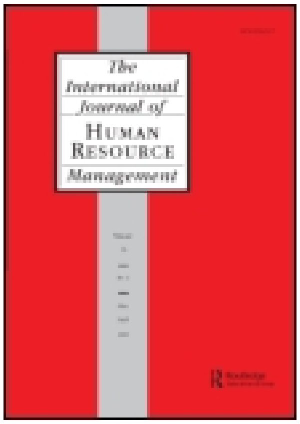


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# The linkage between profit sharing and organizational citizenship behaviour

***Su-Fen Chiu and Wei-Chi Tsai***

**Abstract** The study investigated the effects of profit sharing (cash-based, stock-based and combined-total profit sharing) on organizational citizenship behaviour (OCB). It also examined the mediating role of organizational commitment on the relationship between profit sharing and OCB. Data were collected from 426 employees of 35 information electronics companies in Taiwan. Results showed that whereas cash-based profit sharing had no effect on OCB, both combined-total profit sharing and stock-based profit sharing positively influenced OCB. We also found that organizational commitment mediated the relationship between profit sharing (stock-based and combined-total profit sharing) and OCB.

**Keywords** Organizational citizenship behaviour; profit sharing; organizational reward; organizational commitment.

## Introduction

Organ (1988) first defined organizational citizenship behaviour (OCB) as non-enforceable and voluntary behaviour of employees. This has come to mean employee behaviour that goes beyond job role requirements and contractual reward systems. Since then, most research has focused on examining the predictors of OCB, including individual dispositions, attitudes and organizational contextual factors (e.g., Cappelli and Rogovsky, 1998; Organ and Ryan, 1995; Podsakoff *et al.*, 1996). Nonetheless, as compared with other predictors of OCB, organizational reward systems have received less attention from scholars.

Recently, Organ (1997) redefined OCB as 'contextual performance' which was conceptualized by Borman and Motowidlo (1993: 73) as 'behaviors [that] do not support the technical core itself so much as they support the broader organizational, social, and psychological environment in which the technical core must function'. As this new definition does not rule out the possibility of the connection between organizational reward systems (either contractual or non-contractual) and OCB, the impact of organizational rewards on OCB has gained increasing attention from researchers. Along the way, Organ and Ryan (1995) proposed a theoretical model linking organizational reward systems to OCB, and indicated that contractual rewards and incentives should have an indirect effect on employees' OCB. Empirically, research has shown that some

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organizational reward systems, such as pay-for-performance plans and gain sharing plans do influence OCB (Deckop and Cirka, 1999; O'Bannon and Pearce, 1999). While the above two organizational reward systems demonstrably do have a connection with OCB, research on how another form of organizational reward system, profit sharing, may link to OCB remains unexplored.

The primary purpose of this study is to explore the influences of profit sharing (one system of organizational rewards) on OCB, and specifically to test the mediating role played by organizational commitment. To date, only two studies have examined the relationship between organizational reward systems and OCB. Deckop and Cirka (1999) examined the impact of an employee-perceived performance-pay link on OCB in a utility industry. Results showed that a performance-pay link had a positive effect on OCB for employees with high organizational value alignment. O'Bannon and Pearce (1999) found that a team-based gain sharing plan correlated positively with the teamwork dimension of OCB, but it was not related to the altruism dimension of OCB. The present study extends these two studies in three ways. First, whereas Deckop and Cirka (1999) and O'Bannon and Pearce (1999) examined the relationship between organizational rewards (a performance-pay link and a team-based gain sharing plan) and OCB, the present study focuses on the impact of a different organizational reward system, namely, individual-based profit sharing, on OCB. Second, Deckop and Cirka (1999) measured employees' perceptions of the performance-pay link (either individual-, group- or company-based) instead of actual organizational practices. O'Bannon and Pearce (1999) examined an overall effect of the existence of a group-based cash gain sharing plan on OCB. In contrast, the present study specifically examines the effects of two actual individual-based profit sharing practices (a cash-based profit sharing and a stock-based profit sharing) on employees' OCB. As Florkowski (1987) pointed out, one of the methodological weaknesses of previous research is the assessment of the attitudinal effects of profit sharing, rather than the actual extent of profit sharing. This study has been able to capture the objective natures of organizational reward systems and their impacts on OCB. Third, in contrast to Deckop and Cirka's (1999) and O'Bannon and Pearce's (1999) studies using samples from the utility industry and research institutes, respectively, this research chooses Taiwan's information electronics industry as the investigation target. Profit sharing is a prevalent incentive system in Taiwan's information electronics industry and employees' spontaneous OCBs are vital for teamwork, cooperation and innovation in this industry. Despite this, no study has ever chosen this industry as the context for investigating the effects of profit sharing on employees' OCB. The present study fills this research gap.

