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Job Rotation from the Employees' Point of View

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ABSTRACT

It is hypothesized that the practice of job rotation affects employees' attitude toward their jobs. Using data obtained from twenty-one Taiwan's large companies, the author highlights the significant effects of job rotation on employees' job satisfaction and training evaluation. Implications of the findings are discussed.

INTRODUCTION

Job rotation, sometimes called cross training, is one of the many forms of on-the-job training and a formal effort at executive development (Zeira, 1974; Beatty, Schneier and McEvoy, 1987). Job rotation can be defined as lateral transfer of employees among a number of different positions and tasks within jobs where each requires different skills and responsibilities. Individuals learn several different skills and perform each task for a specified time period. Rotating job tasks helps worker understand the different steps that go into creating a product and/or service delivery, how their own effort affects the quality and efficiency of production and customer service, and how each member of the team contributes to the process. Hence, job rotation permits individuals to gain experience in various phases of the business and, thus, broaden their perspective. Job rotation is a developmental technique that has been widely used but, surprisingly, received little attention in human-resources studies. Empirical research in this regard is sorely needed (Beatty, Schneier & McEvoy, 1987).

Traditionally, job rotation is usually addressed at an organizational level.¹ From the employers' point of view, organizational theorists have advocated frequent rotation as a means of reducing fatigue and boredom on production jobs so as to maintain productivity (Miller, Dhaliwal, & Magas, 1973) and fairly frequent rotation after the initial hiring as a means of orientation and placement (Wexley & Latham, 1981). Job rotation enables the training of workers to be backups for other workers so that managers have a more flexible work force and a ready supply of trained workers (Rothwell & Kazanas, 1994). When rotation occurs at longer intervals, it has been thought as a practice of progressive human resource development or a means of enhancing the value of work experience for career development (Campion, Cheraskin, & Stevens, 1994).

Also from the employers' standpoint, however, the practice of job rotation may be very costly. As pointed out by Yoder, Heneman, Turnbull, and Stone (1958), while job rotation may encourage generalization, it prevents job specialization so that the optimal level of performance can not be reached. Although this problem may be negligible for many jobs, it can be very serious for those jobs where high specialization is needed so that the costs in terms of training and supervision are prohibitive. One should not be surprised by the fact that only 42.5% of the companies in Taiwan are practicing job rotation and that they carry out their job-rotation policy selectively and cautiously (Huang, 1997). Thus, for a job-rotation study at individual level, the focused question is whether the individuals perceive there is a job-rotation practice that they actually participate with,

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rather than whether the companies have allegedly adopted a policy of job rotation.

Interestingly, job rotation was rarely viewed from the perspective of the employees themselves. Through a nation-wide survey, this study addresses the following question: How seriously do employees regard job rotation? Specifically, the researcher wanted to measure the relationship between job rotation and job satisfaction and, secondly, wanted to know whether those employees with job rotation and those without job rotation would judge their companies differently in terms of training effectiveness.

THEORY AND HYPOTHESES

Job Rotation and Job Satisfaction

Job satisfaction refers to an individual's general attitude toward his or her job. According to Locke (1976), job satisfaction is a pleasurable or positive emotional state resulting from the appraisal of one's job and job experiences. As Robbins (1993) put it, when people speak of employee attitudes, they often mean job satisfaction. Job satisfaction, like any attitude, is generally acquired over a period of time as an employee gains more and more information about the workplace.

To measure job satisfaction, one usually identifies key elements in a job and asks for the employee's feeling about each. For example, Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969) and Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1967) are two widely used instruments, which measure five important factors conducive to job satisfaction: mentally challenging work, equitable rewards, opportunities for promotion, supportive working conditions, and supportive colleagues. However, some other job facets such as job security and career opportunities may be important and should be also considered (Huo, Sakano, Tsai & Von Glinow, 1995).

Job satisfaction related to a number of variables including organization structural characteristics such as hierarchy, size, and centralization (Porter & Lawler, 1965; Berger & Cummings, 1990) and job characteristics such as skill variety, task significance, task identity, autonomy, and feedback (Hackman & Oldham, 1975 & 1976). Conceivably, the practice of job rotation contributes at least to skill variety and task identity. In addition, employees see job rotation as a way of acquiring the skills needed for promotions and as an investment by the employer in their development. Therefore, rotating employees to different positions is an excellent way to motivate employees, give them a sense of belonging, reduce boredom and fight off a lack of commitment (Campion et al., 1994). Accordingly, the following hypothesis is proposed:

Hypothesis 1: Employees who perceive their companies as practicing job rotation will have higher job satisfaction than those who don't.

