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A Multilevel Model Of Organizational Commitment

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Abstract

The relationship between job satisfaction and organizational commitment has been the subjects of a large amount of empirical researches. These researches have focused on either organization or individual level analysis, none of them examine individual variables and organizational characteristics simultaneously. In an effort to fill this theoretical gap, we use a multilevel structural equation modeling which integrated factors at both individual and organizational level to examine the relationship between job satisfaction and organizational commitment. The results based on 644 full-time bank employees from 63 bank branches indicate that job satisfaction is causally antecedent to organizational commitment both employee and branch level.

Keywords: Job satisfaction; organizational commitment; multilevel structural equation modeling

1. Introduction

In recent years, with the new economy and information age booming, human resource with knowledge, technology and skills has been adding value to the organization. Professional and technical staff is more costly to replace and their quitting will result in loss of substantial technical knowledge. Job satisfaction and organizational commitment are important for organizations because they are predictors of turnover intentions (Poznanski and Bline, 1997). Employees' having job satisfaction (JS) and organizational commitment (OC) are as important as organizational productivity (Cetin, 2006). Understanding these attitudes is important because they have an important effect on organizational performance, and these attitudes can be influenced by human resource policies and practices(Rayton,2006). Therefore, it is important to understand the relationship between job satisfaction and organizational commitment.

Job satisfaction and organizational commitment have been the subjects of a large amount of empirical research, but the nature of the relationship between JS and OC is still disputed. (Huang & Hsiao, 2007) The research literature on the job satisfaction and organizational commitment relationship suggests four models: (a)JS is causally antecedent to OC, (b) OC is causally antecedent to JS, (c) JS and OC are reciprocally related and (d) no causal relationship between JS and OC (Vandenberg and Lance,1992). The variety of empirical models available in the literature indicates that are still some important unresolved questions regarding the relationship between commitment and satisfaction (Rayton,2006). These empirical models have focused on either organization or

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individual level analysis; no framework exists for simultaneously examining individual variables and organizational characteristics. These researches are usually collected from persons nested within a variety of levels, such as dyads, workgroups, departments, organizations, or over different social cultures. The technical problem is that the statistical dependence among the results for employees in the same group is discounted. The employees are dispersed in different work units, they interact with each other, and they work as groups and may affect each other's perceptions about psychosocial factors at work. Ignoring variation between work units and groups may therefore lead to a deficient evaluation of the models, an issue explored in the present study. In order to overcome this problem, our study proposed a multilevel structural equation modeling (MSEM) which integrated factors at both individual and organizational level, and then distinguish their different influencing mechanisms on relationship between JS and OC in a set of data from banking sector in Turkey.

2. Methods

2.1. Proposed model

To test the causal relationship between job satisfaction and organizational commitment, the model proposed on this study assumes that job satisfaction is causally antecedent to organizational commitment. The model assumes higher job satisfaction produces higher organizational commitment at the individual and organizational level Literature relating to job satisfaction (e.g., Hackman & Oldham,1976, Price & Muller, 1986,1990; Mathieu & Zajac's ,1990, Currivian,1999) suggests that supervisor support(SUP), co-worker support(CW), communication (C) and pay (PAY) positively influence on satisfaction, while role ambiguity(RA) negatively influence on the employee satisfaction. Some have argued that satisfaction and commitment may share common determinants (e.g., Bateman & Strasser,1984; Lance,1991). Literature suggests two such common causes: supervisor support, co-worker support.

2.2. Data

Employees who work at special bank at different branches in Turkey constitute the scope of this research. A bank data set was used to demonstrate the use of MSEM on organizational research. The data have a multilevel structure, with employee nested within branches. The complete sample without missing data included 644 full-time bank employees form 63 bank branches. The branch sample sizes vary from 5 to 16 ($5 \le n_g \le 16$) ; with a typical value of around 10 for MSEM (Muthén,1994). Of that 59.5% of the subjects who participated in the survey were woman, 40.8% were man. According to their ages, 5.6% of the participant were between the ages 18-24; 35.2 % were between 25-34; 53.3% were between 35-44; 5.9% at the age 45 or over. As far as their experience is concerned, 25.7% of them had 1-5 years experience; 15.2% had 6-10; 18.5% had 11-15; 37.7% had 16-20 years experience and 2.8% had 21 years and over experience.

