Introduction

There is a common faith for the excellent enterprises (such as NCR, GE, IBM, P&G, 3M, and McDonald's) in the United States : That is, the human resource is the essential and the origin of power to operate properly is the same values system shared (i.e., the corporate culture) by the members in the organization (Peters & Waterman, 1982). Early entrepreneurship studies typically focused on the personality or cultural background of the individual entrepreneur as a determinant of entrepreneurial behavior. Over time, these approaches yielded to a recognition that meaningful research must adopt a more contextual and process-oriented focus (McClelland, 1992). Some studies focus just only on single personality trait : For example, McClelland's work is on〝need for achievement〞; Brockhaus, Sexton, Bowman, and Gasse's study highlights the importance of locus of control; and the high risk-taking propensity is the subject of Sexton and Bowman's study (Low & MacMillan, 1988). It is apparent that this single-dimensional approach to understanding the top manager's personality will not be enough and cannot give the reader an overall profile of the top manager's personality. Some studies considered the impact of organizational context on the entrepreneur's behaviors in recent years, and this multi-dimensional and contingent approach may be comprehensive and useful. Nevertheless, the current trend is to integrate both the personality traits and corporate culture, and the major advocates are Schein, Ket de Varies, and Miller (Low & MacMillan, 1988).

The actions of top management have a major impact on an organization's culture (Hambrick and Mason, 1984; Niehoff, Enz & Grover, 1990; Trice et., al., 1991). Through what they say and how they behave, senior executives establish norms that filter down through the organization as to whether risk-taking is desirable; how much freedom managers should give their subordinates; what is appropriate dress; what actions will pay off in terms of pay raises, promotions, and other rewards; and the like (Robbins, 1996). Schein argued that〝a group and organization are not formed accidentally or spontaneously.〞They are usually created because someone takes a leadership role in seeing how the concerted action of a number of people could accomplish something that could not be done through individual action alone (Schein, 1983). As he says, we can realize that culture and people have intimate relationships. In other words, they cannot depart from each other.

Indeed, as a company is run by people, the top managers' behaviors have huge influence on the employees. We can observe the behaviors easily because it is introduced by their personality hidden behind. Understanding them can help us explain the reasons of daily operation and can be the background information for managers.

To verify how the shared value in a corporate was formed and the relationship between top manager's personality traits and the corporate culture, this study conducted an empirical research with the information industry as an example. Through the application of LISREL analysis method, this study will achieve following objectives :

1. To access the causal relationship between the top manager's personality traits and corporate culture,
2. To offer people who want to start a new career the ways to self-examination,
3. To show an empirical evidence for researchers in this field.

Literature Review

Top Managers' Personality Traits

We have considered four dimensions (or variables) to measure the top managers' personality traits that are expected to influence the corporate culture.

1. *Type A behavior*. The research of Type A behavior arose from Friedman and Rosenaman's observation for patient with heart disease in 1950. This topic had not attracted researchers' interest until 1970. The individuals with this kind of personality traits are different from others in many aspects. 〝Under appropriate stimulus conditions, the subjects of Type A behavior have generally been found to be more likely than type B counterparts to exhibit competitiveness, impatience, aggressiveness, irritation, and hostility (Rosenman, 1991, p.3).〞 Friedman and Rosenman (1974) thought that a Type A individual is 〝aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other persons (derived from Robbins, 1996, p.102).〞

Hence, we can get the key points about this kind of trait; that is, time urgency and competitive achievement striving, impatience or time urgency and aggression or hostility. From the characteristics of Type A behavior, we can observe that people with these character have the following behaviors (Robbins, 1996, p.102) :

(1) are always moving, walking, and eating rapidly,
(2) feel impatient with the rate at which most events take place;
(3) strive to think or do two or more things simultaneously,
(4) cannot cope with leisure time, and
(5) are obsessed with numbers, measuring their success in terms of how much of everything they acquire.

By empirical study, Matthews found that the one with Type A behavior pattern would often occupy a higher position in an organization, gets more rewards from work, and promotes faster (Matthew, 1982).

2. *Locus of Control*. Locus of control refers to the belief held by individuals that they can largely determine their fate through their own behavior (Low & MacMillan, 1988). In other words, locus of control refers to the degree to which people believe they are masters of their own fate and it can be divided into two items; that is, internal and external. Those who believe that the bad result may be due to fate or chance may be attributed to 〝externals〞. Oppositely, if they consider themselves as the masters of their fate, they are called 〝internals〞 (Rotter, 1966). There are some difference between internals and externals in a job context. The internals show less satisfied with their jobs and higher absenteeism rates, more alienated from the work

setting and less involved in their jobs (Spector, 1982; Blau,1987).

Generally speaking, that internals have good performance on job. Internals always search all information with effort for making their decisions and they are more encouraged to achieve their goal and try to control their environment to some degree. However, externals are willing to obey rules and follow direction coming from others.