Job Rotation and Training Evaluation

Training is giving new or present employees the skills they need to perform their jobs. On-the-job training (OJT) involves having a person learn a job by actually performing it on the job. In many companies, OJT is the only type of training available to employees (Dessler, 1994). One important form of OJT is job rotation in which the employee moves from job to job at planned intervals.

The advantages of job rotation have been long recognized by organizational theorists. As summarized in Sargent (1952): a job rotation plan provides well-rounded training and a background of experience for the individuals; it streamlines the organization through periodic introduction of new managerial viewpoints; it stimulates the development of the individual because of the element of competition introduced; it eliminates the assumption by an individual of any "vested right" in a particular job; it tests the individual; it minimize friction caused by personality clashes or personal feuds; and it widens the trainee's circle of acquaintances among company executives.

In sum, the trainee in the job rotation learns by doing. In each assignment, the employee is given responsibility and expected to fit in as a regular member. Hence, a training by job rotation is not perfectly substitutable by other kinds of training method. The following hypothesis can be proposed:

Hypothesis 2: Employees who perceive their companies as practicing job rotation will evaluate the companies' training effectiveness more positively than those who don't.

METHODS

Measurement

To measure the two dependent variables (i.e., job satisfaction and training evaluation), this study used scales similar to the questionnaire originally designed for a multinational research project of international human resource management practices (Von Glinow, 1993; Huo, Sakano, Tsai & Von Glinow, 1995). For the independent variable (i.e., job rotation), a dichotomous variable was created to measure whether employees perceived their companies as practicing job rotation. Seven control variables were also used in this study: job interval, age, gender, education, seniority, position, and salary.

Job satisfaction. Respondents indicated the degree to which they were satisfied with the following seven factors: the job itself, supervisor, organization, pay, promotion, job security, and career opportunities at their current job. A five point scale was used: 1(not at all), 2(to a small extent), 3(to a moderate extent), 4(to a large extent) and 5(to a great extent). Item responses were added up for a composite satisfaction score. Actual scores ranged from 7 to 35. Cronbach alpha for these seven items was 0.86.

Training Evaluation. There were ten items used to evaluate training; they were: "to provide a reward to employees," "to improve technical job abilities," "to improve employees' interpersonal abilities," "to remedy employees' past poor performance," "to prepare employees for future job assignments," "to build teamwork within the company," "to provide substantial training when employees first start working in the company," "to help employees understand the business," "to provide employees with the skills needed to do a number of different jobs," "to teach employees about the company's values and ways of doing things." A five-point scale used: 1(not at all), 2(to a small extent), 3(to a moderate extent), 4(to a large extent) and 5(to a great extent). Item responses were totaled for a composite training evaluation score. Actual scores ranged from 10 to 50. Cronbach alpha for these ten items was 0.92.

Job rotation. After given the definition of job rotation as the lateral transfer of employees among a number of different positions without changes in hierarchy and salary, respondents were asked: "Does your company practice job rotation?" A positive answer was coded as 1 and a negative answer was coded as 0.

Job interval. Respondents were asked: "On average how long you would stay in one position before possibly transferred to another position in your company?" The answers were coded in terms of number of year.

Age. Coded as 1(less than 30), 2(30-39), 3(40-49), 4(50-59), 5(over 60).

Gender. Females were coded as 0 and males as 1.

Education. Coded in terms of the number of year the respondents had spent in school(s).

Seniority. The number of year employees have worked for the companies. The answers ranged from 1 to 34.

Position. Non-managerial positions were coded as 0 while managerial positions coded as 1.

Salary(monthly). Coded as 1 (less than NT\$25,000), 2(between NT\$25,000 - NT\$50,000), 3 (between NT\$50,000 - NT\$75,000), 4(between NT\$75,000 - NT\$100,000), 5(more than

NT\$100,000). One US dollar was approximately equivalent to NT\$28.50 when the survey was conducted.

Data Collection

From the list of the 1000 largest Taiwan companies (China Credit Information Service, 1996), twenty-one companies were selected for this study (names of the companies were shown in Table 1). Those companies were selected based on not only the useful connection the author has with them so that someone can help distribute and collect the questionnaires, but also the balanced profile of the companies in terms of location and industry. A total of 920 anonymous questionnaires were randomly distributed within those organizations. Respondents were assured that their participation would be kept confidential. A total of 481 employees responded, representing a response rate of 52.2 percent. Out of the 481 questionnaires returned, 471 were usable.

