

# Work Motivation, Work Stress, and Job Satisfaction in between Taiwan and China - An Empirical Study

Tung-Liang Chen, Ming - Yi Huang, Tchiu-Hui Su

**Abstract**—This study investigates the relationships between Work Motivation, Work Stress, and Job Satisfaction toward cross-strait employees. The target subjects are three manufacturing firms in Mainland China and Taiwan. Out of 450 distributed surveys, 352 valid surveys were obtained with the response rate of 78.22%. The findings have addressed three main pull factors toward cross-strait employees in choosing jobs, which are (1) high level of firm stability, (2) good firm image, and (3) good employee benefits. In addition, various employee attributes exert different impacts on Work Motivation, Work Stress, and Job Satisfaction. The comparison between expected and actual perceived Job Satisfaction toward cross-strait employees shows that “salary” ranks highest regarding expected Job Satisfaction whereas “co-worker relationship” ranks highest regarding actual perceived Job Satisfaction, which implies actual perceived Job Satisfaction do not match employee expectations. Therefore, this research further concludes that there exists differences between employees’ expected and actual perceived Job Satisfaction.

**Keyword**—Cross-strait, job satisfaction, work motivation, work stress

## I. INTRODUCTION

RECENTLY, firms encounter not only the rapidly changing era and intense global competition but also the enforcement of policies to re-think on how to make a sharp turn for two sides across the Taiwan Strait. For instance, the cross-strait Economic Cooperation Framework Agreement (ECFA) and the cross-strait financial supervision Memorandum of Understanding (MOU) have brought about tremendous challenges in between enterprises of Taiwan and China. It looks crisis-ridden on surface but still brings about extreme business opportunities. Hence, the speed of industry’s capability in dealing with contingency or emergency, also called time changes space, has been viewed as key factors determining business survival. Moreover, since industrial managers can obtain raw material purchase, production equipment, capital, and technology in a short time but human resource requires more time to develop and cumulate, the effective management of human resource activities is considered the key factor to promote competitive advantage in their industry.

Tung-Liang Chen, Department of Technology Management, Chung Hua University, Hsinchu, Taiwan, ROC(phone: (03)5186080-6580; fax:03-5373771:e-mail:tlchen@chu.edu.tw)

Ming-Yi Huang, PHD Student, Department of Technology Management, Chung Hua University, Department of Travel Management, Hsing Wu Institute of Technology, Taiwan, ROC(phone: (02)26015310; fax:(02)26015310:e-mail: hmymatt@ms65.hinet.net)

Tchiu-Hui Su, Department of Technology Management, Chung Hua University, Hsinchu, Taiwan, ROC (phone: 03-5374281; fax: 03-5373771:e-mail: tlchen@chu.edu.tw)

The population for this study is firms’ employees working in Taiwan and China. This study aims to test the relationships in between work motivation, work stress, and job satisfaction. The specific objectives of this study are to deeply explore the relevance of employees’ personal characteristics on work motivation, work stress, and job satisfaction in between Taiwan and China under different environments of wage and welfare structure. This study further investigates the difference in between expected and actual perceived job satisfaction. The findings would provide industrial managers with guidelines to improve performance.

## II. LITERATURE REVIEW

### A. Work motivation

That motivation is the continuing process that launched toward the goals [1]. The concept of intrinsic work motivation, indicating work motivation is the driving force generated by an individual’s self-value feelings toward the future work procedures [2]. In extant literature, work motivation was categorized into intrinsic motivation and extrinsic motivation [3]. As to individual, the intrinsic value causes individual to feel motivated by the work itself. In other words, once individual is engaged in any task, intrinsic drives lead their behaviors, i.e. they would have the sense of own affordable capability and independence through pursuing curiosity, self-challenge, interest, and satisfaction [4]. In accordance with previous-related studies, this study organized work motivation into the push force motivation and pull force motivation scale. The scales were provided to participants with crossing or multiple-crossing answers.

### B. Work Stress

Stress as a non-specific physiological reaction for satisfying self-demand and outlined stress as a non-expected reaction to different kinds of demands [5]. Stress as the reactive model with interactions among emotional, cognitive, and physiological aspects when individuals faced external pressures [6]. That work stress may affect organizations and employees. Specifically, excessive work stress will cause employees physical and psychological discomfort. However, stress or pressure itself exerts both positive and negative effects on people [7]. Particularly, positive pressure facilitates individuals’ alertness and self challenge whereas negative pressure plays the role of source of psychological irritability, anxiety, fear, fright and low self-esteem. Following the research designs of the above studies, this study divides the questionnaires into four dimensions to measure work stress which were work originality, supervisor toleration, peer support, and work hour.