The internals can do a good job in complicated affairs, including most managerial and professional work, which need more information processing and learning. Furthermore, the internals adapt for jobs with the quality that need initiative and independence of action. Oppositely, it is good for the externals to have well structured and routine work and follow the way of others.

3. *Need to Achieve*. People who have high desire to overcome difficulties often have the character of 〝need to achieve〞. Need to achieve (nAch) means that one who strives continually to do things better (Robbin,1996). An individual with a high nAch is characterized by (a) taking personal responsibility for decisions (b) setting goals and accomplishing them through their efforts, and (c) having a desire for feedback (Low & MacMillan, 1988). McClelland's work on 〝need for achievement〞 and an empirical study to the 150 successful Michigan entrepreneurs conducted by Collins, Moore and Unwalla were early works that started a prolific stream of personality-based entrepreneurship research. Later, Brockhaus, Gasse, Martin, and Sexton and Bowman have provided review of this psychological/personality-based literature (Low & MacMillan, 1988).

How can you tell who has the nAch on the job? The high nAch people can do well in intermediate difficult jobs, expect rapid performance feedback, and allow them to have control over their results (Miner,1980). Individuals with high nAch may do well in jobs such as sales, professional sports, or management rather than do routine and non-skill works, such as assembly line or clerical work. To sum up, the work suits for the persons with high nAch must be with challenge, feedback, and responsibility.

4. *Risk-taking Propensity*. Brockhaus defined the risk-taking propensity as 〝perceived probability of receiving the rewards〞 associated with the sucessul outcome of a risky situation by using Kogan and Wallach's choice dilemmas questionnaire (Lupkin & Dess, 1996). Risk-taking propensity is a general psychological disposition; that is individuals are inclined to varying degrees to take risks and that this tendency is generalizable across situations and types of risks. A manager who has high risk-taking propensity would make decision with less information than the one with low risk-taking propensity.

The risk of an enterprise is composed of three components, the general risk-taking propensity, the perceived probability and failure for a specific venture, and the perceived consequences of failure. In this study, we focus on 〝the general risk-taking propensity〞 and define risk-taking propensity as perceived probability of receiving the rewards associated with the successful outcome of a risky situation which is the same as the definition as Brockhaus (Brockhaus,1980).

Corporate Culture

Schein points out that culture is 〝a pattern of basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.〞(Schein, 1985, p.9) Culture is composed of :

   (1) Values and assumptions which prescribe what is important.
   (2) Beliefs on how things work.
   (3) Behavioral norms—a set of attitudes that are easier to decipher than values and assumptions.

1. *Forming Process of Corporate Culture*. The original culture comes from the founder's philosophy. It strongly influences the criteria used in hiring. The actions of the current top management set the general climate of what is acceptable behavior and what is not. How employees are to be socialized will depend on both the degree of success achieved in matching new employees' values to those of the organization's in the selection process and on top managements' preference for socialization methods (Robbins, 1998). Figure 1 depicts the process of an organization cultures formed.
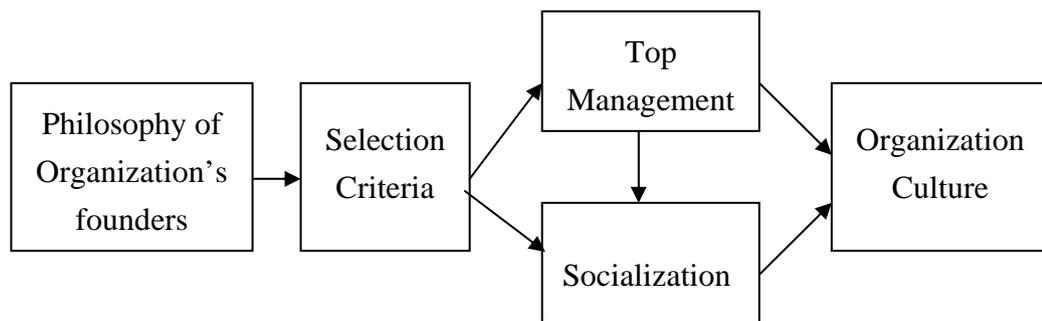

Figure 1   The Forming Process of Organization Cultures
Source : Robbins, S.P., <u>Organization Behavior</u>, 8th ed., NJ: Prentice-Hall International, 1998, p.610.