## Theoretical background and hypotheses

### *The impact of profit sharing on OCB*

Past scholars have suggested that the implementation of an organization's reward system has an important impact on employee attitudes and behaviors (e.g. Organ and Ryan, 1995; Scholl *et al.*, 1987). From an incentive viewpoint, profit sharing is considered an organizational reward system, as it motivates employees to work harder to enhance organizational performance. Two types of profit sharing are commonly adopted by companies – cash-based profit sharing and stock-based profit sharing. Past research has shown that both types of profit sharing plans have had positive effects on employee attitudes, including higher job satisfaction and organizational commitment (e.g., Buchko, 1992a, 1992b; Klein, 1987; Van de Walle *et al.*, 1995).

As to the relationship between profit sharing and OCB, despite the definition that Organ (1988) put forward which describes OCB as discretionary individual behaviour not directly or explicitly recognized by formal reward systems, growing literature has shown that OCB has been influenced by organizational reward systems. For example, Deckop and Cirka (1999) demonstrated that when employees had high affective organizational commitment, pay-for-performance plans had a positive impact on OCB. O'Bannon and Pearce (1999) found that employees in the gain sharing organizations had favourable perceptions of the teamwork OCB displayed by co-workers. Profit sharing, in which employees' compensation is tied to the overall performance of a company, is one form of an incentive pay system, similar to performance-based pay and gain sharing plan. There are several paths through which profit sharing may influence employees' OCB. Based upon an incentive (or enlightened self-interest) argument, we expect a connection between profit sharing and OCB. As noted, an individual employee's profit sharing level is dependent upon a company's overall performance. Thus, an enlightened self-interested employee may realize he (she) may gain more rewards (e.g. profit share in cash or in stock) for himself (herself) through joint effort than he (she) can through individual effort. The incentive to gain more rewards may lead the employee to engage in behaviours such as concerning for others, assisting others, or engaging in OCB (Campbell, 1997; Leppert, 1959). Maitland (2002) also pointed out that self-interest is a precondition of altruism (one dimension of OCB). Therefore, enlightened self-interest may provide an employee an incentive to display OCB to benefit others as well as himself (herself) simultaneously.

The linkage between profit sharing and OCB can also be explained from the perspective of peer pressure. As alleged by Kandel and Lazear (1992), profit sharing may foster peer pressure, which is an effective motivator for an employee to put more effort at work and to prevent him (her) from shirking in profit-sharing firms, especially when profits are shared among peers in work groups. As most employees in the present study worked in teams, an employee who puts in less effort would hurt his (her) co-workers. Guilt or empathy may prevent him (her) from shirking and even force him (her) to devote more efforts in helping co-workers to achieve common work goals (Lazear, 1991).

Further, as Morrison (1996) noted, when a company structures a reward system, whose rewards are tied to how well the company as a whole performs, the effect will be encouragement of an employee to display citizenship behaviour. In this case, the employee will focus on company-wide objectives (i.e., company profits) and adopt a broad view of his (her) core job requirements. The awareness of the employee's responsibility for the company will implicitly encourage him (her) to take broader responsibilities for extra-role activities, i.e. OCB, that will help the company to achieve profitability (Morrison, 1994). Hence profit sharing may motivate employees to display OCB, and result in the enhancement of company performance.

Moreover, stock-based profit sharing, as one form of employee ownership, may create the sense of 'common interest' and 'shared responsibility' among employees, which stimulates a 'zeal and careful working' (Webb, 1912: 138). Accordingly, through the motivating process of integrating individual employee into the organization through ownership (or feeling of possession), employees should be motivated to display more positive attitudes and behaviours in order to protect and enhance the target of ownership (Furby, 1978, 1991; Pierce and Rodgers, 2004; Pierce *et al.*, 1991; Van Dyne and Pierce, 2004; Wilpert, 1991). Several empirical studies have provided support for the motivational effects of employee ownership (e.g. Buchko, 1992a; Long, 1978a, 1978b; Van Dyne and Pierce, 2004). For example, Van Dyne and Pierce (2004) found that ownership may foster a sense of shared interest of an employee with his (her) organization, which led to constructive work behaviours (e.g. organizational citizenship behaviours, effective task performance). Based on the above, it is likely that profit sharing (especially stock-based profit sharing) may be related to OCB.

*Hypothesis 1*: Profit sharing (especially stock-based profit sharing) will be positively related to OCB. Specifically, employees with a higher level of profit sharing (especially stock-based profit sharing) will display more OCB.

