

A STUDY OF RELATION BETWEEN ASSESSMENT DIMENSION AND MANAGEMENT OUTCOMES --- A SAMPLE OF SINYI REAL-ESTATE COMPANY

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Index: Assessment Dimension; grey relational analysis; Management Outcomes.

Abstract: This study explored the relational grade of Assessment Dimension and Management Outcomes with Grey System Analysis. The candidates were promoted to be a chief of chain store over half years after they had finished the process of assessment center. The results show P&O and A&J dimensions were the most relation with management outcomes. And the quality index is the advance sub-factor of analysis. The different initial value normalization may influence the result of grey relation was discovered in this study. It's valuable to use mean value, max-value, min-value and interval value for normalization in the future study.

INTRODUCTION

The concept of Assessment Center was initiated during World War II (1948). The military of German, England and American developed a tool by the concept of Assessment Center for selecting spies who will work overseas. In 1956, AT&T first used the tool to select supervisors. The validity was very good (Chuang, 1991). Then, Assessment Center was applied in many fields and focused on selecting and training. It also has many studies of validity. The researches of assessment center almost concentrate in the predictive validity of overall assessment rating (Hwang, 1998). There are few researches to study the relation between assessment dimension and the performance of participant.

Lately, Chinese scholar Chi-long Den announced the Grey System Theory in 1982. The theory gave much help in social science research. The research method of Grey System Theory provides the scientific data to clarify abstract system. The ideas of grey relation grade analysis can whiten the grey relation amount every grey system (Den, 1996).

The development and performance of Assessment Center's participant were under the influence of many factors. It is not easy to avoid the criterion contamination (Wu, 1992). Those phenomena are the trait of social system. The relation information between both systems is not clear or exact. It is difficult to describe the relations concretely. We always verify with inference logically or apply the concept of conscious and rule of judgement to conjecture. The process is complicate and much limit. It is waste time and inconvenience for studying. But, the grey system theory provides the chance to clarify relational validity.

THE ORIGIN OF MANAGEMENT ASSESSMENT CENTER

Social organization and effective management are the great achievement of mankind (Kast & Rosenzweig, 1970). The organizational prosperity and decline depend on managers' ability. Long-term performance of enterprise always based on the managers' competence. Progressive technology and science let technical and capital intensive trade face more risk at decision making. Manager's leading behavior and decision-making is the key to business's profit and loss. Unsuitable middle managers make business loss average US\$ 250,000 dollars per year from some papers (Chuan, 1991). Therefore, selecting suitable manager is an important thing

in the organization.

The speed of organization change is accelerating during modern era. Managers are in the center of the organization's change. They have the responsibility to adhere the change of organization and implement organization's change. Their management competencies affect the development ability of organization deeply. Hence, all of organizations discover the importance of manager development. And it takes much effort on the management development.

A Chinese idiom: "Careful beginning of an activity is better than anything". Let manager practice on the job for learning by doing will take much risk than select a potential and suitable candidate at the beginnings. Over half century, the theory of human selecting was leading by prediction paradigm (Woodruffe, 1993). The methods of selecting have some ideas by experience, and provide some explanation to people's behavior and competency. To predict the future performance of candidates is necessary. Then, assessment center was applied.

BRIEFING OF ASSESSMENT CENTER

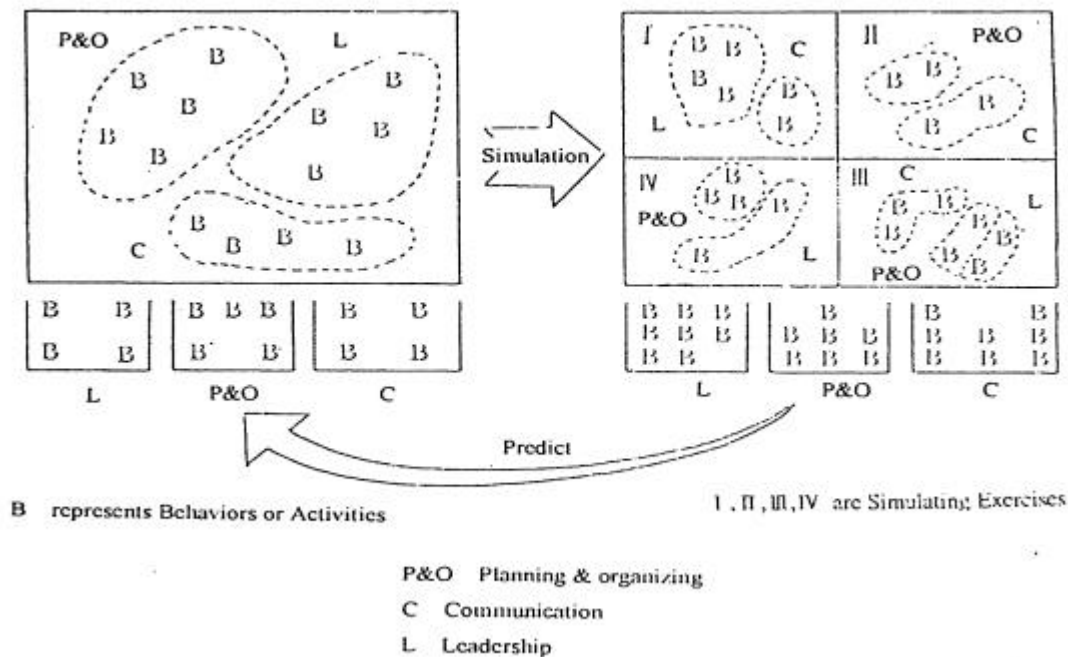
Assessment center concept was initiated during World War II (1948). The military of German, England and American developed a tool for selecting the spy who will work at oversea. 1956, AT&T firstly uses the tool to select supervisors. And the validity was very good. The assessment center method was used in a variety of organizations rapid growth. There are over 5000 assessment centers in USA lately. In addition, Canada, Japan, British, German, Mexico, Holland, and Australia also adopt assessment center method as the tools of evaluating & cultivating manpower. In Taiwan, China Steel Company uses assessment center method to select third level manager firstly. Sinyi Real-estate Company developing the Assessment Center method for selecting chief of chain-store, and had implemented 15 times chief selecting by Assessment Center.