2. *Tyeps of Corporate Culture*. Several scholars have tried to find out typologies of corporate cultures in order to identify different kinds of cultures and determine the cultural dimensions that contribute to successful strategy formulation and implementation. For example, Deal and Kennedy (1982) categorized four types of culture－〝bet your company〞, 〝tough guy/macho〞, 〝work hard/play hard〞, and 〝process〞—according to following two dimensions : (1)the degree of risk associated with the company's activities (2) the speed at which the companies or their employees get feedback on whether decisions or strategies are successful; Reimann and Wiener also separated cultures into four types－〝strategic〞, 〝chauvinistic〞, 〝entrepreneurial〞, and 〝exclusive〞—based on two dimensions :

functional and elitist (derived from Fleet et., al., 1991); and the Wallach (1983) typology includes three types— 〝bureaucratic〞, 〝innovative〞, and 〝supportive〞; additionally, Woodward proposed three kinds of culture — 〝production〞, 〝bureaucratic〞, and 〝professional〞 (derived from Lin,1994).

This study adopts the Wallach typology, and the descriptive definitions are (Wallach, 1983) :

   (1) Bureaucratic culture : Bureaucratic culture generally exists in a hierarchical organization with clear statement of responsibility and delegation. Work itself is systematized and fix. This kind of culture is generally established on the bases of control and power. The enterprise with it is often stable, cautious, and mature.

   (2) Innovative culture : The employees with entrepreneurship or ambition can succeed easier than ones without such a characteristic or trait. The nature of work is usually more creative and full of risk.

   (3) Supportive culture : Supportive culture is a kind of open style, harmonious working environment. Members in this organization is like in a family. There are high support, fair, encouraging open mind, and a relation-oriented working environment.

Relationships between top Manager's Personality and Corporate Culture

Plenty of evidences show that the leaders, not necessarily founders, are important determinants of culture in organizations. The leader is the person who actively moulds the organization's image for both internal and external consumption and who suffuses it with a sense of direction. Schein, one of the most authoritative writers on the subject, believes that leaders and culture are as interdependent as to be two sides of the same coin and that it is possible that the only thing of real importance the leaders do is to create and manage culture and that the unique talent of leaders is their ability to work with culture (Anthony, 1994). As top managers are playing the important role as leaders in the business activity, they are one of the key determinants for the survival of the corporate by the way of solving the internal integration and external adaptation problems. It can be seen easily the essence of top managers –personality– has huge influence on corporate culture.

The question of what are the personality traits of top managers is still an unsolved problem and leaves researchers much space to study. Such traits as internal locus of control, achievement need, risk-taking propensity, and so on, are of interest to many people. They produces different outlines as using various assumptions and methodology, from case studies to large scale surveys. Low and MacMillan (1988) proposed the need to achievement, locus of control, and risk-taking propensity as the representative personalities of the top managers. Begley's research used Type A behavior as one of the personality traits (Begley, 1995). In sum, this study selects four personality traits–locus of control, type A behavior, need to achieve, and risk-taking propensity –as the research variables.

Research Method

Research Framework

After Reviewing the related literature, the research framework used in this study is presented as Figure 2. The framework shows the relationships between four top manager's personality straits and three kinds of corporate culture. Each arrow in the framework means that the possible trait which will influence the relative culture.

Variables Measurement/Operational Definition

The descriptive definitions of the variables used in this study had been presented in the section of literature review, this section describes how the variables will be measured. Table 2 shows the representative notations and measurements of exogenous and endogenous variables.
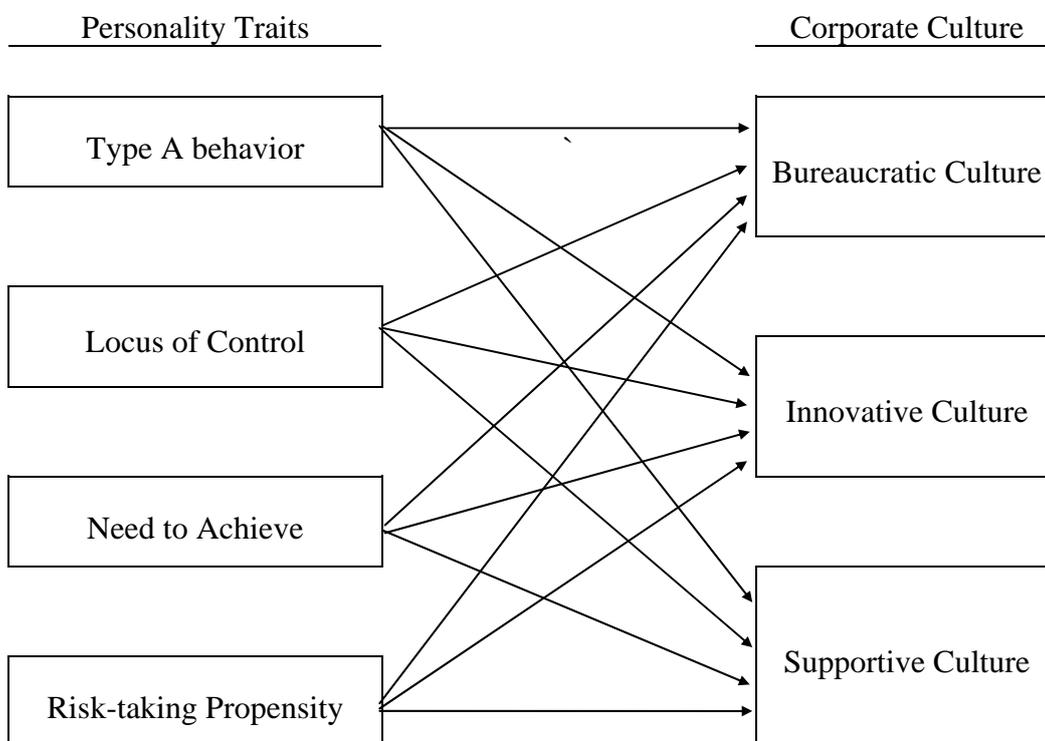
Personality Traits   Corporate Culture