### *The mediating role of organizational commitment*

**Profit sharing → organizational commitment** Organizational commitment represents the intensity of identifications an individual puts into an organization, including trust and acceptance in organizational goals and values, willingness to make an effort to achieve organizational goals, and desire to maintain organizational membership (Mowday *et al.*, 1982). Literature has revealed at least four possible, but not mutually exclusive, mechanisms of organizational commitment: involvement, integration, investment and exchange (Scholl, 1981; Shore and Wayne, 1993; Williams and Anderson, 1991). The above mechanisms provide a theoretical basis for explaining the relationship between profit sharing and organizational commitment.

From the viewpoints of ‘involvement’ and ‘integration’, organizational commitment may occur as a result of ‘feelings of solidarity and membership’ (involvement) and ‘perceptions of satisfactions to be derived from the organizational role’ (integration) (Patchen, 1970). Employee profit sharing requires distribution of the profits of an enterprise with employees. Employees identify strongly with organization goals through the operation of profit sharing. As Kelly and Kelly (1991) suggested, profit sharing will generate more ‘favourable’ attitudes towards the company, including a reduction in ‘them and us’ feelings, and greater organizational commitment. This in turn will lead to beneficial organizational outcomes, such as greater personal effort and a reduced intention to leave. Moreover, Klein (1987) proposed three models (intrinsic satisfaction, extrinsic satisfaction, and instrumental satisfaction) to test the psychological effects of employee ownership. In his viewpoints, if employees are satisfied with the stock ownership, they will feel committed to the company and motivated to remain in the organization. Thus, stock-based profit sharing as one form of employee ownership may increase commitment indirectly through increasing involvement and increasing integration (Long, 1978a).

Profit sharing may also directly influence organizational commitment with ‘investment’ and ‘exchange’ mechanisms (French, 1987). Based on Becker’s (1960) argument, commitment is a function of how much one has at stake in the organization. Research has shown that profit sharing in the form of employee ownership may lead employees to hold an investment orientation regarding their company. The immediate or expected future financial return from profit sharing may affect employees’ attitudes (Hammer and Stern, 1980). Furthermore, Eisenberger *et al.* (1990) conceptualized ‘commitment’ as an exchange of loyalty and effort for material benefits and social rewards. Thus, we believe that profit sharing may enhance employee commitment through investment and exchange, as employees devote their time and effort to enhance organizational performance, and in turn expect to share greater returns of the company’s profits.

Numerous empirical studies on employee ownership have demonstrated that profit sharing may influence employees’ organizational commitment (e.g. Buchko, 1992a, 1992b; Florkowski and Schuster, 1992; French, 1987; Klein, 1987; Long, 1978a, 1979, 1981; Rusbult and Farrell, 1983). For example, Long (1978a, 1979, 1981) showed that the initiation of an employee stock ownership plan (ESOP) had positive effects in enhancing employees' organizational commitment and organizational involvement. Drawing on the investment model, Rusbult and Farrell (1983), in a longitudinal study of accountants and registered nurses, demonstrated that employees' organizational commitment was induced from a high level of organizational rewards. Klein (1987) confirmed that when the ESOP offered substantial financial benefits to employees, and when firm management was highly committed to implement ESOP, organizational commitment of ESOP participants would be higher. In a review article, French (1987) concluded that employees with greater shareholdings would have greater identification with and commitment to the organization than those with fewer shares. Furthermore, Buchko (1992a, 1992b) discovered that when employees considered the ESOP to have greater financial value, they tended to be more satisfied with this plan, and, in turn, increased their organizational commitment. Taken together, it seems that the extent of profit sharing should have a positive impact on the organizational commitment of employees.

**Organizational commitment → OCB** Past research has generally considered organizational commitment as an antecedent to OCB. Under the circumstances of receiving no rewards, an employee with high organizational commitment may still make volunteering a way for providing assistance to the organization in achieving its organizational goals (Scholl, 1981). Wiener (1982) suggested that organizational commitment can be viewed as the sum total of internalized belief that drives the following individual extra-role behaviours: (a) personal sacrifice for the organization; (b) actions taken not solely based on rewards or punishments; and (c) personal intense striving for the organization. The characteristics of these behaviours are the exact portraiture of OCB. Therefore, as the display of employees' OCB cannot be stimulated directly by the formal reward system, such a display may be dependent upon the degree of individual organizational commitment.

There have been extensive empirical studies examining the relationship between organizational commitment and OCB. Most studies have demonstrated that organizational commitment has direct or indirect influences on OCB (e.g. O'Reilly and Chatman, 1986; Organ and Ryan, 1995; Schappe, 1998; Shore and Wayne, 1993). For example, using the notion of psychological attachment, O'Reilly and Chatman (1986) found that the identification and internalization dimensions of organizational commitment are positively related to OCB. On the other hand, a recent meta-analysis by Organ and Ryan (1995) indicated that organizational commitment is moderately related to OCB (uncorrected $r = .20$ and .24 for the relationships between organizational commitment and two OCB dimensions, altruism and generalized compliance, respectively). The above research has generally supported the positive relationship between organizational commitment and OCB.

