop this area. Alderfer (1972) identified the emotional need for relatedness that further illuminated the concept that relationships with others can be a motivating factor. Additional motivators within this area involve relationships or in-

timacy with coworkers, management, and company support of interests/personal issues (Kovach, 1987).

Self-actualization needs make up the third conceptual area. As with the other areas, many researchers have put a great deal of work into broadening the depth and breadth of self-actualization as a motivator. Also starting with Maslow regarding the pinnacle of his hierarchy of needs, self-actualization can be defined as the search for self-fulfillment or the realization of a person's potential (Maslow, 1943). In this area, greater attention is focused on the content and meaning of tasks and the attempts to make work more intrinsically satisfying (Wahba, 1976). Self-actualization motivators in this study include those such as having interesting jobs, opportunities for growth and development and the ability to learn about new technologies.

The contingency theory, originating with the work of Joan Woodward, is the last covered area. It takes the view that there are a large number of variables which motivate people and influence organizational performance (Hofstede, 1984; Goldthorpe, 1968). Due to the complicated nature of human behavior and varying situational factors, no one approach

to motivating people can be defined. This theoretical area is also known as the complex man theory.

Together, these four areas of motivational theory provide a cross-sectional, catch-all framework of the primary possible motivators that influence professional employees of Korea's online game development firms and were used to identify the questions posed to research participants.

III. Online Game Market in Korea

1. Korean Market Overview

Korea's experience with online games, which can be defined as games that connect many players together on a server that can be accessed over the internet by individual PC terminals (Walcutt, 2008), began in the 1990s with the introduction of the internet and the advent of such foreign games as Starcraft and FIFA 99. At this time, these foreign games had virtually no domestic competition and took majority control of the Korean market (Lee, 2001). Starting at the end of 1999,

however, home-grown Korean games began to replace many of the foreign imports. Since that time, Korea has grown into the world's second largest online game market in the world with total sales of \$2.44 billion in 2008 (Korea Creative Content Agency, 2009). See [Figure 1] below for ranking information.

(Unit: Million \$)

Division	Online game	
	Total sales	Ranking
Japan	874	7
USA	1,417	3
Europe	1,936	-
China	2,550	1
Korea	2,440	2

Source: Korea Game Whitepaper, 2009.
[Figure 1] Global Game Mkt Size/Ranking

This size reflects a market which is primarily fulfilled by domestically produced games and the rest is based on imports from China (Korea Creative Content Agency, 2009). In addition to filling domestic needs, Korean companies also have been exporting a growing amount of games to overseas markets such as the United States, Japan and Taiwan with increasing market penetration and revenue coming from China (Korea Creative

Content Agency, 2009; Cho, 2007).

The Korean market is expected to continue its growth into the near future (Kim, 2004). [Figure 2] below shows the ongoing, double digit growth the global industry has experienced in the past and predictions for the foreseeable future of which is being shared by Korea. This growth is not expected to occur without a share of problems though. Threats include a host of issues ranging from a lack of innovation in story lines and game types to growing international competition to name a few (We, 2006). Addressed within the context of this paper is the growing difficulties dealing with finding, motivating and retaining quality employees which will impact the future ability of Korean firms to compete in the domestic and global market.

2. Korean Online Gaming Companies-HR Perspective

With this study's specific goal of de-

termining motivational factors of professional employees in the online gaming industry, additional context must be provided to detail gaming companies' human resource situation. To do this, employee types, skills and classifications must be identified as well as providing an overview of the HR related trends currently affecting the industry.

Specifically defining the types of employees this study applies to must be the first step. For the gaming industry, a professional employee can be defined as someone who has been trained to be adept in certain online game developing skills and competencies and then has gained experience through work at a gaming firm. Korea's Game Development Institute classifies the industry's professionals into two major job groups: technical and creative workforce members. Technical workforce employees are experienced with game graphics, sound and in computer programming. These employees' specific job types typically in-

(Unit: Millioin \$)

Division		2006	2007	2008	2009	2010	2011
Online	Total Sales	6,667	8,931	10,849	13,458	16,639	19.73
Game	Growth Rate %	-	34.0	21.5	24.1	23.6	18.8

Source: Korean Game Whitepatpe, 2009.