Figure 2   Research Framework

Table 1　　The Notations and Measurements of Variables

Variable	Measurement (Operational Definition with 5 Points Likert Scale)
ξ_1：　TPAB(Type A behavior)	
X_1: Time Urgency	Measured by 3 items: 1. If I can't finish my work on duty, I will work over time or take it home. 2. I will prepare schedule and set deadline. 3. I often try to do two or more things simultaneously.
X_2: Competitive Achievement Striving	Measured by 3 items : 1. I feel guilty when I have nothing to do. 2. I like competition and consider I would win. 3. I will take sedative when I get insomnia.
X_3: Impatience	Measured by 2 items : 1. I speak, eat and move fast. 2. I lose my temper easily.
X_4: Aggression	Measured by 2 items : 1. I have hostility and aggression toward foe. 2. I feel that my achievement would not be praised.
ξ_2：　LOC(Locus of Control)	
X_5: Locus of Control	Measured by 10 items with paired forced selection sentences.(Omitted here, please contact this author if necessary.)
ξ_3：　NACH(Need to Achieve)	
X_6: Mastery	Measured by 4 items : 1. I'd rather do easy things which make me confident than challenge and difficult ones. 2. I like to work under an environment that need skill. 3. If I am not familiar with something, I will try to master it than do the familiar one. 4. I will struggle consistently when I am responsible for a work.
X_7: Work Orientation	Measured by 4 items : 1. It is important for me to perform well at work. 2. I am satisfied when I do things well. 3. When the group to which I belong makes plan to have an activity, I'd like to conduct than be conducted. 4. Even though my performance in job is not so good compared with others, I'll be satisfied when I do better than before.

《continued》

X_8: Competitiveness	Measured by 2 items : 1. I like to work in a competitive environment. 2. One of the origin of my preasure comes from improvement of my past performance.
X_9: Personal Unconcern	Measured by 2 items : 1. I feel that to have good relationship between colleagues is more important than performance. 2. I avoid talking about my achievement because it will cause other's jealousy.

ξ_4 : RISK(Risk-taking Propensity)

X_{10}: Risk-taking Propensity	Measured by 2 items with short case.(Omitted here, please contact this author if necessary.)

η_1 : BU(Bureaucratic Culture)

Y_1: Hierarchical Organization	Measured by following item : • The employees of your company put emphasis on the details of working process.
Y_2: Clear Statement of Responsibility and Delegation	Measured by following item : • Members in company communicate each other via formal structure.

η_2 : INO(Innovative Culture)

Y_3: Creative and Full of Risk Work	Measured by following item : • The company encourages employees to try new things. The evaluation of performance would not be influenced by failures.

η_3 : SUP(Supportive Culture)

Y_4: Open Style, Harmonious Working Environment	Measured by following item : • The cost of decision making is very high.
Y_5: Family Like Style	Measured by following item : • The company requires employees taking responsibility for risk and making decision immediately.
Y_6: Encouraging Open Mind, and a Relation-oriented Working Environment	Measured by following item : • The company emphasizes participation and job sharing.

Research Hypotheses

The twelve hypotheses showing the effect of personality traits on corporate cultures as formed as follows:

H$_1$:   The relationship between Type A behavior and corporate culture is positive.

    H$_{1a}$ Type A behavior is positively related to Bureaucratic Culture.

    H$_{1b}$ Type A behavior is positively related to Innovative Culture.

    H$_{1c}$ Type A behavior is positively related to Supportive Culture.

H$_2$:   The relationship between Locus of Control and corporate culture is positive.

    H$_{2a}$ Locus of Control is positively related to Bureaucratic Culture.

    H$_{2b}$ Locus of Control is positively related to Innovative Culture.

    H$_{2c}$ Locus of Control is positively related to Supportive Culture.

H$_3$:   The relationship between Need to Achieve and corporate culture is positive.

    H$_{3a}$ Need to Achieve is positively related to Bureaucratic Culture.

    H$_{3b}$ Need to Achieve is positively related to Innovative Culture.