In sum, the arguments and empirical evidence presented here suggest that profit sharing may influence employees' OCBs because of its effects on raising employees' organizational commitment, which, in turn, leads to beneficial organizational behaviours, i.e., OCBs. Thus, we propose the following:

*Hypothesis 2*: Organizational commitment will mediate the relationship between profit sharing and OCB. Specifically, the higher the profit sharing level, the higher the organizational commitment, and also the higher the OCB.

## Method

### *Sample and procedures*

Thirty-five information electronics companies in Taiwan were chosen for the research targets. In terms of sample selection, we stressed to the companies' human resources departments that the participants should be selected randomly and represent the full range of jobs and seniority in the organizations.

Following a pre-test of 60 employees who were independent of the participants of this study, in order to ensure the readability of the questionnaire, 750 questionnaires along with stamped, pre-addressed envelopes were distributed to the sampled employees of the 35 companies. The employees were guaranteed anonymity and confidentiality for their responses. From these, 523 questionnaires were returned by mail to the first author of this study, yielding a 69 per cent return rate. After dropping 72 incomplete questionnaires, 426 valid ones remained, yielding a valid return rate of 57 per cent.

In terms of the characteristics of the 426 valid samples, 62.8 per cent were men, the average age was 29.1 years, the average organizational tenure was 2.7 years and the average education level was 16 years (university degree). As for department, subjects in the research and development (R&D) departments accounted for 43.9 per cent, 32.3 per cent were in production departments, and 12.4 per cent were in administration. In terms of position, senior engineers, engineers, assistant engineers, foremen, operators, specialists and managers accounted for 6.8 per cent, 41.7 per cent, 10.6 per cent, 3.8 per cent, 11.3 per cent, 7 per cent and 4.3 per cent of the subjects, respectively.

To examine whether there is a systematic non-response bias within the sampling frame in this study, we compared employee demographic data of our respondents with the employee data provided by each company. No significant difference exists between the 426 valid respondents and the 750 sampled employees in terms of age ($t = -.75$, $p > .05$), sex ($\chi^2 = .00$, $p > .05$), education ($t = -1.23$, $p > .05$), organizational tenure ($t = -.26$, $p > .05$) and position (59.1 per cent versus 59.0 per cent engineers, 40.9 per cent versus 41.0 per cent non-engineers). This indicates that a non-response bias should not be a problem in the present study.

### *Measures*

**Profit sharing** Two types of profit sharing are prevalent in Taiwan's information electronics industry, namely, cash-based profit sharing and stock-based profit sharing. Since each employee had different shares of a company's profit, relevant information was provided by the study participants and measured for two items: the percentage of cash-based profit sharing and the percentage of stock-based profit sharing in the employee's total monetary compensation during the past year. The sum of the two items was computed to represent combined-total profit sharing ($r = .75$, $p < .001$). This gave a measure of the percentage of profit sharing in an employee's total cash compensation on a continuous scale instead of the categorical scales and is consistent with the suggestions by French (1987) and Buchko (1992a, 1992b).

Past research has shown that employees are unwilling to report or understate their salaries and incentive pay; thus we used two methods to verify the accuracy of the self-reported profit-sharing data. First, we looked at company records from the sample companies' human resources departments for accounting records concerning the average proportion of monetary compensation involving cash profit sharing and stock awards for specific positions. These positions were assistant engineer, engineer, senior engineer, operator and administrative specialist, in the R&D, manufacturing and administration departments. Second, using data on the employee cash profit sharing, stock share level, stock award time price, total salary and employee numbers in the *New Taiwan Economic Daily* Data Bank for the 35 subject companies, the cash profit sharing and stock profit sharing were calculated as the proportion of total payroll of each company. Comparing this data with data from this study's sample showed that the profit sharing level of the sample was 2 per cent less than that of the data bank. This may be caused by the fact that the subjects were younger and 67.8 per cent had been with their company for less than 3 years. In addition, all surveyed companies pointed out that all employees with over 1 year's service were entitled to share profits through cash payout or stock distribution. Thus, we dropped those questionnaires filled in by subjects with over 1 year's service, but profit sharing data was deliberately filled in as '0'.

