5. Analysis and Findings

Instrument & Respondents Information

The instrument of the research is a questionnaire. The questionnaire was developed based on a preliminary informal interview with two young IT managers (below 30 years old). The questionnaire was tested to 10 persons before circulated to know the reliability of the instrument. The result from the 10 respondent was analyzed and processed into tabulation and using SPSS version 10.0.1 to figure the reliability level of the instrument. Then the questionnaire was distributed to 500 respondents using email and hard copy.

Valid questionnaires received was 37 and the response rate was very low (8.4%). This low response also occurred in the working paper series by Professor Graham Pervan – "How Chief Executive Officers in Australia's Largest Organizations View the Management of Their Information Systems and Technology" (Pervan, 1998, p 97). And as Professor Pervan did, this questionnaire was also redistributed to another 200 respondent using email and hardcopy. The follow-up survey produces 12 valid responses from 9 % of the response rate.

Data Quality Inspection

To ensure that both samples of the 2 waves represent the same population, a test was conducted. The test was using Mann-Whitney U test since we test 2 independent sample (wave 1 and wave 2), and the data are ordinals. The results are as follows:

Table 1 Mann Whitney U Test of Independent Variable and its aspects

Test Statistics [a]	MA	MAA	MAB	MAC
Mann-Whitney U	198.500	169.000	218.000	208.000
Wilcoxon W	901.500	872.000	921.000	911.000
Z	-.562	-1.384	-.103	-.335
Asymp. Sig. (2-tailed)	*.574*	*.166*	*.918*	*.738*

a Grouping Variable: WAVE

MA represent: Mean value of answers from the questionnaire regarding independent variable Information Technology values perceptions

MAA represent: Mean value of answers from the questionnaire regarding Competitive Advantage Expected aspect from independent variable Information Technology values perceptions

MAB represent: Mean value of answers from the questionnaire regarding Efficiency aspect from independent variable Information Technology values perceptions

MAC represent: Mean value of answers from the questionnaire regarding Effectiveness aspect from independent variable Information Technology values perceptions

Table 2 Mann-Whitney U Test of Dependent Variable and its aspects

Test Statistics [a]	MB	MBA	MBB	MBC	MBD
Mann-Whitney U	213.000	210.500	201.000	172.500	156.500
Wilcoxon W	916.000	913.500	279.000	875.500	859.500
Z	-.210	-.275	-.498	-1.163	-1.544
Asymp. Sig. (2-tailed)	*.834*	*.783*	*.619*	*.245*	*.123*

a Grouping Variable: WAVE

MB represent: Mean value of answers from the questionnaire regarding Dependent variable Information Technology Investment Decision in a Company

MBA represent: Mean value of answers from the questionnaire regarding the goal to achieve by investing in Information Technology aspect from dependent variable Information Technology Investment Decision in a Company

MBB represent: Mean value of answers from the questionnaire regarding Competitive Advantage required being able to compete in the industry aspect from dependent variable Information Technology Investment Decision in a Company

MBC represent: Mean value of answers from the questionnaire regarding Decision Making in Company aspect from dependent variable Information Technology Investment Decision in a Company

MBD represent: Mean value of answers from the questionnaire regarding Trend and Technology Adaptation aspect from dependent variable Information Technology Investment Decision in a Company

From the table, all variables and their aspects have asymptotic significance (2-tailed) more than 0.05. This means the variables and their aspects calculated in both wave came from the same population.

Reliability Test

To ensure the validity and the reliability of the questionnaire's items on the user questionnaires, all of the items in the questionnaires will be tested by using Cronbach Alpha model.

Table 3 Alpha of Reliability Test

Variable/Aspect	Alpha
A	0.7954
AA	0.6943
AB	0.8052
AC	0.7943
B	0.8280
BA	0.5541
BB	0.8878
BC	0.8222
BD	0.8408
Alpha from Table	0.1863

From the table, all variables and their aspects have alpha more than alpha table. This means those variables and aspects have a strong enough reliability.