Assessment Center is an evaluated method of standardization. It must analysis the Objective Job for obtaining the needs of abilities and attitudes on the job. Then design or select the exercises or tests for find out the abilities from candidates. During the process, candidates participate in simulation and interview under controlling situation. The assessors must have the experience on Objective Job and participate assessor training. They observe, interview and record the behaviors of candidates. Then integrate and analysis the record data and prepare the assessing reports for reference in promotion, training and settlement (Chuan, 1991; Wu, 1992; Wea, 1995; Lin, 1996; Huang, 1998; Moses & Byham, 1980; Thorntoon & byham, 1982; Woodruffe, 1990; Lau, 1996).

The left Figure 1 is categorized into dimensions with job-related behaviors obtained from a job analysis. The right figure is categorized into dimensions with behaviors. Those perform on the simulation by participants. These dimensions provide a more detailed assessment that is appropriate for judging whether a person is likely to be an effective manager or not. It suppose one has good performance in the simulation situation, will have good performance in the real work (Chuan, 1991).

Every organization or company's situations are different and their applies of Assessment Center are different. But assessment center's basic components are same. There are: A. Participant; B. Assessor; C. Role Player; D. Administrator; E. Simulation Exercise; F. Assessment Dimension.

Fig. 1 The Basic Principle of Assessment Center



IMPLEMENTATION OF ASSESSMENT CENTER IN SINYI COMPANY

Sinyi Real Estate is a chain-store re-house company. Every store spread at every corner of big cities in Taiwan. The chief of store likes a general role at outside area. They manage the members and operate the store. Also, they are the first line manager to contact with customer. Company must delegates the most authority and requires them take responsibility. Therefore, the chief's management ability affects the performance of store and the bottom line of company. The role of chief is very important in the company (Lin, 1996). Sinyi Company set up a Management Assessment and Development Center project (MADC). We process a series work for preparing the MADC. According the function of Assessment Center proof, the current job of candidate and the target job are more different, the validity of assessing is higher than before (Huang, 1998). Then we select the store chief as the Objective Job for MADC.

ASSESSMENT DIMENSION & MANAGEMENT OUTCOMES

Assessment dimensions are different according to the different job and grade. Each assessment center's assessing items of dimension depends on the requirement of Target job. In Sinyi Real-estate Company, to survey the content of management of store chief from the chiefs, managers and subordinates, pick out more important and frequent management items. Then discuss with execute management team and experts to define the assessing dimension as follow: 1. Planning & Organizing (P&O). 2. Analyzing & Judging (A&J). 3. Leadership (L). 4. Decision (D). 5. Managing Control (MC). 6. Communication (C).

According to the results of discussing in the executive management meeting, there are 10 items represent the management outcomes of store chief in the Sinyi Real-estate Company. These can be referred to evaluating. 1. Achievement of the quantity of re-house entrusted (AQE). 2. Achievement of the quantity of dealing house (AQD). 3. Achievement of the quantity of revenue (AQR). 4. Achievement of the quantity of real income

(AQI). 5. Qualities index (QI). 6. Employee's turnover rates (ETR). 7. The rates of Achievement of the quantity of re-house entrusted (RAQE). 8. The rates of Achievement of the quantity of dealing house (RAQD). 9. The rates of Achievement of the quantity of revenue (RAQR). 10. The rates of Achievement of the quantity of real income (RAQI).

