

Gender differences on the job satisfaction in the phase of implementing advanced manufacturing technology in the Chinese manufacturing firms

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Abstract. This research gave an effort to study on gender differences in the job satisfaction for technological innovation at Chinese manufacturing firm. The exploratory study was conducted in four Chinese furniture manufacturing firms, which are all in the phases of introducing advanced manufacturing system. The results of statistical analysis show that general satisfaction of female employees to their jobs is significantly higher than male employees. In addition, supervisory satisfaction of female employees is significantly higher than male employees. The findings of the study reveal that activities are suggested to be carried out to increase the job satisfaction of male employees, especially improve communication and relationship between the managerial and the non-managerial levels in the innovation process. In addition, the higher job satisfaction of female employees could be considered a positive factor for the successful implementation of AMT in the technological innovation, although male employees are still dominated work force in the case study firms.

Keywords: female employee, Job Diagnostic Survey (JDS), socio-technical system, technological innovation, advanced manufacturing technology (AMT)

1. Introduction

The implementation of advanced manufacturing technology (AMT) has been considered key to enhance competitiveness for manufacturing firms in today's developing economics [1]. Since the 1980s, technological change is the thrust in the Chinese manufacturing industries [2]. As China is one of the biggest manufacturing countries in the world, the topic of AMT implementation is of extreme importance for its manufacturing industries.

Based on the approach of socio-technical system, there are mutual-actions between technologies and human issues in the process of technologies transformations. Unfortunately, human aspect normally is

ignored by decision makers in the process of technological innovation [3]. Job satisfaction has been recognized as an individual's attitude about work roles and the relationship to work motivation [4]. The implementation of new technology may have impact on job satisfaction of employees which is resulted from employees' work. Meanwhile, the emotional state which reflect employees' willingness to respond to enrich their work may also have effect on the success of technological innovation. Prior researchers revealed that psychological barriers of employees are existed for the implementation of a new working system [1,5]. However, the difference between female and male employees is inherent due to gender differences, and also early and ongoing socialization [6].

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Especially in some of traditional labor intensive manufacturing firms, gender issue is less to be considered because men are main work force and play a dominated role in decision making.

The objective of this study was to reveal the job satisfaction of employees in the phase of implementing AMT in four Chinese furniture manufacturing firms. The difference on the job satisfaction between female and male employees was especially studied in this research.

2. Material and methods

2.1. Case study firms

The four Chinese furniture manufacturing firms are located in the primary clusters of furniture manufacturing regions in Eastern and Southern China. The firms were recommended pioneers of introducing computer integrated manufacturing (CIM) by experts in the field of Chinese furniture manufacturing. In the period of this study, the four firms were all in the phase of implementing the new working system.

2.2. Instruments

A question survey was conducted in the case study firms. By using the approach of two parallel translations (Presser et al., 2004), we developed a questionnaire in Chinese from the "Job Diagnostic Survey (JDS)" [7-9]. The questions were designed with a 7-point Likert scale (using numbers from 1 to 7). The indicators used in this paper are including general satisfaction and specific satisfactions, such as payment satisfaction, security satisfaction, social satisfaction, supervisory satisfaction and growth satisfaction. We tested the reliability of the questionnaire by using Cronbach's alpha coefficient. Reliabilities of the five job satisfaction in the present study are ranging from 0.70 (supervisory satisfaction) to 0.81 (general satisfaction). Cronbach's alpha for the whole questionnaire is 0.89 (60 items). These reliabilities compare favorably with those from previous studies.

2.3. Data analysis

In total, 557 valid questionnaires were collected from employees who were participated the implementation of the new working system, including 120 female and 437 male employees. The collected data was analyzed with the Statistical Package for Social Science (SPSS). Means, standard deviations and cor-

relations between the five job characteristics were evaluated. The differences on the job satisfaction between female and male employees were analyzed by using analyses of variance (ANOVA).