**Organizational commitment** Organizational commitment was measured with the 15-item scale developed by Mowday *et al.* (1979). Sample items include: 'I find that my values and the organization's values are very similar,' and 'I really care about the fate of this organization.' Scale anchors ranged from 1 (strongly disagree) to 6 (strongly agree). The reliability coefficient was .87.

**Organizational citizenship behaviour** OCB was measured with a modified version of the synthesized scale of Coleman and Borman (2000), omitting four items after the pre-test to retain 23 items. The response options ranged from 1 (strongly disagree) to 6 (strongly agree). The 23 items were used to measure the following three OCB dimensions proposed by Coleman and Borman (2000): interpersonal citizenship performance (OCBI); job and/or task conscientiousness (OCBJ); and organizational citizenship performance (OCBO). Sample items of interpersonal citizenship performance include: 'helping other organization members', and 'cooperating with other organization members'. Sample items of job and/or task conscientiousness include: 'putting forth extra effort on one's own job', and 'volunteering to carry out tasks other than one's own jobs'. Sample items of organizational citizenship performance include: 'endorsing, supporting, or defending organizational objectives', and 'not complaining about organizational conditions'. The average score of the 23 items formed the composite OCB. The reliability coefficient of the composite OCB was .93. Since results of the regression analyses on the relationship between profit sharing and three OCB dimensions were very similar to the results of profit sharing on the composite OCB, only the hierarchical regression analyses on the composite OCB were reported in the results section. (The results of the regression analyses on the relationship between profit sharing and three OCB dimensions can be obtained from the first author of this study.)

**Control variables – gender and organizational tenure** Morrison (1994) and Van Dyne and Ang (1998) found that females were more inclined to display interpersonal helping OCBs, while LePine and Van Dyne (1998) found males were more likely to perform voice behaviours. Kidder and McLean Parks (2001) and Kidder (2002) concluded that employee gender is related to the performance of gender-congruent OCBs. Women were less likely to perform civic virtue behaviours than men. Morrison (1994) pointed out that length of service was positively related to the altruistic behaviour, job responsibility, and sportsmanship dimensions of OCB. Therefore, this study included gender and tenure as the control variables. Gender was coded as a dummy variable, with males coded as 1 and females coded as 0. Tenure represented the years of service in the current organization.

**Results**

Table 1 contains the means, standard deviations and correlations for the study's variables. As shown, the mean of OCB was 4.37 (the highest score was 6). Mean scores of the two types of profit sharing – cash profit sharing and stock profit sharing – were 12.2 per cent and 16.8 per cent of last year's monetary compensation, respectively, with a combined 20.6 per cent (each respondent did not necessarily have both kinds of profit sharing; therefore the combined average value was not equal to the total of the two average values combined). The standard deviations of the two types of profit sharing and the combined-total were 11.50, 15.96 and 19.53, respectively, indicating that there was a wide variation among employees in terms of profit sharing level. The mean level of organizational commitment was 4.15 (the highest score was 6), indicating that the subjects in this study were quite committed to their organizations.

In terms of correlations, gender and organizational tenure were not significantly correlated with OCB. The combined-total of profit sharing system and stock profit sharing were correlated significantly with OCB ($r = .16, .21, p < .05$). The correlation between cash profit sharing and OCB was not significant ($r = .03$, $p > .05$). Organizational commitment showed the strongest correlation with OCB ($r = .41$, $p < .001$). Given the magnitude of this correlation, we conducted an exploratory factor analysis (principal components and varimax rotation) to examine the distinctiveness of the two construct. The results yielded a four-factor solution that explained 52.58 per cent of the variance. All of the 15 organizational commitment items loaded onto one factor, with loadings ranging from .39 to .72. All of the 23 OCB items loaded onto the other three factors (OCBI, OCBJ and OCBO), with loadings ranging from .52 to .71. Only one item of organizational commitment cross-loaded (cross loading $= .13$) on the OCBO factor and the other items had no problematic loadings (maximum cross loading $= .24$). The factor analysis and zero-order correlation results suggest that organizational commitment and OCB are related but distinct constructs.

With respect to hypothesis testing, Hypothesis 1 suggested that profit sharing is positively related to OCB. We employed hierarchical multiple regression to test this hypothesis. Table 2 presents the results of hierarchical regression analyses. As shown in Table 2, the profit sharing system was significantly related to OCB ($\beta = .19$, $p < .05$), and with a significant incremental $R^2$ of .04 ($p < .05$). This indicated that profit sharing added additional explanatory power to OCB beyond that of demographic control variables, supporting Hypothesis 1. To further explore whether two profit sharing schemes (i.e., cash-based profit sharing and stock-based profit sharing) would have different effects on OCB, we conducted two separate regression analyses. Results showed that cash-based profit sharing was not significantly related to OCB ($\beta = .07$, $p > .05$); however, stock-based profit sharing was positively related to OCB ($\beta = .23$, $p < .05$). Therefore, Hypothesis 1 was supported.