    H$_{3c}$ Need to Achieve is positively related to Supportive Culture.

H$_4$:   The relationship between Risk-taking Propensity and corporate culture is positive.

    H$_{4a}$ Risk-taking Propensity is positively related to Bureaucratic Culture.

    H$_{4b}$ Risk-taking Propensity is positively related to Innovative Culture.

    H$_{4c}$ Risk-taking Propensity is positively related to Supportive Culture.

H$_5$:   There is no significant correlation among the Bureaucratic Culture, Innovation Culture, and Supportive Culture.

Questionnaire Design and Data Collection

Questionnaire design

Corporate Culture. This study measured the three dimensions of corporate culture by using 6 of the 15 items on the Lin's thesis(Lin, 1994). Each item was cast on a 5-point scale that ranged from very agree (5) to very disagree (1). A higher score for the sum of item 1 and 2 indicates that the corporate culture is more bureaucratic; a higher score for item3 indicates that the corporate culture is more innovative; a higher score for sum of item 4, 5, and 6 indicates that the corporate culture is more innovative. Lin reported that the factor loadings are : (a) 0.77 for item 1 and 0.83 for item 2 in bureaucratic culture measurement, (b) 0.68 for item 3 in innovative culture measurement, and (c) 0.63 for item 4, 0.77 for item5, 0.81 for item 6 in supportive culture.

As for the reliability, the Cronbach α of bureaucratic culture and supportive culture is 0.86 and 0.78 separately.

Locus of Control. This study measured locus of control, using ten items on Lin's thesis(Lin, 1984). First, the respondent chooses one sentence (a or b) form each item; then, select one alternatives from two, 〝close〞 and 〝very close〞. A higher score indicated a perception of greater external locus of control. The internal consistency, α coefficient, is 0.74.

Type A behavior. This study used 11 of 20 items on Type A/B Inventory to measure

the Type A behavior (Cheng, 1985). Each item was cast on a 5-point scale that ranged from always (5) to seldom (1). A higher score indicate the respondent has type A behavior pattern. The internal consistency, α coefficient, is 0.79.

Need to Achieve. This study used 12 of 23 items on The work and Family Orientation Questionnaire to measure the need to achieve (Cheng, 1981). Each item was cast on a 5-point scale that ranged from very agree (5) to very disagree (1). The four factors in the questionnaire are mastery (α =0.61 for male and 0.62 for female) and work orientation (α =0.66 for male and 0.63 for female), competitiveness (α =0.76 for male and 0.72 for female) and personal unconcern (α =0.5 for male and female). The higher the score is, the higher need for achievement would be for the top manager.

Risk-taking Propensity. This study used The Choice Dilemmas Questionnaire to measure risk-taking propensity. There are two contingency as followings. All people in each contingency face the selection of act—A and B. Contingency A is appealing and satisfied compared with contingency B but the probability to achieve is low. Assume you are playing the role in each contingency to identify the minimum success probability required when choosing a contingency. Each item was cast on a 6-point scale. A higher score indicates the individual is more conservative under risk. The half-reliability for male and female are 0.53 and 0.62, respectively.

Data Collection (Samples)

In the present study we collected data on corporate culture, locus of control, type A behavior, need to achieve, and risk-taking behavior, using a random sample of business presidents and chairmen which are selected from THCA 1996 Member Guide (Taipei Hsien Computer Manufacturers Association, 1996).

A questionnaire containing the measures discussed previously was sent to 400 presidents or chairmen who had been randomly selected with random numbers by SPSS package from 547 members. A cover letter explaining the purpose of the study and a self-addressed, stamped envelope were included with the questionnaire. 76 top managers returned their questionnaires with 19% of response rate.

The basic data of 76 respondents and their companies are listed in Table 2.

Table 2　　The Basic Data of 76 Respondents and Their companies

Characteristics	No. of Sample	Percentage (%)
Age:		
Below 35	2	2.6
36-40	12	15.8
41-45	36	47.4
46-50	15	19.7
51-55	6	7.9
Over 56	5	6.6
Sex:		
Male	68	89.5
Female	8	10.5
Education Level :		
Below Junior High School	3	4.0
College	24	31.5
University	33	43.4
Graduate School	16	21.1
Age of the Company :		
Below 5 years	2	2.6
5.1-10 years	12	15.8
10.1-15 years	22	28.9
15.1-20 years	25	33.0
Over 20 years	15	19.7
No. of Employee in The Company Belonged :		
Below 150	34	44.7
151-500	28	36.8
Over 500	14	18.5

Method of Data Analysis

This study tested the hypothesizes, using covariance structure modeling with the LISREL 7 software package (Joreskog & Sorbom, 1989). This method allowed us to identify latent variables and structural equation coefficients simultaneously.