3. Results

3.1. Corrections between general satisfaction and specific satisfactions

Correlations between general satisfaction and specific satisfactions are presented in Table 1. The results of correlation analysis show that general satisfaction of employees is significantly correlated with all of the five specific satisfactions ($p < .01$).

Table 1
Correlations between job satisfactions with the total number of respondents (N=557)

| | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------|-------|-------|-------|-------|-------|------|
| 1 General satisfaction | 1.00 | | | | | |
| 2 Payment satisfaction | .40** | 1.00 | | | | |
| 3 Security satisfaction | .54** | .30** | 1.00 | | | |
| 4 Social satisfaction | .38** | .17** | .37** | 1.00 | | |
| 5 Supervisory satisfaction | .56** | .48** | .40** | .38** | 1.00 | |
| 6 Growth satisfaction | .50** | .35** | .46** | .41** | .50** | 1.00 |

** . Correlation is significant at the 0.01 level (2-tailed).

3.2. Differences in the job satisfaction between female and male employees

Results of comparative analysis show that there are significant differences on general satisfaction and supervisory satisfaction between female and male employees in the phase of implementing AMT in the firms. General satisfaction of female employees (Mean=4.82, SD=.92) is significantly higher than male employees (Mean=4.50, SD=1.06) ($P < .05$) (Figure 1). And supervisory satisfaction of female employees (Mean=4.79, SD=.97) is significantly higher than male employees (Mean=4.37, SD=1.20) ($P < .001$) (Figure 2).

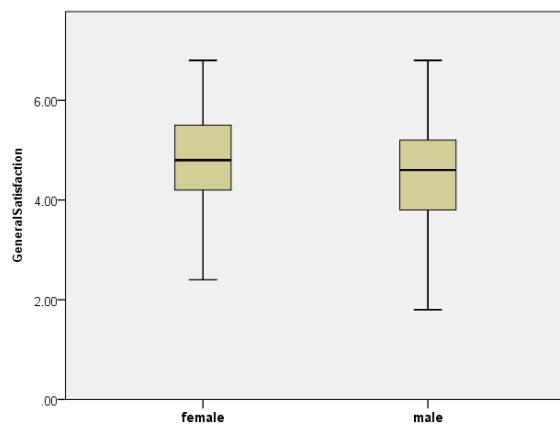


Fig.1 General satisfaction of female and male employees

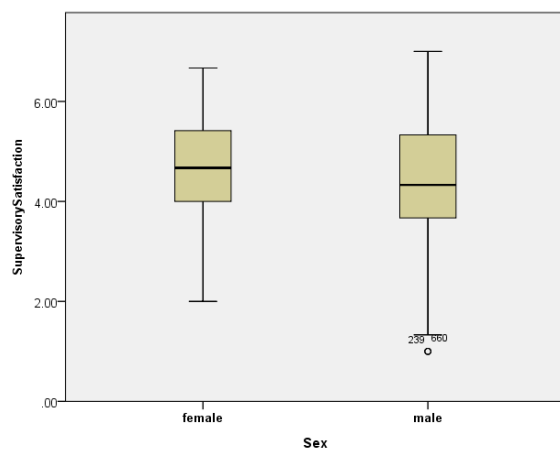


Fig.2 Supervisory satisfaction of female and male employees

4. Discussion and conclusion

The results of the questionnaire survey show that job satisfaction of employees is difference between female and male employees in the phase of implementing AMT in the Chinese firms. As the results show that general satisfaction of female employees is significantly higher than male employees, we found that psychological barriers of male employees for the technological innovation may be higher than female employees in the firms. The results of the study also revealed that supervisory satisfaction of male employees is significantly lower than that of female employees in the innovation process. This indicates a problematical relationship between male managers and workers during the phase of implementing the new working system. Therefore, adequate activities are suggested to be carried out to increase the job satisfaction of male employees, especially improve communication and relationship between the mana-

gerial and the non-managerial levels in the innovation process. Although male employees are still dominated work force and take a major role on the managerial level, the higher job satisfaction of female employees could be considered a positive factor for the successful implementation of AMT in the Chinese manufacturing firms.

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