To further assess whether the two profit sharing schemes and the combined-total profit sharing had different effects on the three dimensions of OCB (interpersonal citizenship performance, work and/or task conscientiousness, organizational citizenship performance), nine hierarchical regression analyses were conducted (results of the regression analyses can be obtained from the first author of this study). The results were similar to the above findings. Both of the profit sharing systems – combined-total profit sharing and stock-based profit sharing – had positive effects on all three dimensions of OCB, whereas cash-based profit sharing had no influence on any dimension of OCB.

**Table 1** *Means, standard deviations, and correlations*

| *Variables* | *M* | *SD* | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
|---|---|---|---|---|---|---|---|---|---|
| 1 OCB | 4.37 | 0.58 | (.93) | | | | | | |
| 2 Gender | – | – | .02 | – | | | | | |
| 3 Organizational tenure | 2.69 | 2.51 | .03 | −.06 | – | | | | |
| 4 Combined total profit sharing | 20.62 | 19.53 | .16* | .08 | .10 | – | | | |
| 5 Cash-based profit sharing | 12.16 | 11.50 | .03 | −.02 | .09 | .75*** | – | | |
| 6 Stock-based profit sharing | 16.80 | 15.96 | .21* | .07 | .17* | .85*** | .41*** | – | |
| 7 Organizational commitment | 4.15 | 0.65 | .41*** | −.06 | .06 | .15 | .09 | .21* | (.87) |

*Notes*: reliability estimates appear in parentheses along the diagonal; *$p < .05$; **$p < .01$; ***$p < .001$.

**Table 2** *Results of hierarchical regression analysis: profit sharing on OCB*

| *Step* | *Independent variables* | $\beta$ | $R^2$ | $\Delta R^2$ | *F* |
|---|---|---|---|---|---|
| 1 | Gender | 0.07 | 0.02 | | 1.79 |
| | Organizational tenure | 0.13 | | | |
| 2 | Combined total profit sharing | 0.19* | 0.06 | 0.04 | 3.23* |
| 1 | Gender | 0.11 | 0.02 | | 1.47 |
| | Organizational tenure | 0.14 | | | |
| 2 | Cash-based profit sharing | 0.07 | 0.03 | 0.01 | 1.17 |
| 1 | Gender | 0.05 | 0.02 | | 0.93 |
| | Organizational tenure | 0.12 | | | |
| 2 | Stock-based profit sharing | 0.23* | 0.07 | 0.05 | 2.76* |

*Notes*: standardized regression coefficients of regression analyses of step 2 are reported here; *$p < .05$; **$p < .01$; ***$p < .001$.

Hypothesis 2 proposed that the profit sharing/OCB relationship is mediated by organizational commitment. We used mediated multiple regression to examine this hypothesis. According to Baron and Kenny (1986), to test whether organizational commitment is a mediator of the relationship between profit sharing and OCB, a three-step procedure should be employed: (a) profit sharing system must affect organizational commitment; (b) profit sharing must affect OCB; and (c) when both organizational commitment and profit sharing system are used to estimate OCB, organizational commitment must affect OCB, and the regression coefficient of profit sharing must be less than it is in the second step.

Table 3 shows the results of the mediated regression analyses. The control variables (gender and organizational tenure) were included first in each step of the regression analyses. In step one, combined-total profit sharing had a significant effect on organizational commitment ($\beta = .18$, $p < .05$). In step two, the effect of combined-total profit sharing on OCB also reached a significant level ($\beta = .19$, $p < .05$). In step three, when the second regression model added the proposed mediator, organizational commitment, the regression coefficient of combined-total profit sharing fell from .19 to .08, and became insignificant ($p > .05$). The regression coefficient of organizational commitment was .45, reaching a significant level ($p < .001$). This indicated that organizational commitment had a mediating effect on profit sharing/OCB relationship, providing support for Hypothesis 2.