First, a preliminary measurement model for the study is developed, with confirmatory analyses that provide evidence of the convergent, discriminant, and nomological validities of the measures; then, a structural equations model is developed and tested. The equations provide tests for the started hypotheses. Together, the measurement and structural equations models provide evidence for the construct validity of the measures.

There are four sets of variables, two are latent variables and the other two are observed variables. In latent variables, which is assumed "cause" in relationships is called latent independent variables or exogenous variables, denoted by ξ, and the other which is assumed "result" in relationships is called latent dependent variables or endogenous variable, denoted by η.

In observed variables, which belongs to the indicators of latent independent variables ξ is called X variable. In a like manner, the other one which belongs to the indicators of dependent variables η is called Y variable.

There are no direct relationships between latent independent variables ξ and Y variables, latent dependent variables η and X variables, and X and Y variables don't have direct relationships. Consequently, the four sets of variables, ξ and η, X and Y, result in five kinds of relationships as follows:

1. The direct effect of ξ-variables on other ξ-variables, denoted by Φ.
2. The direct effect of ξ-variables on η-variables, denoted by Γ.
3. The direct effect of η-variables on other η-variables, denoted by B.
4. The direct effect of X-variables on ξ-variables, denoted by Λ_x.
5. The direct effect of Y-variables on η-variables, denoted by Λ_y.

Furthermore, there are also three sets of error. The first one is measurement error for X variables, denoted by δ; second is measurement error for Y variables, denoted by ε; third is error for random disturbance terms in equations, denoted by ζ.

The relationships between exogenous variables and endogenous variables, X variables and Y variables can be divided into two parts a structural equation model and a measurement model. The structural equation specifies the causal effects and mounts of the unexplained variable. The measurement model specifies how the latent variables are measured in terms of the observed variables and is used to describe the validity and reliability of the observed variables.

The general LISREL model can be written as follows:
1. Structural Equation Model:
    $$\eta = B\eta + \Gamma\xi + \zeta$$
2. Measurement Model for X:
    $$X = \Lambda_x\xi + \delta$$
3. Measurement Model for Y:
    $$Y = \Lambda_y\eta + \varepsilon$$

The confirmatory analysis itself is submodel of LISREL and the factor analysis method relative to exploratory factor analysis (EFA) (Cheng & Cheng, 1994). Generally, it is suitable for research in the mature stage to verify or describe the member and nature of parameters in factor analysis. It is used as a way to verify whether the indicator variable—X or Y, can properly describe endogenous (latent) variables ξ or η. The R^2 of indicator variables, X or Y, can be the reliability of latent variables. The method is better because of its simultaneous test.

As a result of the structural equation model let the researchers to test the causal model that contain observable variables and indicator, such as corporate culture or personality traits, the LISREL model is a proper one to explore the relation between these endogenous variables.

 Figure 3 shows the path diagram for this study variables, where ellipse denotes the endogenous variable and rectangles denotes the indicators.
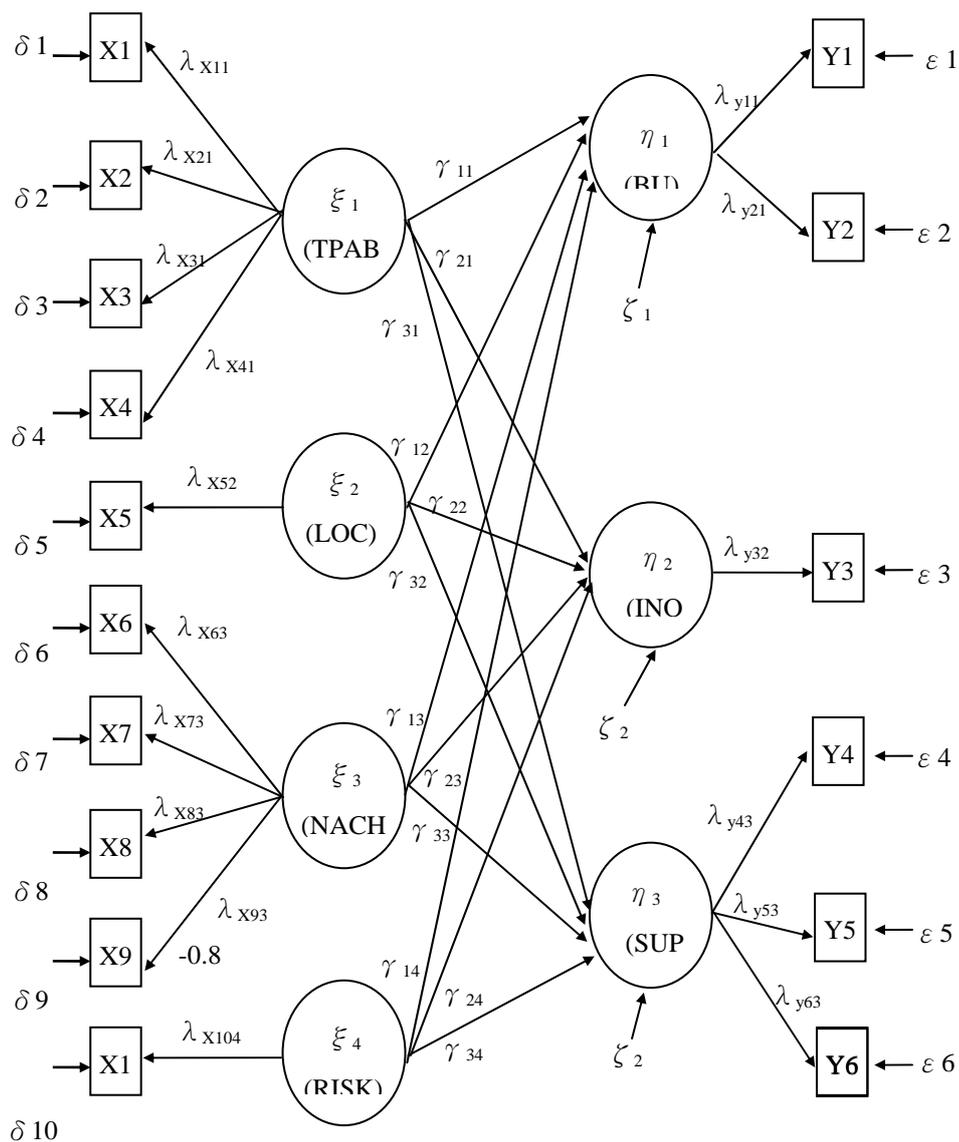
Figure 3　　Path Diagram for This Study