Descriptive Analysis

From the descriptive statistics, interesting results are:

- The respondents seem a little bit cautions about adapting new Technology. Technology adaptation attitude of the respondents are: 42.9% would try the new technology if there is at least a few track record of usage. 38.8% would try the new technology if it is already widely accepted, and only 18.4% of the respondents are up to date the new technology by being the first to try. None of the respondent avoids a new technology until they have to use it.
- Only 12.5% of the decision makers are in upper management position. The rest are in middle management position.
- The decision makers are conducted by middle management and upper management only.

- None of the middle management nor the upper management conduct the purchase it self. Most of the purchases are conducted by professional/ technical staff then by administrative/clerical staff.
- Most of the recommender are the professional/ technical staff
- When concerning the purchase/lease/use of hardware, the contribution of each role is: 28.6% user, 10.2% recommender, 6.1 % purchaser, and 12.2% decision maker
- When concerning the purchase/lease/use of software/internet, the contribution of each role is: 38.8% user, 10.2% recommender, 6.1 % purchaser, and 10.2% decision maker
- When concerning the purchase/lease/use of telecommunication equipments, the contribution of each role is: 20.4% user, 4.1% recommender, 6.1 % purchaser, and 8.2% decision maker
- When concerning the purchase/lease/use of telecommunication service, the contribution of each role is: 16.3% user, 2% recommender, 6.1 % purchaser, and 8.2% decision maker

Hypothesis 1

The first hypothesis is there are relationships between the Information Technology values perceptions with the IT investment decision in a company

Hypothesis Testing:

H_0 : There are no relationships between the Information Technology value perceptions with the Information Technology investment decision in a company

H_1 : There are relationships between the Information Technology value perceptions with the Information Technology investment decision in a company

Statistical Testing:

$H_0 : \rho = 0$

$H_1 : \rho \neq 0$

Since hypothesis testing means to test the relation and association between independent variables against dependent variables, we will use correlation analysis. The method that used in this analysis is Spearman Rank Correlation since all of the variables that we test are ordinal. The tool is SPSS version 10.0.1 and the result as follow:

Table 4 Correlations

			MA	MB
Spearman's rho	MA	Correlation Coefficient	1.000	.699**
		Sig. (2-tailed)	.	.000
		N	49	49
	MB	Correlation Coefficient	.699**	1.000
		Sig. (2-tailed)	.000	.
		N	49	49

** Correlation is significant at the .01 level (2-tailed).

The correlation of dependent variable Information Technology Investment Decision in a Company with independent variable perceptions of Information Technology values can be analyzed as follow:

- Relation between variable perceptions of Information Technology values with Information Technology Investment Decision in a Company is 69.9% which

mean there is a strong correlation. 69.9% of the Information Technology Investment Decision in a Company is determined by variable perceptions of Information Technology values; while the rest (30.1%) is determined by other factor.

a. Number of data processed
   - All of the 49 samples are processed that means no missing data.
b. The significant level
   - According to result coach of the SPSS version 10.0.1: *If the significance level is very small (less than 0.05) then the correlation is significant and the two variables are linearly related.* Which means:
   - If the significant level is greater than 0.05, H_0 is accepted
   - If the significant level is lower than 0.05, H_0 is rejected
   - From the table, the significant level of the correlation is 0.00 which means H_0 is rejected.

The result:
There is a significant correlation between perceptions of Information Technology values with Information Technology Investment Decision in a Company. Perceptions of Information Technology values determine 69.9% of the Information Technology Investment Decision in a Company.