To further explore the mediating role of organizational commitment on the relationship of two types of profit sharing and OCB, we conducted several hierarchical regression analyses. As can be seen in Table 1, the correlation between cash-based profit sharing and organizational commitment did not reach a significant level ($r = .09$, $p > .05$). This result excluded the possibility of organizational commitment as a mediator on the cash-based profit sharing/OCB relationship. To test the mediating role of organizational commitment on the relationship between stock-based profit sharing and OCB, once again, we employed the three-step procedures suggested by Baron and Kenny (1986), as shown in Table 4. In step one, the effect of stock-based profit sharing on organizational commitment reached a significant level (($\beta = .24$, $p < .05$). In step two, stock-based profit sharing had a significant effect on OCB (($\beta = .23$, $p < .05$). In step three, when organizational commitment entered the second regression model, the regression coefficient of stock-based profit sharing fell from .23 to .06. The regression

**Table 3** *Results of the mediated regression analysis: organizational commitment as a mediator of the relationship between combined total profit sharing and OCB*

| *Step* | *Dependent variable* | *Independent variable* | $\beta$ | *VIF* | $R^2$ | *F* |
|---|---|---|---|---|---|---|
| 1 | Organizational commitment | Gender | −.04 | 1.02 | .06 | 2.57 |
| | | Organizational tenure | .12 | 1.01 | | |
| | | Combined total profit sharing | .18* | 1.01 | | |
| 2 | OCB | Gender | .07 | 1.02 | .06 | 3.23* |
| | | Organizational tenure | .13 | 1.01 | | |
| | | Combined total profit sharing | .19* | 1.01 | | |
| 3 | OCB | Gender | .10 | 1.02 | .21 | 25.43*** |
| | | Organizational tenure | .05 | 1.03 | | |
| | | Combined total profit sharing | .08 | 1.04 | | |
| | | Organizational commitment | .45*** | 1.05 | | |

*Notes*: standardized regression coefficients of regression analyses are reported here; $*p < .05$; $**p < .01$; $***p < .001$.

**Table 4** *Results of the mediated regression analysis: organizational commitment as a mediator of the relationship between stock-based profit sharing and OCB*

| *Step* | *Dependent variable* | *Independent variable* | $\beta$ | *VIF* | $R^2$ | *F* |
|---|---|---|---|---|---|---|
| 1 | Organizational commitment | Gender | −.06 | 1.03 | .08 | 3.17* |
| | | Organizational tenure | .14 | 1.03 | | |
| | | Stock-based profit sharing | .24* | 1.01 | | |
| 2 | OCB | Gender | .05 | 1.03 | .07 | 2.76* |
| | | Organizational tenure | .12 | 1.03 | | |
| | | Stock-based profit sharing | .23* | 1.01 | | |
| 3 | OCB | Gender | .09 | 1.04 | .25 | 22.75*** |
| | | Organizational tenure | .02 | 1.05 | | |
| | | Stock-based profit sharing | .06 | 1.07 | | |
| | | Organizational commitment | .49*** | 1.09 | | |

*Notes*: standardized regression coefficients of regression analyses are reported here; $*p < .05$; $**p < .01$; $***p < .001$.

coefficient of organizational commitment was .49 ($p < .001$). This demonstrated that organizational commitment had a mediating effect on stock-based profit sharing/OCB relationship.

## Discussion

Co-operation and innovation are critical for firms in the high-tech industry to maintain their competitiveness, and OCB is a key factor in promoting co-operation and innovation. Past research has indicated that a company's reward systems, such as gain sharing, may affect OCB (e.g. Organ and Ryan, 1995; Van Scotter and Motowidlo, 1996). This study found that profit sharing, especially stock profit sharing, had a positive effect on employees' OCB.

This research makes the following contributions to the existing OCB literature. First, few studies examined the relationship between organizational reward systems and OCB (Deckop and Cirka, 1999; O'Bannon and Pearce, 1999). No previous study focused on the effect of profit sharing on OCB. In particular, this research is the first to examine the effects of two different types of profit sharing on employees' OCB. The results of this study showed that an employee stock-based profit sharing scheme had a positive effect on OCB, while cash-based profit sharing had no influence on OCB. This finding extends the knowledge of the connection between organizational reward systems and employees' OCB and supports the predictions of ownership theory on employees' positive work behaviours (Buchko, 1992a; Furby, 1978, 1991; Long, 1978a, 1978b; Pierce and Rodgers, 2004; Pierce *et al.*, 1991; Van Dyne and Pierce, 2004; Wilpert, 1991). Moreover, the research findings cast doubts on the original definition of OCB by Organ (1988), as behaviours not formally rewarded by the organization, or at least not being taken with any expectation for financial reward. This research supports Organ's new definition of OCB as contextual performance, which does not rule out the possible connection between organizational reward systems and OCB (Organ, 1997).

Last, the results of this study revealed that organizational commitment mediates the relationship between profit sharing (stock-based and combined-total) and OCB. Consistent with arguments made by several researchers (e.g. Florkowski and Schuster, 1992; French and Rosenstein, 1984; Klein, 1987; Rusbult and Farrell, 1983), we demonstrated that the extent to which employees own company stocks had a positive effect on their attitudes (i.e., organizational commitment). We also found that organizational commitment had positive impacts on OCB. The results demonstrated the importance of a psychological state (i.e., organizational commitment) in mediating the relationship between one organizational reward system (i.e. profit sharing) and the desired employee behaviour (i.e. OCB). Therefore, this study provides some support for the OCB theoretical framework proposed by Organ and Ryan (1995) – that contractual rewards and incentives (including profit sharing) may have an effect on employees' attitudes (i.e. organizational commitment), which may in turn have influences on OCB.