The structural equations are formulated as follows:

$$
\begin{bmatrix} BU \\ INO \\ SUP \end{bmatrix} = \begin{bmatrix} O & O & O \\ B_{21} & O & O \\ B_{31} & B_{32} & O \end{bmatrix} \begin{bmatrix} BU \\ INO \\ SUP \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & \gamma_{14} \\ \gamma_{21} & \gamma_{22} & \gamma_{23} & \gamma_{24} \\ \gamma_{31} & \gamma_{32} & \gamma_{33} & \gamma_{34} \end{bmatrix} \begin{bmatrix} TPAB \\ LOC \\ NACH \\ RISK \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \end{bmatrix}
$$

The measurement models for X of this study can be formulated as:

$$
\begin{bmatrix} X_1 \\ X_2 \\ X_3 \\ X_4 \\ X_5 \\ X_6 \\ X_7 \\ X_8 \\ X_9 \\ X_{10} \end{bmatrix} = \begin{bmatrix} \lambda_{X11} & 0 & 0 & 0 \\ \lambda_{X21} & 0 & 0 & 0 \\ \lambda_{X31} & 0 & 0 & 0 \\ \lambda_{X41} & 0 & 0 & 0 \\ 0 & \lambda_{X52} & 0 & 0 \\ 0 & 0 & \lambda_{X63} & 0 \\ 0 & 0 & \lambda_{X73} & 0 \\ 0 & 0 & \lambda_{X83} & 0 \\ 0 & 0 & \lambda_{X93} & 0 \\ 0 & 0 & 0 & \lambda_{X104} \end{bmatrix} \begin{bmatrix} TPAB \\ LOC \\ NACH \\ RISK \end{bmatrix} + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \\ \delta_5 \\ \delta_6 \\ \delta_7 \\ \delta_8 \\ \delta_9 \\ \delta_{10} \end{bmatrix}
$$

The measurement models for Y of this study can be formulated as:

$$
\begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \\ Y_4 \\ Y_5 \\ Y_6 \end{bmatrix} = \begin{bmatrix} \lambda_{Y11} & 0 & 0 \\ \lambda_{Y21} & 0 & 0 \\ 0 & \lambda_{Y32} & 0 \\ 0 & 0 & \lambda_{Y43} \\ 0 & 0 & \lambda_{Y53} \\ 0 & 0 & \lambda_{Y63} \end{bmatrix} \begin{bmatrix} BU \\ INO \\ SUP \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \end{bmatrix}
$$

Analysis and Results

Results of Confirmatory Analysis

Confirmatory analysis can be used as a tool to verify if the indicator variables are proper to measure the structural equation model. The measurement models for X variable and Y variable will be described individually.

