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IT PRE-ENTREPRENEUR'S FOUNDING DECISION MAKING AND PSYCHOLOGICAL MECHANISM

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ABSTRACT

This study explored IT pre-entrepreneur's decision making process between psychological perception of self and behavioral intentions toward founding. For this purpose, we investigated the influence of career development, job attitude, and job self-esteem on founding intention. The results of the analysis are summarized as follows. First, job attitude and job self-esteem are positively influenced by career development. This suggests that career development can increase job attitude and job self-esteem. Second, job attitude which influenced by career development have positively effects on founding intentions. But, job self-esteem does not influence on intentions of founding. Third, career development positively influences on job self-esteem, but job self-esteem has no effect on intention of founding. Therefore, it is necessary to make efforts to improve job attitude rather than job self-esteem in order to activate start-up business of IT pre-founder. This study has important implications for analyzing the cognitive mechanism in the decision-making process of IT pre-entrepreneur. So this study is expected to help the development of entrepreneurial decision making information system for IT start-up.

Keywords: *IT pre-entrepreneur, Decision making, Psychological mechanism, Founding information system, IT Star-up*

1. INTRODUCTION

In a review of trends in the entrepreneurship literature, a number of scholars have expressed relationship of entrepreneur personal perception and entrepreneurship process. Krueger [1] showed that psychologically personal perception is central to understanding the entrepreneurship process, and entrepreneurial intentions might be viewed as the first step in an evolving the entrepreneurship process. Entrepreneurial decision making associated with the intention to engage in entrepreneurial behavior influenced by psychologically personal perception, so it should be understood as a process that influences entrepreneurial decision making and entrepreneurial intent [2-4].

However, existing studies on founding have separately examined. In other words, it is the individual factors (internal factors) and social factors (external factors). So there is a limit to revealing the mechanism. Also, it should reflect the difference between IT and other entrepreneurs. For instance, IT start-up is more high-risk and high-return, high value-added, and high entry barriers than other start-up.

Therefore, in terms of entrepreneurial decision making, it is necessary to segment the characteristics of founders and to analyze the cognitive mechanisms of entrepreneurial intentions. In the process of entrepreneurial decision making, the characteristics of the attitude of the founder can be explained by the effect hierarchy model. If the founder forms a high involvement in entrepreneurship and has knowledge and information, the entrepreneur strongly believes in entrepreneurship. Therefore, it is necessary to induce them to positive emotions for entrepreneurship and strongly attract them to entrepreneurial behaviors. On the other hand, if founders are less involved in entrepreneurship, it is necessary to reinforce their low beliefs with positive feelings through entrepreneurial actions. And if the founder cares about experience, positive emotions through experience should lead to a process that motivates behavior and beliefs.

The purpose of this study is to investigate the founding process by analyzing the IT pre-

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founder's cognitive mechanisms in terms of learning, experience, and involvement level of founders and their cognitive mechanisms in decision- making process.

2. RESEARCH BACKGROUND

2.1 Psychological Mechanism on Founding

Cognitive mechanisms in entrepreneurial decision making can be analyzed on the basis of various theories. Social cognitive theory describes in three areas: interest, choice, and performance. The interest model is that expectations for social success can have a positive impact on decision-making. The choice model affects decision-making by creating self-esteem and social success expectations in personal characteristics such as gender, race, personality, and experiences of learning in their environment. The performance model mean that decision-making can vary depending on the level of sustainability and predictability of performance for the pursuit of social success [5].

Shane and Rakesh [6] take the view that understanding firm foundings also requires linking to individual-level processes, and they suggest that careers are an important mechanism linking individual-level processes to firm foundings.

2.2 Founding Intention of IT pre-Entrepreneur

In entrepreneurial decision making, entrepreneurial intention refers to intentional behavior of founding. And the intention of founding is a core concept that mediates entrepreneurial attitude toward entrepreneurial behavior [4, 7]. In other words, forming a decision-making act to establish a new organization is a key concept of the founding process [8-12].

Schwarz et. al. [13] explored students' entrepreneurial intent focus on three constructs to predict the entrepreneurial intent, i.e. general attitudes (toward money, change, and competiveness), the attitude toward entrepreneurship, and the perception of the university environment and regional start-up infrastructure. Zellweger et. al. [14] found that transitive likelihood of career intent depends on degree of entrepreneurial self-efficacy and the independence motive.

In IT start-up, the form of doing business is more focus on products with new technology or new ideas than other start-up.