### C. Job satisfaction

That job satisfaction is the intuitive feelings of individuals on their own work and is a kind of synthetic satisfied feeling of physiological, psychological, and environmental aspects [8]. Job satisfaction is viewed as a single concept in which employees can balance different job dimensions such as satisfaction and dissatisfaction in order to form the overall job satisfaction [9]. Moreover, that job satisfaction depends on the gap between employees' expectation on deserved rewards and actual remuneration; specifically, the higher level of job satisfaction is associated with small gap whereas the more extent gap results in lower level of job satisfaction. In line with this idea, the definitions of job satisfaction vary due to the utilization of different theoretical frameworks [10].

Based on the above literature and related research, this research edits the questionnaire and divides job satisfaction into four dimensions which are salary guerdon, supervisor relations, peer relations, and work itself.

## III. METHODOLOGY

### A. Theoretical framework and hypotheses

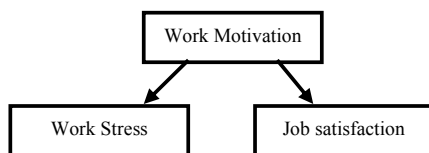


Fig. 1 Example of a figure caption. (figure caption)

Based on the theoretical framework discussed above, the following hypotheses are proposed:

H1. There is a significant difference between the employees of two sides across the Taiwan Strait in work motivation, work stress, actual perceived job satisfaction, and expected job satisfaction.

H2. Work motivation has a positive impact on work stress in between employees of two sides across the Taiwan Strait.

H3. Work motivation has a positive impact on job satisfaction in between employees of two sides across the Taiwan Strait.

### B. Sample

This study selected three firms in the manufacturing industry in two sides across the Taiwan Strait (Taiwan and Mainland China) as the empirical setting. Structured questionnaires were adopted in this study. The survey questions were divided into four sections. Besides the pull factors of personal attribute and work motivation, each dimension of all factors was measured using five-point Likert scale.

Multi-items were crossed by the manufacturing participants themselves. Out of a total of 450 surveys mailed, 355 responses were received with the response rate of 78.88%. Out of 355 obtained responses, this study achieved 352 valid and 3 non-valid responses, indicating a valid response rate of 78.22%.

## IV. RESULT

### A. Data Analysis

A majority of the participants were females. Most of the respondents graduated from high school, vocational high school or there under, were married and their ages ranged from 30 to 35. Presently, the greater part of participants are working as operators on day time regular shift in rotation system and with working years varying from 1 to 3 years.

### B. Reliability Analysis

The results show that work motivation's Cronbach's  $\alpha$  coefficient was 0.721. After the overall examination of the work stress scale, some items were deleted. The work stress's Cronbach's  $\alpha$  coefficient was 0.855. After being tested, several items of job satisfaction were also deleted. The Cronbach's  $\alpha$  coefficient of overall job satisfaction factor was 0.870.

### C. Factor Analysis

#### 1) The pull factor analysis of work motivation

Participants could choose more than one item regarding the degree of six pull factors included in work motivation. The analysis presented the reasons for employees to choose this industry and adequate achieved choosing rate: (1) Good industrial welfare system: 24.7% employees, (2) High industrial stability: 48.9% employees, (3) Good industrial image: 29.8% employees, (4) Through relatives and friends' recommendation: 20.2% employees, (5) Relatives worked in this industry: 6.3% employees, and (6) Others: 19.0% employees.

#### 2) The push factor analysis of work motivation

The push factor analysis of work motivation considered 10 items. A Bartlett sphericity test and KMO (Kaiser-Meyer-Olkin) test were initially conducted, showing the KMO value of 0.882 and the Bartlett's Test of Sphericity reached statistical significance 0.000.