Table 1
Characteristics and Attributes of Respondents

Variable	Number	Percentage
Job rotation		
Yes	231	51.9
No	214	48.1
	(Frequency missing=26)	
Gender		
Man	320	69.9
Woman	138	30.1
	(Frequency missing=13)	
Position		
Managerial	129	27.6
Non-managerial	339	72.4
	(Frequency missing=3)	
Company		
Advanced Datum Information Corp.	17	3.6
China Container Terminal Corp.	20	4.2
China shipbuilding	29	6.2
China Steel Corp.	28	5.9
Chinese Telcom	34	7.2
CTCI Corp.	20	4.2
Delta Electronics Co.	24	5.1
ID-Link Corp.	28	5.9
Evergreen Marine Corp.	19	4.0
Formosa Plastics Corp.	29	6.2
Kenda Rubber Ind. Co.	24	5.1
Kwang-Yang Motor Co.	34	7.2
President Enterprises Corp.	24	5.1
San Fang Chemical Ind. Co.	7	1.5
Tainan Spinning Co.	8	1.7
Tang-Eng Iron Works	30	6.4
Tong Yang Industry Co.	26	5.5
United Micro-electronics Corp.	16	3.4
Wus Printed Circuit Co.	29	6.2
Yieh-hsing Enterprise	13	2.8
Yue-Ye Motors Corp.	12	2.5

Data Analysis

Multiple regression analyses were performed to assess the influences of job rotation practices on employees' job satisfaction and training evaluation. Specifically, hierarchical regression was used to evaluate the extent to which job rotation adds in terms of variance explained. The results are shown in Table 3 and Table 4. In both job satisfaction and training evaluation models, all the control variables entered at step 1 and then the variable of job rotation was added in step 2. Cohen's incremental F-tests were conducted to assess the significance of the change in r-square from step 1 to step 2.

RESULTS

Descriptive Statistics and Correlational Analyses

Table 2 presents the means, standard deviations, and correlations between all the interval and ratio variables in the study. On average, study participants estimated their job interval to be about three years. Table 2 shows that job interval was related positively and significantly to age, education, seniority, and salary. Specifically speaking, the employees who are younger, junior, with lower education, and with lower salary tend to change their jobs within a company more frequently.

Table 2
Descriptive Statistics and Correlations

Variables	n	Mean	s.d.	1	2	3	4	5	6
1. Job satisfaction	460	22.13	4.44						
2. Training evaluation	448	29.98	8.31	.47***					
3. Job interval	466	2.88	1.39	-.02	-.07				
4. Age	465	1.91	.86	.08	-.04	.31***			
5. Education	465	12.79	2.56	-.03	-.14**	.13**	-.02		
6. Seniority	450	8.19	7.31	.08	-.04	.32***	.81***	-.15**	
7. Salary	457	2.21	.81	.19***	-.05	.37***	.61***	.34***	.59***

*p<.05 **p<.01 ***p<.001

It makes sense that job rotation perception has a significant and negative relation with job interval (i.e., the period an employee expected to stay in the same job). This result indicates that the respondents answered the questions consistently. As expected, job rotation perception had a positive and significant relationship to job satisfaction and training evaluation.

Multiple Regression Analyses

Results of the regression analysis, shown in Table 3 and Table 4, revealed that the seven control variables had a statistically significant joint effect on job satisfaction and training effectiveness. The extent to which job rotation adds in terms of explained variance indicated that job rotation had significant effects on job satisfaction and training evaluation respectively (Residual analyses showed that the normality assumption of error terms for the regression models appeared tenable). The statistical significance of the estimated coefficients, along with the model's overall significance and explanatory power, support acceptance of all the two hypotheses. The findings also showed that some individual characteristics (e.g., education, position, salary, and seniority) used as control variables in the regression equations had significant effects on job satisfaction and/or training evaluation.

Table 3
Results of Multiple Regression Analyses on Job Satisfaction

Variables	R ²	ΔR ²	F	Beta	t
Step 1: Control variables	0.10		6.25***		
Job interval				-0.31	-1.89+

Age					-0.55	-1.16
Gender					0.73	1.42
Education					-0.25	-2.55**
Seniority					-0.04	-0.62
Position					1.88	3.35***
Salary					1.58	3.69***
Step 2: Job rotation	0.16	0.06	8.83***			
Job interval					-0.20	-1.22
Age					-0.56	-1.23
Gender					1.01	1.99*
Education					-0.26	2.66**
Seniority					-0.04	-0.74
Position					2.14	3.90***
Salary					1.43	3.42***
Job rotation					2.13	4.92***
General F test for increment			24.25***			

N=391. ΔR^2 is the amount of variance in job satisfaction accounted for by job rotation over and above the control variables. Unstandardized regression coefficients are shown.