[Figure 2] Current Situation of Golba Game Industry

clude positions such as computer programmer, three dimension artist, and design artist. Their skill sets require competency in the collaborative process of writing and testing code as well as producing both the graphics and sounds necessary for game production and implementing them into a comprehensive, cohesive whole. Creative workforce employees are primarily engaged in game and scenario planning. These employees develop, prototype and iterate the game story line, content, mechanics, and implementation.

In 2008, these two employee types accounted for approximately 75% of all game company employees in Korea with 22,946 workers or 53.7% of the workforce engaged in technical activities and 22.4% or 9,571 workers engaged in creative activities (Korea Creative Content Agency, 2009). The rest of the positions were primarily for advertising, marketing and general staff. See [Figure 3] for a further specific breakdown.

There are a number of current trends that are affecting gaming companies' HR departments. The first relates the overall

(Unit: Millioin \$)

Division	Total Employees		Avg. Employees per Company		Rate of Composition(%)	
	2007	2008	2007	2008	2007	2008
Game PD	2,421	1,538	1.9	0.9	6.6	3.6
Planner	4,610	5,384	3.6	3.2	12.5	12.6
Graphic Designer	8,960	10,255	7.0	6.1	24.3	24.0
Progammer	7,511	9,443	5.8	5.6	20.4	22.1
Scenario Writer	165	342	0.1	0.2	0.4	0.8
Sound Creator	305	385	0.2	0.2	0.8	0.9
H/W Developer	1,364	598	1.0	0.4	3.7	1.4
System Eng.	1,218	2,265	1.0	1.3	3.3	5.3
Game Master	2,769	2,307	2.2	1.4	7.5	11.0
Adv. and Marketer	2,639	3,675	32.1	2.2	7.2	8.6
General Staff	4,866	6,538	3.8	3.9	13.2	9.7
Total Employees	36,828	42,730	28.7	25.4	100.0	100.0

Source: Korean Game Whitepatpe, 2009.

[Figure 3] Employee Types/Count in the Korean Game Industry

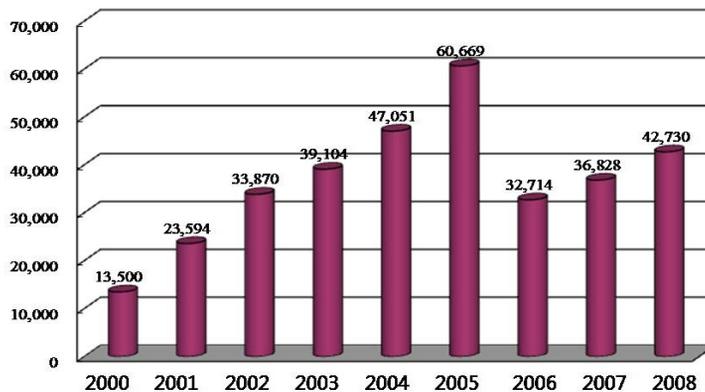
expansion of the industry and growth in the number of employees required by the market. [Figure 4] illustrates that, despite a major fall in market employment in 2005, demand for employees has rebounded and is growing steadily. This growth has increased the difficulty for the HR team to find competent, experienced and affordable professionals.

Employee pay is another major concern for gaming companies. As it is believed by many experts that game company success is dependent upon their acquisition and maintenance of key, talented employees, firms must pay whatever amount is requested or miss the opportunity to hire one of these talents (Noh and We, 2007). This trend has proven to be a major issue, especially among

the smaller to medium sized game development firms as wages have risen considerably (Korea Creative Content Agency, 2009).

A third HR related trend regards the relatively high rate of employee turnover. It is reported that the gaming industry currently suffers a 20% turnover rate per year (Jobkorea). This is quite high considering the current economic situation in Korea. This turnover is seen as being the result of employees always looking for new experiences and success and has proven difficult for company HR teams to stop.

Another trend that is directly impacting the gaming firms is a less than stellar record of self-motivation. Employees, not just within this industry, but in many



Source: Korean Game Whitepaper, 2009.

[Figure 4] Employee Types in the Korean Game Industry

areas of the Korean economy are seen as being less than motivated in their jobs. A consultancy firm's recent survey has identified that only 6 percent of Korean employees feel that they are fully engaged in their work and that this is 15% lower than the global average (Yoon, 2010). Some HR directors have felt that employees in the gaming sector follow this trend which prevents them from adding the proper amount of value to their work as well as doing the proper self-improvement necessary to keep their knowledge competitive with the needs of the marketplace.