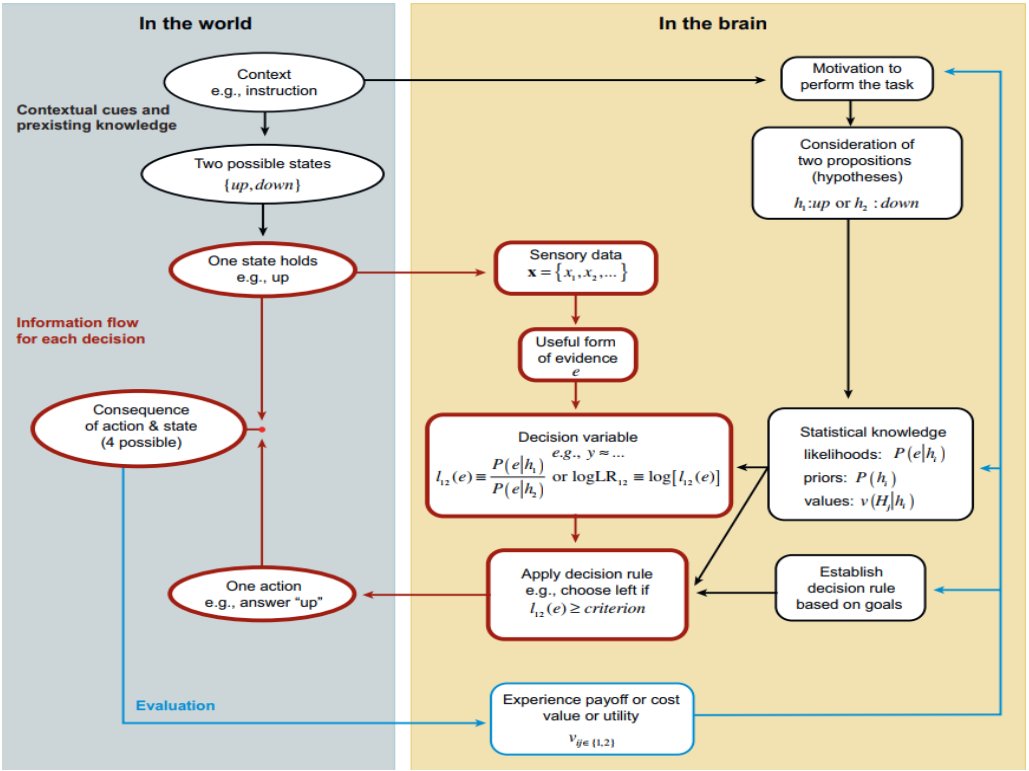

Figure 1: Decision Making Process

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2.3 Decision Making Information System

The elements of decision process are described in terms of probability theory in Figure 1 [15]. In other words, a simple decision element between the two alternatives, the left represents the elements of the world. Right represents the element of the brain's decision process. The black element sets the situation. The red elements form crystals. The blue element evaluates and, if possible, updates the decision process [15].

Based on the above research, hypothesis and the research model were set as follows.

Hypothesis1. Career development will have a positive effect on job attitude.

Hypothesis2. Career development will have a positive effect on job self-esteem.

Hypothesis3. Job attitude will have a positive effect on founding intention.

Hypothesis4. Job self-esteem will have a positive effect on founding intention.

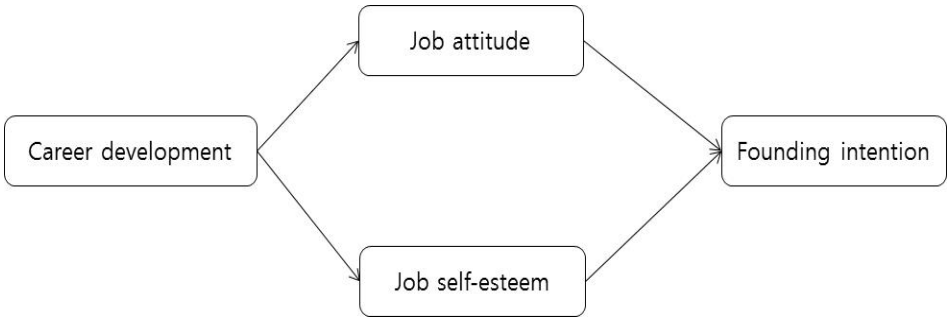

Figure 2: Conceptual Construct of Research Model

3. METHODOLOGIES

3.1 Data Sets

This study is based on the Youth Panel Survey provided by Korea Employment Information Service. This survey is conducted to collect basic data reflecting the school life, social and economic activities, and household background of young people, and to contribute to the establishment of employment policy and development of related research for youth unemployment relief. The youth panel survey has been undergoing a follow - up survey since the preliminary survey in 2001.