+p<.10 *p<.05 **p<.01 ***p<.001

Table 4
Results of Multiple Regression Analyses on Training Evaluation

Variables	R ²	ΔR	F	Beta	t
Step 1: Control variables	0.08		4.79***		
Job interval				0.06	0.17
Age				-0.20	-0.21
Gender				-0.66	-0.67
Education				-0.59	-3.14**
Seniority				-0.22	-1.94*
Position				4.90	4.54***
Salary				0.45	0.55
Step 2: Job rotation	0.16	0.08	8.88***		
Job interval				0.33	1.02
Age				-0.34	-0.38
Gender				-0.08	-0.08
Education				-0.57	-3.15**
Seniority				-0.22	-2.05*
Position				5.59	5.37***
Salary				0.04	0.06
Job rotation				4.84	5.88***
General F test for increment			34.51***		

N=382. ΔR^2 is the amount of variance in job satisfaction accounted for by job rotation over and above the control variables. Unstandardized regression coefficients are shown.

*p<.05 **p<.01 ***p<.001

CONCLUSION

The results provide strong support for the two hypotheses of this study. There is evidence that employees of large companies in Taiwan think highly of job rotation. Hence, the practicing of job rotation was associated with higher job satisfaction and higher training evaluation by the employees. Another variable that is worth our attention is education, which had negative and significant effects on both job satisfaction and training evaluation. That is, the more educated employees were more likely to be unhappy in the work context and that they became more critical about the training effectiveness of the companies. This is a problem the management of Taiwan's enterprises must think hard to solve because the employees nowadays receive much more schooling than before. The findings of this study indicated that job rotation might be part of the solution.

Traditionally job rotation has been linked to some obvious advantages, as mentioned previously. As Olsen (1953) suggested: " Job rotation is certainly one of the most important learning methods, to my mind the most important single one." To date, job rotation programs can help a company meet the challenges of a highly competitive environment and a flattening management structure:

-At the organizational level, as empathy and understanding develop among the various positions, job rotation program helps to bring about a durable outcome of the commitment of each employee to the firm's value base (Arogyaswamy & Simmons, 1993).

-At the departmental level, management might use a developmental rotation to reward good performance by employees, especially the ' plateaued employee,' instead of a promotion or raise (Campion et al., 1994; Sahl, 1995).

-At the group level, job rotation makes members of a work group interdependent and thus encourages teamwork. Everyone in the group is held responsible for carrying out essential job functions of the group or team (Rothwell and Kazanas, 1994).

-At the individual level, most importantly, job rotation is a major enabler when employers and employees enter into what Waterman, Waterman, & Collard (1994) called ' a new covenant' under which employers give individuals the opportunity to develop greatly enhanced ' employability' in exchange for better productivity. In other words, what matters to employees is having the competitive skills required to find another job whenever it becomes necessary. The focus should be on employability instead of a traditional focus on employment.

The results of this study have shown that job rotation appears to be a positive experience or a desirable system for the employees. It is a fact that should be recognized by management. It is believed that employees in Taiwan while looking for short-term survival are taking a developmental and long-term view of their job. From this perspective, finding personal meaning in work is important. Future studies may look into whether they seek meaning from a job rotation program to meet their growth needs (Hackman and Oldham, 1975) or to meet their employability needs.

Several limitations of this research study should be taken into consideration when interpreting the findings. First, although it included many famous Taiwan's companies, the sample studied here was not a random sample and might not be representative of all the 1000 largest firms in Taiwan. Second, as job rotation was measured by using a single question based on a simple definition given to the respondents, this study might suffer from some definition problems. Employees would think differently about a practice of job rotation if they refer to different kinds of job rotation (For example, is the job rotation within department or between departments? Does it require a change in working place?) Future research should clarify the terms clearly in the first place and different situations of job rotations should be addressed separately.

Endnotes

¹ The importance of job rotation has been recognised even at the national and transnational level. It has been considered as one of the main solutions to the challenge of unemployment in the

European Community. Currently, 14 countries, 5000 public or private enterprises, and 100000 students have been involved in a " EU-Job rotation" project, to resolve the bottleneck problems resulting from economic growth and to help reduce the unemployment rate (See <http://www.aof-give.dk/eujob/presentation.html>)

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