2.3. Measures

In this study, job satisfaction was measured using Hackman and Oldham (1975) scale. This scale consist of 18 items. It has six sub-scales, namely supervisor support (SS), coworkers (CW), role ambiguity (RA), communication (C), pay (P) and job satisfaction (JS). A five-point scale was employed, ranging from 1 (strongly disagree) to 5 (strongly agree). Scores on the items of each subscale were averaged to yield summary score reflecting that subscale. The internal consistency reliability(Cronbach's alpha) for supervisor support (SS), coworkers (CW), role ambiguity (RA), communication (C), pay (P) and job satisfaction (JS) subscales in this study are 0.933, 0.763, 0.90, 0.842, 0.911 and 0.785 respectively. (Yousef,2002).

Organizational Commitment (OC) was measured by the two-items selected from short version of the Organizational Commitment Questionnaire (Porter at al.,1974). A five-point scale ranging from 1 (strongly

disagree) to 5 (strongly agree) was employed. Scores on the two items were averaged to yield a summary score reflecting organizational commitment. Meyer and Herscovitch (2001) present a recent summary of the literature on commitment, and suggest that, "affective commitment" a) correlates significantly with a wider range of "outcome" measures and b) correlates more strongly with any given "outcome measure" than does continuance or normative commitment (Rayton,2006). Because of the importance of affective commitment, we employed a two item measure of affective commitment which yields an alpha of 0.748.

2.4. Results

Multilevel SEM (MSEM) is a direct generalization of SEM in the contex of the multilevel model that take into consideration the correlated structure is well recognized in structural equation modeling (Cheung and Au, 2005, Lee and Shi, 2001).Multilevel structural equation modeling is comprised of both measurement model and structural model. The multilevel measurement model, which is a multilevel confirmatory factor model, specifies how the latent factors are measured by the observed variables (Hesketh, Skrondal, and Zheng, 2007). The multilevel structural model contains the relationships between the latent factors.

First, we fitted the model that infers a causal ordering going from job satisfaction to organizational commitment ignoring the nested structure of the data with Mplus using the total covariance matrix (S_T). According to a chi-square / degrees of freedom ratio, the proposed model fit the data inadequately($\chi^2/s.d. = 2.49$). It may be due to ignore the nested structure of the data (Cheung and Au, 2007). By ignoring the nested structure of the data, we know little from the rejection of the proposed model, when comparing the different fit indices (RMSEA=0.048,GFI=0.94,AGFI=0.92,SRMR=0.044)

The next step address the question: "Is multilevel analysis appropriate for our data?" by estimating the proportion of systematic between group variation for each observed variable in the model (Dyer, Hanges and Hall,2005). Muthén suggests estimating a unique type of intraclass correlation coefficient (ICC) to determine potential group influences. The intraclass correlation coefficients (ICCs) were calculated for each indicator and the ICC values for these 22 indicators ranged from 0.052 to 0.132. B. O. Muthén's (1994) experience with survey data suggested that the common values of ICC ranged from 0.00 to 0.50. The results indicate that the data are not independent. This result suggests that the relationship between job satisfaction and organizational commitment varies across branches. This shows that it is important to take into account the multilevel data structure when undertaking the analysis. So, MSEM is neceserray for making valid statistical inferences.

In the third step, the pooled within-group covariance matrix Spw was used to develop a model for the relationship between job satisfaction and organizational commitment at the level of the individual employee. By analyzing S_{PW} with conventional ML, the proposed model fitted the data adequately. These results are consistent with the general findings that analyzing S_{PW} gives better results than analyzing S_T ($\chi^2/s.d.=2.15$**,** RMSEA=0.044, (P(RMSEA<0.05)=0.94, CFI=0.97, NFI=0.95).

In the fourth step, the fit of a branch level SEM model to the estimated between-group population matrix (S_B) computed in Mplus is investigated. By analyzing, the proposed model fitted the data marginally well. ($\chi^2/s.d.=0.37$**,** RMSEA=0.00, (P(RMSEA<0.05)= 1.00, CFI=1.00, NFI=0.91). The fit indices at this step show that proposed model has substantially stronger fit than the model from the previous step. Proposed within-group and between group model fit the data very well. This indicates multilevel analysis is necessary.