The last growing issue compounds the problems created by a lack of personnel, the high turnover rate and the gaps in workforce motivation. This issue simply stems from the nature of the business itself. The ever changing technology used for game creation and the demands from game players and security risks creates a situation of constant flux in the marketplace. Gaming companies must constantly strive to stay abreast and ahead of technology and market demands or be forced to leave the market. Not possessing the right professional employees with the right skills and proper motivation can prove to be a substantial issue to the

long-term viability and growth of the firm and industry.

These issues will not necessarily prevent industry firms from continuing to survive, but will certainly prevent them from achieving their full potential.

IV. Data and Method

As stated in the introduction, this study was conducted with the specific goal of determining the primary motivational factors of Korea's online game industry workers. To achieve this goal, a specialized questionnaire was developed and circulated amongst a subset of the employees at thirteen of Korea's online game development companies during March, 2010, after first being tested with a small group to validate the questions and provide some validation to the final study results. The targeted subset was composed of those employees specifically belonging to the technical and creative areas within the participating game companies. Job types that were specifically singled out included those related to game and scenario planning, graphics, programming, sound and quality analysis. These job types were targeted as

they are the groups identified as providing the greatest value to the game companies and who are the most difficult to attract and retain.

1. Questionnaire Development

This study was conducted using a specialized questionnaire designed to identify the key motivational factors of the targeted groups of employees. The questions themselves primarily consisted of structured questions with the option to include non-standard input by the respondent. Each questionnaire possessed four sections. The first section regarded general questions about the respondent's position in the company, inquired about their official job and level within the firm, length of time spent working for the company, and salary. The following section used 5 point Likert scales to determine the employee competency level per their manager's performance evaluation and expectations towards their position/status within their organization within 3~5 years as well as their overall estimation of the future of Korea's online game industry.

The third section of the questionnaire dealt specifically with employee motiva-

tional factors. Gaming employees were asked to discuss the most and least satisfactory things about their organizations and were either allowed to choose between the provided options of salary, fringe benefits, organizational culture, opportunity to grow and develop or were allowed to fill in their own free association term. The second primary question within this section, assessed as ordinal figures, dealt with ascertaining the top 3 motivational factors from a list of 18 choices. These factors ranged from dealing with the job itself and ability to grow within it to salary and power. A full list of the factors can be found in <Appendix 2>. The last motivation related question was a validating point related to the previous question as it asked the reason why the respondent was motivated by the chosen factors. Answers to this question included the relationship to individual economic stability, harmony with personality and the stimulation the factors have on the individual's growth and development. The motivational factors for the last question were chosen to represent the full spectrum of different motivations covered within the literature.

The final section identified the respondents' personal profiles with questions

determining age, gender, and educational background. The combination of these four sets of questions would allow for the identification of a good profile of the individual as well as an overview of their place within their companies and their self-identified motivational factors.

3. Data Collection

A paper survey was employed in the data collection process of this study. Surveys were delivered to 13 different Korean online game development companies and collected several days later. The final number of surveys collected totaled 175. Based on estimates provided by the Korea Game Institute, this total is a little under 0.6% of the total online game development professionals in the domestic industry (Korea Creative Content Agency, 2009). The final number of completed surveys provided a 95% confidence level with an interval of approximately 7.5 based on the overall Korean online game company employee population.

4. Hypotheses

In preparation for the creation of the

questionnaire and development of the methodology, seven hypotheses were identified based on research and industry experience. These hypotheses were tested within the course of the study.

- **Hypothesis 1:** An interesting job is a positive motivating factor for Korean online game industry employees, regardless of job level.
- **Hypothesis 2:** An interesting job is a positive motivating factor for Korean online game industry employees, regardless of salary.
- **Hypothesis 3:** A positive view of the future of the Korean online game industry is a positive motivating factor.
- **Hypothesis 4:** The higher their salary, the more game employees hold non-monetary factors as positive motivators.
- **Hypothesis 5:** The older the employee, the more highly they consider job safety oriented factors, such as job security, as positive motivation factors.
- **Hypothesis 6:** The lower the performance evaluation, the more motivated an employee is by job security and related motivational factors.
- **Hypothesis 7:** The higher the performance evaluation, the more motivated

an employee is by self-realization factors, such as feeling of contribution and opportunities for growth and development.