The data used in this study are data on youth panel data of the Korea Employment Information Service in 2014. This study selected only four-year college students to minimize variance among respondents. We also excluded missing data for the items. Table 1 shows the characteristics of the sample based on the number of respondents.

Table 1: Characteristics of respondents

Gender	Senior	Junior	Sophomore	Freshman	Total
Male	272	198	132	20	622
(%)	(27.5)	(20.0)	(13.3)	(2.0)	(62.8)
Female	263	83	19	3	368
(%)	(26.6)	(8.4)	(1.9)	(0.3)	(37.2)
Total	535	281	151	23	990
(%)	(54.0)	(28.4)	(15.3)	(2.3)	(100.0)

3.2 Operational Definition of Variable

In this study, the dependent variable is the intention of founding. And the independent variables are job attitude, job self-esteem, and career development.

The founding intention was defined by type of firm someone wants work for in the future.

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This variable was measured by binomial scale (1=founding, 0=no founding). The self-esteem for job was defined by degree of believing himself/herself relate to work. And this was measured by 2 items 'I can overcome any difficult situation', and 'I can analyze exactly what went well or wrong' (strongly no=1, strongly yes=6). The attitude of job was measured by the attitude of social recognition and achievement (very not important=1, very important=5).

And, the development of career was measured by three items 'I make a plan before start work', 'I have a clear career plan for my age', and 'I think about what career is promising in the future' (strongly no=1, strongly yes=6).

Table 2: Operational Definition of Variable

Variable	Definition	Measure
Founding intention (FI)	Firm type someone want work for in the future	founding=1, no founding=0
Career development (CD)	Make a plan before start work	strongly no=1, strongly yes=6
	Have a clear career plan for my age	
	Think about what career is promising in the future	
Job attitude (JA)	Attitude of social achievement for job	very not important=1, very important=5
	Attitude of social recognition for job	
Job self-esteem (JS)	Can overcome any difficult situation	strongly no=1, strongly yes=6
	Can analyze exactly what went well or wrong	

4. RESULTS

4.1 Characteristics of Variable

The mean of each variable was as follows. The mean of founding intention (FI) was 0.036, Career development (CD) was 4.134 to 4.272, Job attitude (JA) was 3.958 to 4.023, and Job self-esteem (JS) was 4.267 to 4.300. In this analysis, founding intention (FI) was very low (M=0.036, STD=0.187), because it was based on university students only.

Table 3: Statistics of Variable

Variable	Frequency	Mean	Standard deviation	Minimum value	Maximum value
FI	990	0.036	0.187	0	1
CD1	990	4.256	0.880	1	6
CD2	990	4.134	0.912	1	6
CD3	990	4.272	0.833	1	6
JA1	990	4.023	0.625	1	5
JA2	990	3.958	0.622	2	5
JS1	990	4.267	0.795	1	6
JS2	990	4.300	0.783	1	6

In the correlation analysis between each variable, there was a significant correlation in overall. However, for some variables such as CD2 and JS1, correlation with founding intention (FI) was not significant. In general, the correlation coefficient is positive, ranging from 0.1 to 0.5.

4.2 Validity of Measurement

To verify the validity and reliability of the measurement, factor analysis was performed on variables. As a result, these variables were classified into four factors based on eigenvalue. Also, the Cronbach's α value of each factor is over

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0.5, indicating that there is an internal consistency marginally. In addition, since the factor loadings of each variable are over 0.5 and they are loaded meaningfully, it is judged that there is the discriminant validity between items. So we used these variables in the research model.