Principal component factor analysis was adopted in this study. Using Varimax rotation, the results of the factor analysis suggested retained high factor loading (higher than 0.5) and extracted the item with eigenvalues greater than 1 which categorized by common factors. The push factors of work motivation were divided into three dimensions. The result showed that first dimension of push factor of work motivation referred to work accomplishment and was named "Self-actualization"; the second dimension was related to personal relationship development and was named "Social Needs"; the third

dimension was associated with living expenses (e.g. subsidizing family expenses) and was named "Life Needs". Out of 10 items, "Self-actualization" explained 22.421% of the variance, "Social Needs" explained 19.381% of the variance, and "Life Needs" explained 17.987% of the variance in the data. The cumulative explained variance of total work motivation dimension was 59.790%.

3) *Work stress factor analysis*

The analysis method is the same as the push factor analysis of work motivation. The KMO value was 0.843 and the Bartlett's Test of Sphericity reached statistical significance 0.000. The work stress factor was divided into three dimensions. The result showed that the first dimension of work stress referred to work diversification and variety and was named "Work Originality"; the second dimension was related to the interaction between supervisors and staffs and was named "Supervisor Toleration"; the third dimension was associated with interactions with other colleagues and therefore was named "Peer Support". Out of 16 items, "Work Originality" explained 21.422% of the variance, "Supervisor Toleration" explained 20.535% of the variance, and "Peer Support" explained 10.419% of the variance in the data. The cumulative explained variance of total work stress dimension was 66.388%.

4) *Job Satisfaction factor analysis*

The KMO value was 0.908 and the Bartlett's Test of Sphericity reached statistical significance 0.000. The actual perceived overall job satisfaction factor was divided into four dimensions. The result showed that the first dimension was related to salary guerdon, employee bonus, and award and was named "Salary Guerdon"; the second dimension was associated with interactions between supervisors and staffs and was named "Supervisor Relationship"; the third dimension was linked to interactions between colleagues and was named "Peer Relationship"; items of the fourth dimension were related to employee's feeling of job content authorized by the organization and was named "Work Itself". Out of 15 items, "Salary Guerdon" explained 24.468% of the variance, "Supervisor Relationship" explained 18.670% of the variance, and "Peer Relations" explained 11.892% of the variance in the data. The cumulative explained variance of total actual perceived job satisfaction dimension was 64.810%.

D. *The difference in analysis in between Taiwan and Mainland China employees on each variable*

1) *The difference in analysis in between Taiwan and Mainland China employees on push factors of work motivation*

The variable t-test was conducted to find whether any significant difference existed between factors. Among push factors of work motivation towards Taiwan and Mainland China employees, the results revealed that Self-actualization (t=-3.122\*\*), Social Needs (t=-8.686\*\*\*), and Life Needs (t=-9.847\*\*\*) were statistically significant.

2) *The difference in analysis in between Taiwan and Mainland China employees on work stress factor*

In work stress factors, another variable t-test found that Work Originality (t=-4.996\*\*\*) and Supervisor Toleration (t=-7.838\*\*\*) were statistically significant.

3) *The difference in analysis in between Taiwan and Mainland China employees on actual perceived job satisfaction*

A variable t-test was performed to identify the significant difference on actual perceived job satisfaction. The results showed Salary Guerdon (t=-10.30\*\*\*), Supervisor Relationship (t=-5.763\*\*\*), Peer Relations (t=-2.811\*\*), and Work Itself (t=-4.606\*\*\*) were statistically significant.

4) *The difference in analysis in between Taiwan and Mainland China employees on expected job satisfaction*

Another variable t-test found that Salary Guerdon (t=-2.523\*), Supervisor Relationship (t=-4.850\*\*\*), Peer Relations (t=-3.662\*\*\*), and Work Itself (t=-3.343\*\*\*) were statistically significant.

E. *Regression Analysis of Work Motivation and Work Stress in Between Taiwan and Mainland China*

Table I presented the regression analysis of work motivation and work stress in Taiwan with R square of 0.071 (β=0.267, Adjusted R square 0.067, P <0.001). Hence, the regression model is supported, indicating there is a significantly positive relation between work motivation and work stress in Taiwan. In other words, the higher work motivation, the higher work stress would be achieved; similarly, lower work motivation leads to lower work stress.