V. Analysis and Results of Estimations

1. Online Game Company Employee Profile

Based on the modal responses from the questionnaire, the online game company employee population was mostly comprised of 31~35 year old (52%), community college educated (61%), men (80%) who possess deputy manager level positions(39%) and earn \$30,000~\$40,000per year (41%). In addition, there was a virtual split between the top three polled job types. Primary types were related to game programming, game graphics and game/scenario planning (33%, 32% and 30% respectively). The last piece of information applying to the general profile is that of the average company working period. The average reported working time for employees to be at their current company was 3.1 years. This short period of time contrasts with the 11.2 years

reported for employees working at 100 of Korea's large companies and supports the claim that the average game industry turnover is over 20% (Statistics Korea, 2008).

2. Frequency Analysis of Motivation Factors

One of the questions on the survey asked the respondents to select 3 of the 18 motivators that drive them. In appendix 2, a compiled list of these motivators can be found as well as the frequency of their selection and ranking. The factors are also broken down by job rank for additional clarity. The selected factors provide a good deal of information about the self-perceived things that motivate employees in the gaming firms. As shown in the appendix, employees of all levels place their primary emphasis on seven motivating factors: interesting job, additional performance rewards, feeling of job contribution, intimacy with coworkers, work/life balance, official power/position and salary.

3. Hypotheses Analysis

Seven hypotheses were identified in

the early stages of the study and were meant to identify the gaming company employees' motivational factors. The basic research was compiled using frequency analysis and the hypotheses were analyzed using the Chi-square test as the primary test method.

• **Hypothesis 1:**

Hypothesis 1 states that an interesting job is a positive motivating factor for Korean online game industry employees, regardless of job level. See [Figure 5] for the frequency analysis.

The results of the correlation between job level and interesting job motivational factors show a significance level α of 0.6734. As the significance level minimum is 0.05, we can accept hypothesis 1.

Statistics	DF	Value	Prob.
Chi-square	3	1.5386	0.6734
Likelihood Ratio Chi-square	3	1.5378	0.6736

[Figure 6] Hypothesis 1: Chi-Square Statistic

As Hypothesis 1 was accepted, it implies that game company employees find that having interesting jobs serves as a good motivating factor. Another general interpretation can find that the Korean online game development industry's employees are satisfied with their industry and have a high engagement in their job.

It has been shown by KOGIA that, in general, Korean online game company employees have a higher job engagement and satisfaction than conventional or other IT technology industries' employees

Frequency	Expected frequency	Economic Factors	Noneconomic Factors	Total
Rank-and-file worker level		111	303	414
		113.82	300.18	26.29%
Deputy manager level		177	435	612
		168.25	443.75	38.86%
Manager level		121	347	468
		128.66	339.34	29.71%
Senior manager level		24	57	81
		22.269	58.732	5.14%
Total		433	1142	1575
		27.49%	72.51%	100%

[Figure 5] Frequency Analysis: Interesting Job vs. Job Level Motivational Factors

(Korea Creative Content Agency, 2009). It can be surmised that online game employees were engaged in their industry even before entering their companies as many are already passionate gamers. From a practical standpoint and in order to maintain competitiveness in recruiting and retaining professionals, positions and conditions must remain as interesting, challenging and positive as possible.

• **Hypothesis 2:**

Hypothesis 2 states that an interesting job is a positive motivating factor for Korean online game industry employees, regardless of salary level. See [Figure 7] for the frequency analysis.

Frequency	Expected frequency	Economic Factors	Noneconomic Factors	Total
Under 30,000 USD		108	324	432
		118.77	313.23	27.43%
30,000~40,000 USD		178	461	639
		175.67	463.33	40.57%
40,000~50,000 USD		178	461	639
		175.67	463.33	40.57%
50,000 ~60,000 USD		24	57	81
		22.269	58.731	5.14%
Over 60,000 USD		8	19	27
		7.4229	19.577	1.71%
Total		433	1142	1575
		27.49%	72.51%	100%

[Figure 7] Frequency Analysis: Interesting Job vs. Salary Level Motivational Factors

The results of the correlation between salary level and interesting job motivational factors show a significance level a of 0.7151. As the significance level minimum is 0.05, we can accept hypothesis 2.