Table 4: Correlation between Variables

	FI	CD1	CD2	CD3	JA1	JA2	JS1
CD1	0.060 *						
CD2	0.036 ns	0.530 **					
CD3	0.053 *	0.486 **	0.514 **				
JA1	0.131 **	0.246 **	0.246 **	0.260 **			
JA2	0.109 **	0.227 **	0.260 **	0.165 **	0.333 **		
JS1	-0.024 ns	0.372 **	0.364 **	0.390 **	0.191 **	0.156 **	
JS2	0.063 *	0.352 **	0.368 **	0.416 **	0.201 **	0.155 **	0.510 **

Table 5: Validity Test

	Factor1	Factor2	Factor3	Factor4	Variance (Cum.)	Cronbah's α
FI	**0.989**	0.028	0.087	-0.002	24.9 (24.9)	-
CD1	0.028	**0.801**	0.141	0.164	19.1 (44.0)	0.757
CD2	-0.022	**0.808**	0.178	0.162		
CD3	0.051	**0.733**	0.074	0.313		
JA1	0.106	0.141	**0.758**	0.155	16.9 (61.0)	0.500
JA2	-0.002	0.138	**0.835**	0.017		
JS1	-0.089	0.246	0.105	**0.819**	12.6 (73.6)	0.675
JS2	0.088	0.246	0.083	**0.828**		

4.3 Results of Empirical Analysis

Before conducting this analysis, we examined the precedence and trailing relationship of variables under the conceptual research structure set in the hypothesis.

The analysis result appeared that job attitude had influence on founding intention significantly ($p<.000$, $\beta=.187$). Also, career development had influence on a job attitude significantly ($p<.000$, $\beta=.557$). This result implies that a career development and job attitude are required for IT pre-entrepreneur.

In this model, the indirect effect of career development on founding intention was 0.104.

Table 6: The Mediation Effect of Job Attitude on Founding Intention

Path	Coefficient (β)	S.E	t-value	p-value
Career development → Job attitude	0.557	0.037	9.419**	0.000
Job attitude → Founding intention	0.187	0.021	4.234**	0.000

p=0.106, df=8, χ^2=13.189, χ2/df=1.649, AGFI=0.988, GFI=0.996, NFI=0.987, RMR=0.007, CFI=0.995,
**p<0.01

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Table 7: Effect Type on Job Attitude and Founding Intention

	Career development			Job attitude		
	Direct	Indirect	Total	Direct	Indirect	Total
Job attitude	0.557	0.000	0.557	0.000	0.000	0.000
Founding intention	0.000	0.104	0.104	0.187	0.000	0.187
JA1	0.000	0.302	0.302	0.543	0.000	0.543
JA2	0.000	0.347	0.347	0.623	0.000	0.623
CD1	0.683	0.000	0.683	0.000	0.000	0.000
CD2	0.750	0.000	0.750	0.000	0.000	0.000
CD3	0.710	0.000	0.710	0.000	0.000	0.000

On the other hand, career development had influence on a self-esteem significantly (p<.000, β=.676), but self-esteem had not influence on founding intention significantly (p<.220, β=.015). In this model, the indirect effect of career development on founding intention was 0.034.

Table 8: The Mediation Effect of Self-esteem on Founding Intention

Path	Coefficient (β)	S.E	t-value	p-value
Career development → Self-esteem	0.676	0.048	13.996**	0.000
Self-esteem → Founding intention	0.015	0.012	1.228	0.220

p=0.010, df=8, χ^2=20.002, χ2/df=2.500, AGFI=0.982, GFI=0.993, NFI=0.985, RMR=0.009, CFI=0.991,
**p<0.01

Table 9: Effect Type on Self-esteem and Founding Intention

	Career development			Job self-esteem		
	Direct	Indirect	Total	Direct	Indirect	Total
Job self-esteem	0.741	0.000	0.741	0.000	0.000	0.000
Founding intention	0.000	0.034	0.034	0.046	0.000	0.046
JS1	0.000	0.523	0.523	0.707	0.000	0.707
JS2	0.000	0.533	0.533	0.720	0.000	0.720
CD1	0.714	0.000	0.714	0.000	0.000	0.000
CD2	0.727	0.000	0.727	0.000	0.000	0.000
CD3	0.701	0.000	0.701	0.000	0.000	0.000

To understand the relative influence of the variables, the structural equation model analysis was performed. In this analysis, the relationship between variables was similar to the above analysis. However, the relative size was different. In other words, career development showed a significant influence on job attitude (β=.357, p<.01) and job self-esteem (β=.668, p<.01). And its effect on job self-esteem was larger than job attitude. On the other hand, in the relation of the founding intention, job attitude affects founding intention, but job self-esteem does not.

This result means that although job self-esteem can be improved through career development, it cannot improve founding intention through improved job self-esteem. Therefore, it needs to make efforts to improve job attitude in order to induce their founding intention in IT industry.