TABLE I  
REGRESSION RESULTS FOR EMPLOYEE'S WORKMOTIVATION AND WORK STRESS IN TAIWAN

Independent variable: Work Motivation		Dependent variable: Work Stress			
R <sup>2</sup>	Adjusted R <sup>2</sup>	F value	regression coefficient		T value
			Non-standardizin	standardizin	
			2.364		8.087***
0.071	0.067	16.051***	0.305	0.267	4.006***

Note : \*\*\*P < 0.001 , \*\*P < 0.01 , \*P < 0.05

Table II showed the regression analysis of work motivation and work stress in in China with R square of 0.002 (β=0.048, Adjusted R square -0.005, P <0.001). Hence, the regression model is not supported, indicating that work motivation has no impact on work stress in China.

TABLE II  
REGRESSION RESULTS FOR EMPLOYEES' WORK MOTIVATION AND WORK STRESS IN MAINLAND CHINA

Independent variable: Work Motivation		Dependent variable: Work Stress			
R <sup>2</sup>	Adjusted R <sup>2</sup>	F value	regression coefficient		T value
			Non-standardizin	standardizin	

Constant				3.102		10.229***
Work Motivation	0.002	-0.005	0.305	0.050	0.048	0.552

Note : \*\*\*P < 0.001 , \*\*P < 0.01 , \*P < 0.05

#### F. Regression Analysis of Work Motivation and Work Stress in Between Taiwan and Mainland China

Table III presented the regression analysis of work motivation and actual perceived job satisfaction in Taiwan with R square of 0.075 ( $\beta=0.274$ , Adjusted R square 0.071,  $P < 0.001$ ). Hence, the regression model is supported; indicating work motivation has a significantly positive impact on actual perceived job satisfaction in Taiwan. In other words, the higher work motivation facilitates higher level of actual perceived job satisfaction whereas lower work motivation results in lower actual perceived job satisfaction. This finding provides a basis for examining among the factors.

TABLE III

REGRESSION RESULTS FOR EMPLOYEES' WORK MOTIVATION AND ACTUAL PERCEIVED JOB SATISFACTION IN TAIWAN

Independent variable: Work Motivation		Dependent variable: Work Stress				
$R^2$	Adjusted $R^2$	F value	regression coefficient			
			Non-standardizin	standardizin	T value	
Constant			2.326		8.131***	
Work Motivation	0.075	0.071	17.143***	0.309	0.274	4.140***

Note : \*\*\*P < 0.001 , \*\*P < 0.01 , \*P < 0.05

Table IV presented the regression analysis of work motivation and actual perceived job satisfaction in China with R square of 0.009 ( $\beta=0.096$ , Adjusted R square 0.001,  $P < 0.001$ ). Hence, the regression model is not supported, indicating that work motivation has no impact on actual perceived job satisfaction in China ( $\beta=$ ,  $P < 0.001$ ). This finding also provides a basis for examining among the factors.

TABLE IV

REGRESSION RESULTS FOR EMPLOYEES' WORK MOTIVATION AND ACTUAL PERCEIVED JOB SATISFACTION IN MAINLAND CHINA

Independent variable: Work Motivation		Dependent variable: Work Stress				
$R^2$	Adjusted $R^2$	F value	regression coefficient			
			Non-standardizin	standardizin	T value	
Constant			2.706		8.449***	
Work Motivation	0.009	0.001	1.184	0.105	0.096	1.088

Note : \*\*\*P < 0.001 , \*\*P < 0.01 , \*P < 0.05

## V. CONCLUSIONS AND RECCOMENDATIONS

### A. Conclusions

#### 1) Work motivation: pull factor and push factor

48.9% of participants consider the priority reason for choosing the industry is its level of stability. This phenomenon can be well explained through the current

emerging slump in economy which in turn causes non-early warning suspension and frequently unpaid holiday enforcement. Therefore, as to labor-capital parties, stability plays a critical role in every industry. Regarding the push forces of work motivation, the gap of preference order between Taiwan and China is small. Generally speaking, Taiwan and China employees pay less attention to achieve social needs through work; the reason suggested might be the fact that information is easily obtained in this network era. Hence, employees feel that work cannot afford the need of expanding interpersonal relationship and social contact. As a result, they choose not to be disconnected with society and to seek social needs using other alternative methods.

#### 2) Current situation analysis of work stress in between Taiwan and China

Regarding work stress, there is a small gap in preference order between Taiwanese and China employees. In general, "Peer support" achieved the highest degree. This study, therefore, agrees with the Chinese proverb "One depends on their parents while at home and on their friends while away from home". Colleague coordination and association would be definitely beneficial to work accomplishment. Moreover, it also brings low work stress.