Hypothesis 2

The second hypothesis is there are impacts on the perception of Information Technology value with Information Technology that a company decide to invest in.
Hypothesis Testing:
H_0 : There are no impacts on Information Technology values perceptions with Information Technology that a company decide to invest in
H_1 : There are impacts on Information Technology values perceptions with Information Technology that a company decide to invest in
Statistical Testing:
$H_0 : \rho = 0$
$H_1 : \rho \neq 0$
The result of the data processing is shown below:

Table 5 Variables Entered/Removed

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MA[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MB

Table 6 Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.732[a]	.536	.526	.3170	1.924

a. Predictors: (Constant), MA

b. Dependent Variable: MB

Table 7 ANOVA

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.451	1	5.451	54.251	.000[a]
	Residual	4.723	47	.100		
	Total	10.174	48			

a. Predictors: (Constant), MA

b. Dependent Variable: MB

Table 8 Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.104	.581		.180	.858		
	MA	.920	.125	.732	7.366	.000	1.000	1.000

a. Dependent Variable: MB

Table 9 Coefficient Correlations

Coefficient Correlations[a]

Model			MA
1	Correlations	MA	1.000
	Co variances	MA	1.559E-02

a. Dependent Variable: MB

Table 10 Co linearity Diagnostics

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	MA
1	1	1.997	1.000	.00	.00
	2	3.041E-03	25.626	1.00	1.00

a. Dependent Variable: MB

Table 11 Case wise Diagnostics

Casewise Diagnostics[a]

Case Number	Std. Residual	MB
43	3.068	4.42

a. Dependent Variable: MB

Table 12 Residual Statistics

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.4486	4.7026	4.3716	.3370	49
Residual	-.5138	.9725	3.625E-16	.3137	49
Std. Predicted Value	-2.739	.982	.000	1.000	49
Std. Residual	-1.621	3.068	.000	.990	49

a. Dependent Variable: MB

Analysis:

a. Model Summary
   - R value is 0.732 which means that there is a relation between Information Technology values perceptions with Information Technology that companies decide to invest in. The coefficient is higher than 01.5 therefore considered strong.
   - R square is 0.536 which express the proportion of the total variation in Information Technology that a company decide to invest in accounted for by how perception of Information Technology values. In other words, Information Technology values perceptions "explain" 53.6% of the variability of Information Technology that a company decide to invest in.

b. ANOVA
   - F value of the ANOVA is 54.251 with level of significance 0.00. Level of significance is lower than 0.05 gave the meaning that the regression model can be used to predict Information Technology that a company decides to invest in.

c. Coefficients
   - From the coefficient table we get the equation:
     $MB = 0.104 + 0.920MA$
     Where MB represents Information Technology that a company decides to invest in
     And MA represents perception of Information Technology values
   - Significance t test determine whether the regression coefficient is significant. If the value is more than 0.05 then the regression coefficient is not significant.
   - If the significance t test value is less than 0.05 then the regression coefficient is significant.

- From the table, the significance t test value is 0.00 which means the coefficient correlation is significant. THERE is impact of Information Technology values perceptions with Information Technology that a company decides to invest in.

d. Co linearity Diagnostics
   - Only one independent variable of the equation, that means no co linearity problem may occur. VIF value is 1 and no coefficient correlation with other variable. Therefore the regression model do not have multi co linearity problem.

The Research Result and Discussion

The discussion of the research in the impact of perceptions of Information Technology values in the IT investment decision in a company has been conducted within Jabotabek area (Jakarta, Bogor, Tangerang, and Bekasi). The research has two variables, one dependent variable and one independent variable.

1. Information Technology Values (A or MA)
   This independent variable was divided into 3 sub variables/aspects/factors:
   a. Competitive Advantage Expected aspect
   b. Efficiency aspect
   c. Effectiveness aspect
2. Information Technology Investment Decision in a Company
   This Depend variable was divided into 4 sub variables/aspects/factors:
   a. The goal to achieve by investing in Information Technology aspect
   b. Competitive Advantage required to be able to compete in the industry aspect
   c. Decision Making in Company aspect
   d. Trend and Technology Adaptation aspect

From the hypothesis analysis, it is proven that there is indeed a relationship between perceptions of Information Technology values with the Information Technology investment decision in a company. The relationship is positive correlation which means the more people have perceptions of Information Technology values, most likely the more investment in IT will be done by the company. And from second hypothesis we get an equation $MB = 0.104 + 0.920MA$, which means although we disregards Information Technology values that people percept; there would still be a small investment in IT in the company. The investment would be bigger if the people in the company have more perceptions of Information Technology values since both variable have a positive correlation.