GREY RELATIONAL GRADE AND ADVANCE ANALYSIS

There are many systems influence each other in the real world. And these influences are not easy to clarify. The relation among system, system and sub-system are complicate. Scientists try to solve the relation among systems with every knowledge and mathematics method. Although it is difficult to do, many researches and statistic methods were developed. A Chinese scholar Professor Den had developed grey system theory. The theory can whiten the abstract system. Grey relational grade is one of methods for finding out the relations. (Hong & Lee, 1996, Kur, 1997, Ma, 1997, Cheng & Tsi, 1997)

Grey relational grade analysis measures the relation between factor's trends of development. (Den, 1996) This method is different with other method of factor analysis. The feature of Grey relational analysis as follows: (Hong & Lee, 1996)

- A.** Statistic analysis requires mass data and canonical spread rule, Grey relational analysis doesn't. It doesn't need so serious.
- B.** It's simple to calculate, even compare with multiple factors. It isn't so complicate like statistic analysis.
- C.** Grey system method is comparing the trend shape of geometrical curve. The trend shape are more similar, the relation grade are closer. It doesn't appear strange situation that positive relation be recognized negative relation.

Advance Analysis is used on comparing multivariate series. Mother series (mother factor) is a Reference series, sub-series (Sub-factors) are Compare series. Reference series and Compare series makes relation matrix. Through relation matrix analysis, we can find out, which series is advance factor and others are not. (Den, 1996, Hong & Lee, 1996)

RESULTS AND DISCUSSION

There are fifteen participants who were promoted after they take part in the assessment center. This study isn't including the persons who have not promoted. We use five scales to represent the dimension's level during assessing process. One have the excellent capability in the dimension, we scored with 5; good capability, scored with 4; average capability, scored with 3, below average, scored 2, little capability, scores 1. The new chief's performance data were collected at first half year. The performance data include 10 items of management outcome as follow: AQE, AQD, AQR, AQI, QI, ETR, RAQE, RAQD, RAQR, RAQI.

Assessing dimensions are treated as reference series; management outcomes are treated as compare series. After calculating the relational grades, the grey relational matrix is showed as follow list.

Relational Matrix List							
	P&O	A&J	L	D	MC	C	Total
AQE	0.8286	0.6391	0.6695	0.7160	0.7103	0.6993	4.2627
AQD	0.7773	0.6709	0.6637	0.7198	0.6839	0.7129	4.2284
AQR	0.7056	0.6066	0.6203	0.6699	0.6488	0.6616	3.9129
AQI	0.6637	0.5569	0.5579	0.6179	0.6082	0.5876	3.5922
QI	0.7409	0.9045	0.8494	0.8602	0.8687	0.8855	5.1093
ETR	0.6975	0.7155	0.7402	0.7597	0.6888	0.6979	4.2996
RAQE	0.7179	0.8718	0.8274	0.8491	0.8320	0.8489	4.9470
RAQD	0.6645	0.8730	0.8272	0.7809	0.7925	0.8058	4.7440
RAQR	0.7290	0.8934	0.7995	0.8328	0.8183	0.8397	4.9127
RAQI	0.7230	0.8850	0.8145	0.8373	0.8287	0.8321	4.9206
Total	7.2480	7.6168	7.3696	7.6436	7.4801	7.5713	

Analyzing & Judging had the most relational grade with **quality index** (0.9045), and had the least relational grade with **AQI** (0.5569). **Planning & Organizing** had higher relational grade with **AQE, AQD, AQR and AQI** than others. **Analyzing & Judging** had higher relational grade with **RAQE, RAQD, RAQR and RAQI** than others. **ETR** had the most relational grade with **Decision**, and had the least with management control. **AQI** had the least grey relational grade with every management outcomes. In the reference series, higher total relational grades are **Decision and A&J**. In the compare series, the highest relational grade is **quality index**.

CONCLUSION AND SUGGESTION

Social system is always complicate and doesn't easy to find out the relation between each factors. Professor Den proposed grey theory for whitening vague social system. From this study, we can identify the relative grade between assessment dimension and management outcomes. Advance analysis clarifies the detail relation amount series.

Management outcomes can be divided three categories. First cluster contain **AQE, AQD, AQR, AQI**, those focus on quantity of achievement. Second cluster contain **RAQE, RAQD, RAQR, RAQI**, those focus on rate of achievement. Third cluster is **QI** and **ETR**. Making well **Planing & organizing** will affect the quantity of achievement (Randolph & Blackburn, 1989; Mullins, 1996; Hill & Jones, 1998). This character was proved at this study that first cluster had higher relational with **P&O**. The rate of achievement depends on setting rational goal. We must make correct analysis and judging of environment, and then rational goal will be set (Pearge II & Robinson Jr., 1991). This character was proved at this study that second cluster had higher relational with **A&J**. **QI** needs the competence of gathering, analysis, judging and applying information (Lin, 1999). **QI** had high relation with **A&J** and **C** in this study. It also proves that decision and leadership affected **ETR**.

The relational between management dimension and management outcomes was proved by this study. The result correspond general cognition of management. There is only one case of company. It is valuable to study other case continuously. To assure the assessment center's validity and reliability with grey theory. By the way, different initial value normalization may influent the result of grey relation was discovered in this study. It's valuable to use mean value, max-value, min-value and interval value for normalization in the future study.

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