Based on the information gathered in the previous steps, this step was achieved by simultaneously analyzing matrices Spw and S_B using the multi-group procedure of Mplus. The MSEM fitted the data reasonably well with $\chi^2/s.d.=1.31$**,** CFI=0.98, NFI=0.94 and especially RMSEA=0.030, (P(RMSEA<0.05)= 1.00. This model offered a significantly better fit than the individual level model (Step 1). The effect of co-worker support on job satisfaction is found statistically insignificant in conventional structural equation model (first step) while co-worker support effect is found statistically significant in MSEM. These results show that the proposed model fits better data under a multilevel framework. The results from the proposed model suggest good fit at the within level and the between level. The total variation of organizational commitment explained by job satisfaction, supervisor support, co-worker support in within and between model are 0.74 %, 83% respectively.

In the individual level, our results suggest that good supervisor support and co-worker support have significant positive effects on both commitment and job satisfaction. Satisfying levels of pay and good communication in work have significantly positive effects only job satisfaction. Role ambiguity was expected to exert a negative effect on job satisfaction, so the insignificant effect is surprising. However, it confirms earlier qualitative research of the relationship between role ambiguity and job satisfaction conducted by Currivan(1999). In the branch level, results show that JS is causally antecedent to OC and the effect of satisfaction on organizational commitment varies across branches. Additionally, none of the latent variables has a significant effect on either satisfaction or commitment. Fig 1. shows multilevel model of organizational commitment.

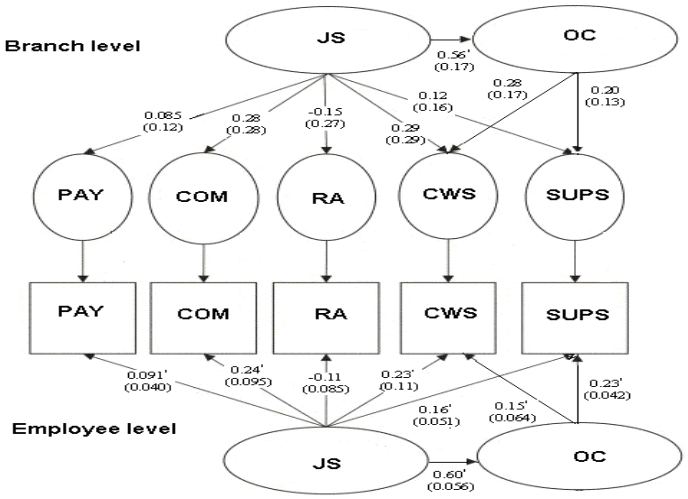

Figure 1. Multilevel model of organizational commitment (*p<0.05)

3. Discussion

This study investigates the causal relationship between job satisfaction and organizational commitment. The analysis causal relationship between satisfaction and commitment by multilevel structural equation modeling provides fresh evidence on this unresolved question in the turnover literature. According to results of multilevel structural equation modeling, bank employee's job satisfaction is causally antecedent to their organizational commitment at the individual and branch level.

The relationship between job satisfaction and organizational commitment is similar in the individual and branch level. In the employee level, supervisor support, co-worker support, levels of pay and good communication have significant positive effects on satisfaction, while role ambiguity has not significant effect on satisfaction. Supervisor support and co-worker support are the significant determinants of both satisfaction and commitment. In the branch level, JS is causally antecedent to OC and none of the latent variables has a significant effect on either satisfaction or commitment

Organizations are naturally multilevel system. Individuals are nested within organizations, and they are respectively at different hierarchical levels. The major aim of our study is to investigate the relationship between job satisfaction and organizational commitment using multilevel structural equation modeling. The analysis of the causal relationship between satisfaction and commitment controls for presumed causes of these two variables, and thereby provides a more accurate estimate of the relationship. The basic idea behind the contextual variables, such as job satisfaction and organizational commitment is, however, that they represent something that characterizes the organization. Therefore, there should be higher level variation in these variables in addition to variation between employees, because people's reactions and perceptions tend to affect their coworkers in the same work unit. Indeed, our results suggest that the relationship between job satisfaction and organizational commitment varied considerably

between bank branches in addition to individual level variation. This shows that it is important to take into account the multilevel data structure when undertaking the analysis. Responses form individuals within work units seem not always to be independent, and any models that ignore this lack of independence may incorrectly estimate the between individual relationships.

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