In last model, the indirect effect of career development on founding intention was 0.077, and job self-esteem -0.075, job attitude 0.236 respectively.

Considering the direct effects and the indirect effects, it can be seen that efforts to improve the job attitude is needed to activate the startup of the preliminary founder rather than the job self-esteem.

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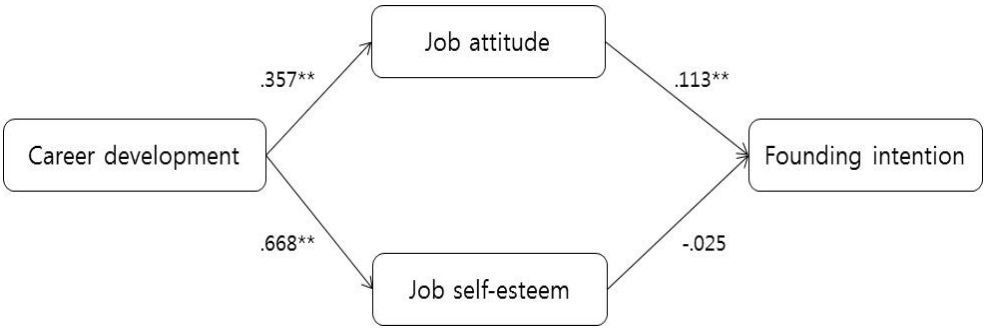

Figure 3: Result of Structural Equation Model

Table 10: Result of Research Model by Structural Equation Modeling

Path	Coefficient (β)	S.E	t-value	p-value
Career development → Job attitude	.357	.036	9.852**	0.000
Career development → Job self-esteem	.668	.047	14.080**	0.000
Job attitude → Founding intention	.113	.027	4.141**	0.000
Job self-esteem → Founding intention	-.025	.016	-1.599	0.110

χ^2=29.958, df=17, χ^2/df=1.76, p=0.027, GFI=0.992, AGFI=0.984, CFI=0.992, NFI=0.982, RMR=0.009,
**p<0.01

Table 11: Effect Type on Self-esteem, Job Attitude, and Founding Intention

	Career development			Job self-esteem			Job attitude		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Job self-esteem	0.740	0.000	0.740	0.000	0.000	0.000	0.000	0.000	0.000
Job attitude	0.565	0.000	0.565	0.000	0.000	0.000	0.000	0.000	0.000
Founding intention	0.000	0.077	0.077	-0.075	0.000	-0.075	0.236	0.000	0.236
JA1	0.000	0.528	0.528	0.713	0.000	0.713	0.000	0.000	0.000
JA2	0.000	0.529	0.529	0.715	0.000	0.715	0.000	0.000	0.000
JS1	0.000	0.302	0.302	0.000	0.000	0.000	0.534	0.000	0.534
JS2	0.000	0.354	0.354	0.000	0.000	0.000	0.626	0.000	0.626
CD1	0.708	0.000	0.708	0.000	0.000	0.000	0.000	0.000	0.000
CD2	0.730	0.000	0.730	0.000	0.000	0.000	0.000	0.000	0.000
CD3	0.704	0.000	0.704	0.000	0.000	0.000	0.000	0.000	0.000

5. DISCUSSION

This study analyzed the relationship between psychological perception of self and behavioral intentions toward founding for the purpose of exploring the IT pre-entrepreneur's cognitive mechanism in entrepreneurial decision-making information system. And this study expanded the result of previous study of IT pre-entrepreneur [16-17].

The results of the analysis are summarized as follows. First, job attitude and job self - esteem are positively influenced by career development. This suggests that the education of career development can change students' attitudes toward their future job. Second, career attitude affects entrepreneurial intention positively, and job attitude have mediate effects between career development and entrepreneurial intention. This mean that

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students can change attitude of job through education of career development, and it can induce founding from IT pre-entrepreneurs. Third, career development positively influences on job self-esteem, however job self-esteem has nonsignificant effect on intention of founding. This suggests that education of career development can enhance self-esteem. But, it is difficult to induce founding from IT pre-entrepreneurs. Therefore, it is necessary to make efforts to improve job attitude rather than job self-esteem in order to activate start-up business of IT pre-founder.

This study has important implications for analyzing the cognitive mechanism in the IT pre-entrepreneur's decision-making process. So this study is expected to help the development of entrepreneurial decision making information system for startup. However, this study has some limitations that did not reflect various respondents to university students only.

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