Statistics	DF	Value	Prob.
Chi-square	4	2.1122	0.7151
Likelihood Ratio Chi-square	4	2.1296	0.7229

[Figure 8] Hypothesis 2: Chi-Square Statistic

As hypothesis 2 was accepted, we can the assumption that this hypothesis simply bolsters the claim made in hypothesis 1 that employees are motivated more by the level of interest in their positions

Frequency Expected frequency	Not bad	Skeptical/ Very Skeptical	Hopeful/ Very Hopeful	Total
High grades of performance evaluation	23	5	48	76
	21.28	6.9486	47.771	43.43%
Low grades of performance evaluation	26	11	62	99
	27.72	9.0514	62.229	56.57%
Total	49	16	110	175
	28%	9.14%	62.86%	100%

[Figure 9] Frequency Analysis: Performance Evaluation vs. Industry Outlook

rather than the money earned in those positions. This information can be directly applied to helping create both hiring and retention packages.

• **Hypothesis 3:**

Hypothesis 3 states that a positive view of the future of the Korean online game industry is a positive motivating factor. See [Figure 9] for the frequency analysis.

The results of the correlations between employee performance evaluations and their view of the industry future factor show a significance level α of 0.5451. As the significance level minimum is 0.05, we can accept hypothesis 3.

Statistics	DF	Value	Prob.
Chi-square	2	1.2136	0.5451
Likelihood Ratio Chi-square	2	1.2448	0.5367

[Figure 10] Hypothesis 2: Chi-Square Statistic

As hypothesis 3 was accepted, it implies that an employee’s view of the future of the industry has a primary motivational effect on how hard they work and hence has an impact on their performance evaluations. Therefore, HR packages may use the view of the “bright future” of Korea’s online gaming industry as a motivational factor for their existing employees. The results of this hypothesis can also be used by HR personnel in regards to the recruitment of new employees. Having a positive outlook on the future can possess some weight in the attraction process of recruiting new workers to a particular company.

• **Hypothesis 4:**

Hypothesis 4 states that the higher their salary, the more game employees hold nonmonetary factors as positive motivators. See [Figure 11] for the frequency

Frequency	Expected frequency	Economic Factors	Noneconomic Factors	Total
Under 30,000 USD		37	107	144
		38.126	105.87	27.43%
30,000~40,000 USD		54	159	213
		56.394	156.61	40.57%
40,000~50,000 USD		40	92	132
		34.949	97.051	25.14%
50,000~60,000 USD		4	23	27
		7.1486	19.851	5.14%
Over 60,000 USD		4	5	9
		2.3829	6.6171	1.71%
Total		139	386	525
		26.48%	73.52%	100%

[Figure 11] Frequency Analysis: Annual Salary vs. Non/Economic Motivational Factors

analysis.

The results of the correlations between annual salary and the economic motivational factors show a significance level α of 0.3360. As the significance level minimum is 0.05, we can accept hypothesis 4.

Statistics	DF	Value	Prob.
Chi-square	4	4.5554	0.3360
Likelihood Ratio Chi-square	4	4.6187	0.3287

[Figure 12] Hypothesis 4: Chi-Square Statistic

As hypothesis 4 was accepted, it implies that the more employees earn, the more they become interested in non-monetary factors as motivators. As the basic monetary needs are fulfilled, gam-

ing employees do seem positively interested in factors such as opportunities for growth, feelings of contribution and the overall amount of interest the job holds for them. Therefore, in order to maintain competitiveness in recruiting and retaining professionals, appropriate levels of non-monetary factors must be considered.

• Hypothesis 5:

Hypothesis 5 states that the older the employee, the more highly they correlate job safety and economic oriented factors, such as job security, salary, etc., as positive motivation factor.

The results of the correlations between annual salary and the economic motivational factors show a significance level α

Frequency	Expected frequency	Economic Factors	Noneconomic Factors	Total
20~30 years old		162	9	171
		155.37	15.634	32.57%
31~35 years old		246	27	273
		248.04	24.96	52%
36~40 years old		69	12	81
		73.594	7.4057	15.43%
Total		477	48	525
		90.86%	9.14%	100%

[Figure 13] Frequency Analysis: Age vs. Economic Factors(ie. Job Security, Salary, etc.)

of 0.0404. As the significance level minimum is 0.05, we can reject hypothesis 5.