The confirmatory factor analysis model is one type of factor model that allows the researcher to specify hypotheses and that provides information to determine whether the observed data confirm the hypothesized model structure (Hair et.al., 1995, p.696). The parameter ϕ allows for correlated constructs; the λ parameter is analogous to factor loading. Figure 4 shows the path diagram of confirmatory analysis for X variable. This study finds that, in TPAB, the X4 (aggression or hostility) has the largest value, 0.826, which means that X4 is the prime indicator of TPAB; X3, impatience (0.42), and X1, time urgency (0.299), are the second and third indicators, respectively. Because this order is also the order of influence on type A behavior in a personalit trait context, it implies that the aggressive top managers are apt to have type A behavior. LOC is measured by X5, locus of control (0.892), and X7, work orientation (-0.563). Similarly, NACH is measured by X6, mastery (0.548); X7, work orientation (0.949); X8, competitiveness, (0.385); and X9, personal unconcern, (-0.702). Top managers with work orientation (X7) have the personal of need to achieve (NACH). RISK is measured by X10, risk-taking propensity, (0.922) which is the only one indicator for it. In terms of ϕ, the correlation between constructs, we also can find that all of them are mutually correlated. Among the constructs, the degree of correlation between LOC and NACH is the highest with a value at 0.406.

In the same way, the explanation of confirmatory analysis for Y can be proceeded as above. From Figure 5, we can see that BU is measured by Y1 (bureaucratic culture indicator) with a parameter at 0.547 and Y2 (bureaucratic culture indicator) with parameter at 0.771; INO is only measured by Y3 (innovative culture indicator) with parameter at 0.922, SUP is measured by Y4 (supportive culture indicator) whose parameter is 0.321, Y5 (supportive culture indicator) with parameter at -0.451, and Y6 (supportive culture indicator) whose parameter is -0.975. The latent variables—BU, INO, and SUP—are mutual by correlated, among them the relation between INO and SUP is the largest one with a value of -0.493.
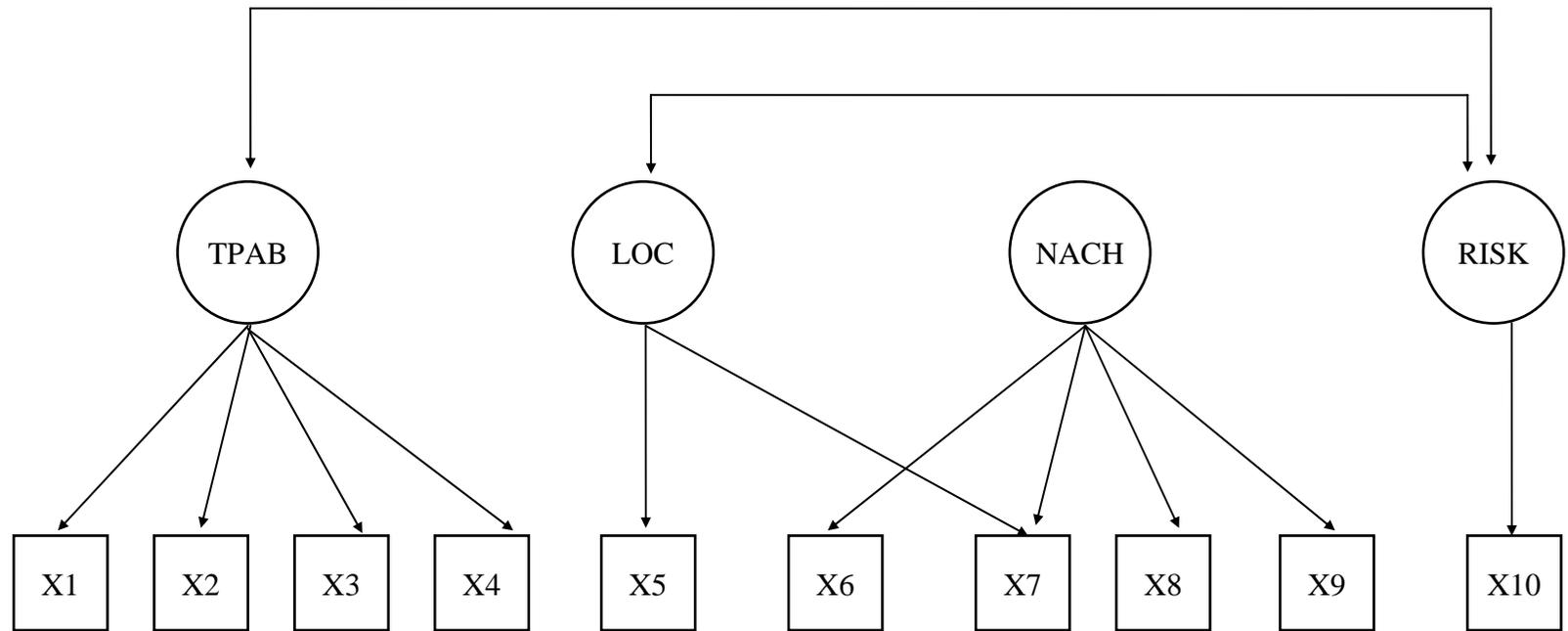
Figure 4　　Path Diagram of Confirmatory Analysis for X variable