#### 3) Current situation analysis of job satisfaction in between Taiwan and China

Regarding job satisfaction, there is a gap in preference order between Taiwanese and China employees. Generally speaking, there is the highest degree of "Salary guerdon" in the expected job satisfaction dimension; on the contrary, the degree of "Peer relations" ranks the highest on actual perceived job satisfaction dimension. Hence, it is suggested that there is a drop height between expectation and reality.

#### 4) The impact of work motivation on work stress and work satisfaction in between Taiwan and China

The data analysis shows that the level of work motivation (strong or weak) would affect work stress and work satisfaction in Taiwan and China. Work motivation is found to have a significantly positive impact on work stress and job satisfaction only in Taiwan. In other words, the higher work motivation causes the higher work stress; similarly, the lower work motivation leads to the lower work stress. However, work motivation is found to have no significant impact on work stress and work satisfaction in Mainland China. Hence, this finding implies that in managerial implementation and in the recruitment and selection of employees, managers should conduct tests on work motivation scale in order to choose low work motivation staff to avoid their high possibility of facing high work stress in the initial stage to enter the company.

### B. Recommendations

Regarding pull factors of work motivation, in this era of economic depression and speedily rising price condition, previous studies have suggested the popular reasons of and

main considerations in choosing this industry which are industry's level of stability, good firm image and welfare system. Concerning the push factors of work motivation, employees tend not to pay attention to utilizing work to develop their interpersonal relationships but focusing on work accomplishment and subsidizing family expenses. Hence, in the stage of designing management systems, industry should carefully consider giving these kinds of employees more elaborative space in order to encourage their freedom to express skills and improve work achievement.

Regarding work stress factor, previous empirical studies have presented that peer support can help employees reduce work stress in both Taiwan and China. Therefore, this study suggested that firms in the stage of management hierarchy planning should adopt flat management to reduce the managerial borders. Particularly, managers can cultivate corporate culture by emphasizing teamwork to avoid personalization, concurrently prevent peer conflicts.

Regarding the comparison between expected and actual perceived job satisfaction of employees between Taiwan and China, previous studies have indicated that "Salary Guerdon" ranks the highest in the expected job satisfaction dimension whereas "Peer relations" rank the highest degree in the dimension of actual perceived job satisfaction. This idea implies that actual perceived job satisfaction do not reach employees' expectation. Therefore, firms are recommended to enhance employees' work satisfaction in order to fill the gap between expected and actual perceived job satisfaction. Once reach employees' satisfaction, firms can successfully gain employee loyalty, which in turn facilitates firms' competitive advantages in the intense environment.

#### REFERENCES

- [1] Drucker,P, The practice of management.New York:Harper and Row, 1954.
- [2] Lawer, E. E., and Hall, D. T, "Development of scales for the measurement of work motivation,"*Orgabuzatuibak Behavior and Human Performance*, vol. 5, pp. 93-103,1970.
- [3] Deci,E.L. and Ryan,R.M, "Intrinsic motivation and self-determination in human behavior,"New York:Plenum Press, 1985.
- [4] Amabile,T.M.,Hill,K.G.,Hennessey,B.A., and Tighe,E.M, "He work preference inventory: Assessing intrinsic and extrinsic motivational orientation," *Journal of Personality and Social Psychology*, vol.66 , pp.950-967. 1994.
- [5] Selye, H, The stress of life. New York: Mcegraw-Hill. 1956.
- [6] Greenberg,G.,and Baron,R, *Behavior in Organization*.(Ed.). Englewood Cliffs,Hew Jersey:Pretrice-Hall. 1997.
- [7] Robbins, S. P, *Organizational behavior: Concepts, controversies, and applications*(7thed), Englewood Cliffs, New Jersey: Prentice-Hall. 1989.
- [8] Hoppock,R, *Job satisfaction*. New York:Harper and Brother. 1935.
- [9] Campell, J. P,*Managerial behavior performance and effectiveness*. NY:McGraw-Hill.1970.
- [10] Smith, P., Kendall, L. M., and Hulin, C. L, *The measurement of satisfaction in work and retirement*. Chicago: Rand McNally. 1969.