Statistics	DF	Value	Prob.
Chi-square	2	6.4190	0.0404
Likelihood Ratio Chi-square	2	6.4749	0.0393

[Figure 14] Hypothesis 5: Chi-Square Statistic

As Hypothesis 5 was rejected, it implies that as workers age, they do not find the motivational factors of job se-

curity and work/life balance of a greater motivational importance than monetary factors. Therefore, when HR is designing employment packages, especially those for older workers, they must not over-emphasize the roles of job security or the balance between work and personal time as being primary motivators.

• **Hypothesis 6:**

Hypothesis 6 states that the lower the performance evaluation, the more moti-

Frequency	Expected frequency	Job security	Except job security	Total
Low		6	12	18
		4.7657	13.234	3.43%
Medium		52	158	210
		55.6	154.4	40%
High		81	216	297
		78.634	218.37	56.57%
Total		139	386	525
		26.48%	73.52%	100%

[Figure 15] Frequency Analysis: Performance Evaluation vs. Job Security and Monetary Factors

vated an employee is from job security and related motivational factors.

The results of the correlations between performance evaluation and job security motivational factor show a significance level α of 0.6542. As the significance level minimum is 0.05, we can accept hypothesis 6.

Statistics	DF	Value	Prob.
Chi-square	2	0.8486	0.6542
Likelihood Ratio Chi-square	2	0.8318	0.6597

[Figure 16] Hypothesis 5: Chi-Square Statistic

As Hypothesis 6 was accepted, it implies that employees who have received low evaluation scores are very concerned about the security of their jobs and their need for income. That need for security and income can be considered a solid motivator in getting poorer employees to engage in their work.

Frequency	Expected frequency	Self-Actualization	Non Self-Actualization	Total
High		182	115	297
		178.2	118.8	56.57%
Low/Medium		133	95	228
		136.8	91.2	43.43%
Total		315	210	525
		60%	40%	100%

[Figure 17] Frequency Analysis: Performance Evaluation vs. Self-Actualization Motivators

• Hypothesis 7

Hypothesis 7 states that the higher the performance evaluation, the more motivated an employee is by non-monetary motivational factors, such as the feeling of contribution coming from their job and opportunities for growth and development.

The results of the correlations between performance evaluation and self-actualization motivational factors show a significance level α of 0.4946, which is over the 0.05 minimum significance level, Hypothesis 7 can be accepted.

Statistics	DF	Value	Prob.
Chi-square	1	0.4665	0.4946
Likelihood Ratio Chi-square	1	0.4661	0.4948

[Figure 18] Hypothesis 6: Chi-Square Statistic

Hypothesis 7 was accepted, which implies that self-actualization motivators

can definitely be connected with positive performance evaluations. Applying this result would encourage HR managers to continue to balance employees' monetary motivators, however, monetary motivators must be balanced with self-actualization as well.

4. Hypotheses Results Summary and Implications

In the course of this study, a total of seven different hypotheses regarding how game company employee motivators were tested. Of the seven, only one hypothesis that looked to more closely link aging employees with motivators such as job security was rejected. All other hypotheses were accepted.

The acceptance of these hypotheses allows HR managers to assume a number of different things about their employees. First, motivators based solely on monetary compensation are not valid for most employees all the time. In general, the data shows that company individuals are most highly motivated by how interesting they find their jobs. The direct implication for HR is that they need to ensure the employees' jobs and workplaces continue to be considered "interesting or

favorable" by the workforce to prevent turnover.

The next primary motivators depend upon the job positions with lower level employees placing a great emphasis on their feelings of contribution and the intimacy gained with their coworkers whereas upper level employees shift their focuses on monetary motivators, including salary and other rewards, before moving on to power and work/life balance. We can assume these notions are correct by understanding that lower ranked and paid employees are more newly hired and share a greater sense of motivation from working in the gaming industry and from the high level of interest they have in the companies than do higher ranked employees. They also receive motivation from that feeling of contribution they share with other members of the firm. Implications of this for HR managers is that lower level employees should be introduced to a challenging, yet intimate work environment to assist in motivating them to deeply engage in their positions.

We can also see that the managerial level is still holding true to the interesting job motivator, but there is a rise in frequency regarding their self-perceived

financial motivators. It can be expected that managers are at an age where they will be subjected to many expensive undertakings, ie. buying homes, getting married, having children, etc., explaining their increased interest in financial motivators. HR needs to be aware of the changing focus as employees move up within the company and reorient their compensation packages accordingly.

Senior management employees also show a tendency to shift their motivating forces to those of official power and work/life balance. It can be assumed that they want to spend more time participating in the decision making processes as well as enjoy their out of work life more as well. Implications provide HR with the expectation that the employees need to be more highly integrated within the power structure of their companies as they rise in level, however, they too still demand an interesting and challenging workplace, but with a little more moderation and separation between work and their personal lives.

Another implication identified by the data is the need for self-actualization. Employees, as they rise through the ranks and increase their pay, are more highly driven by the need to “be all that

they can be” and improve their learning and development situation. Companies must allow their employees a healthy amount of opportunities for growth, development and ability to contribute to their firms to keep them fully engaged.

Lastly, unless they are receiving poor performance evaluation reviews, employees are not as highly focused and motivated by job security and similar motivators even as they spend more time in the firm or age. This implies that employment packages do not need to focus on this area.

VI. Conclusion

This study has identified many of the motivational factors as they relate to the professional employees of the online game industry. Motivation, as was pointed out earlier in this paper, can play a distinct role in the attraction and retention of game firm employees. Through this study, having an interesting or favorable job was determined to be the prime self-perceived motivational factor, followed by additional rewards and the feeling of contribution coming from their position. In addition, the only hypothesis

that was shown to be invalid is that the older the employee, the less highly they consider job safety oriented factors, such as job security, as a positive motivation factor. The rest of the hypotheses were proven valid due to the lower relative value of money than self-realization or actualization motivators. Proper incorporation of these factors into HR department programs and policies can be of great benefit in working with the potential and existing workforce.

There are several issues that might have had negative impacts on the results of this study. If larger numbers of game company employees had participated, different results may have been identified is a primary issue. A second potential limitation comes from the lack of input from the CEOs or top management of the online game development companies. As the motivational factors were determined solely based on employee self-perception, a completely different perspective might have been achieved by comparing the professionals' input with that of their management. This second limitation could be used as the basis of future study in that gathering management input to compare/contrast with employee self-perceptions might allow

the research to move closer to reality.

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<Appendix>

<Appendix 1> Survey Online Game Employee Profile

	Division	Frequency	Percentage
Gender	Male	140	80
	Female	35	20
Age	21 ~ 30	57	33
	31 ~ 35	91	52
	36 ~ 40	27	15
Educational Background	High school	27	15
	Community College	106	61
	Backelor's Degree	36	21
	Master's Degree	6	3
Job Position	Rang-and-file Level	46	26
	Deputy Manager Level	68	39
	Manager Level	52	30
	Senior Manager Level	9	5
Annual Salary	Under 30,000 USD	48	27
	30,000 ~ 40,000 USD	71	41
	40,000 ~ 50,000 USD	44	25
	50,000 ~ 60,000 USD	9	5
	Over 60,000 USD	3	2
Job Type	Game Planning/Scenario	53	30
	Game Graphics	56	32
	Game Programming	58	33
	Game Sound	4	2
	Game Quality Analysis	4	2

<Appendix 2> Employee Motivating Factor Identification

Motivating Factor	Ranking	Frequency	Top 3 Factors by Job Level (% Listed Factors)			
			Rank/ File	Dpty Mgr.	Mgr.	Senior Mgr.
Interesting job	1	116	75%	73%	65%	52%
Additional performance rewards (incentives, awards, etc.)	2	48			38%	
Feeling of contribution to job	3	43	36%	38%		
Intimacy between colleagues/family atmosphere	4	41	40%	31%		
Annual salary	5	40			20%	
Fringe benefits	6	29				
Vision of company or industry	7	27				
Work and life balance	8	26				35%
Organizational culture	9	25				
New technology and opportunity to learn	10	24				
Opportunities for growth and development	11	23				
Job security	12	22				
Good boss and leadership	13	18				
Influences in work or organization	14	9				
Loyalty to work, management or firm	15	8				
Official power or position	16	7				29%
Interests or support or personal problems	17	5				
Reasonable working discipline	18	3				