### *Managerial implications*

The results of this research have several managerial implications. First, although stock profit sharing has been criticized recently for diluting stockholder equity in Taiwan's information electronics companies (Lee, 2002; Lin, 2003), this study demonstrated that profit sharing has a positive effect on promoting employee OCB, an important antecedent to higher firm performance (e.g. Koys, 2001; Kruse, 1993; Long, 1978a, 2000). Therefore, the electronics information companies should, within their own capabilities, maintain attitudes of 'human asset investment' to increase employee profit-sharing level, particularly through stock profit sharing, in order to increase employees' OCBs. Second, as organizational commitment is a mediator of the effect of profit sharing on OCB, companies should adopt practices that may increase employees' organizational commitment, such as increasing job involvement, participation in decision making, clarity of job role and organizational goals (Dessler, 1999), guaranteed organizational justice (Mayer and Schoorman, 1998), and value-based human resources management policies and practices (Ogilvie, 1986).

*Limitations and future directions*

This research is not without its limitations. First, our research used cross-sectional data; thus the causal direction between organizational commitment and OCB cannot be unambiguously determined. We proposed that an employee with high organizational commitment is more likely to display OCB. However, it is also likely that after an employee shows OCB and wins the recognition from colleagues and managers, he or she becomes more committed to the organization (Bateman and Organ, 1983; Organ and Konovsky, 1989). Future research should use longitudinal design to address this issue.

Second, all data of this research were provided by participants themselves and might lead to a problem of same source bias (Podsakoff and Organ, 1986). Nonetheless, Organ and Konovsky (1989) noted that the assessment of OCB by the manager may involve errors, as the manager may not have the chance to observe fully the employee's behaviours, especially those behaviours that take place outside the employee's work-related tasks. As in the research context of the present study, managers or supervisors might not be fully able to evaluate the unobservable mental work activities of engineering and professional employees. Furthermore, it may well be that the behaviours expressed by employees are intended to produce a good impression from the manager (Bolino, 1999). Thus, we argued that the self-reported data from the employees would better capture employees' OCBs. Moreover, the concern about same source bias would be minimized, as profit sharing was made operational in an objective way and was validated from two other independent sources – companies' human resources departments and the *New Taiwan Economic Daily* Data Bank (cf. Podsakoff and Organ, 1986). As a result, the consistency motif and social desirability associated with common method response was less likely to function in this study.

Third, there may be concerns about the commitment–OCB linkage being inflated by the common-method bias. Following the suggestion by Podsakoff and Organ, we conducted Harman's one-factor test. A factor analysis of the items of the organizational commitment and OCB measures suggested a four-factor solution. One general factor did not account for the majority of the covariance in the relationship between organizational commitment and OCB (19.71 per cent of the 52.58 per cent total explained variance). Thus, same-source bias may have little influence on the results of this study.

Finally, the time that employees were made stockholders, the method of holding stock, expected current and future stock returns and expected stock holding period all might affect employee attitudes and behaviours. Our research only measured profit sharing in terms of cash payout and stock received as a proportion of monetary compensation and was unable to capture the diverse facets of profit sharing. Also, in this study, data were collected in a time when the stock market performance in Taiwan was poor and the value of stock price was relatively low. This may lessen the effect of profit sharing on employee attitudes and behaviours.

In light of the various limitations faced in this research, we provide two suggestions for future research. First, since this study only focused on the effect of profit sharing on OCB, the resulting model explained a relatively small amount of variance in OCB. Future research may include additional contextual predictors (e.g. management style and work characteristics) to further understand the contextual determinants of OCB.

Second, this research examined employees' OCB in the electronic information industry. The technological nature of the job or the industry may moderate the relationship between profit sharing and OCB as implied by Podsakoff *et al.* (2000). For example, based on Thompson's (1967) viewpoint of task interdependence, we expect OCB to be more critical for the success of the firms in the electronic information industry, which requires intensive interdependence and cooperative efforts among employees. Thus, profit sharing may exert more influence on employees' OCB in the electronics information industry than in, for example, the insurance industry.

## Conclusion

In sum, this study contributes to the literature by empirically examining the connection between profit sharing and OCB. Specifically, we found that stock-based profit sharing has a positive effect on employees' OCB, whereas cash-based profit sharing has no impact on OCB. This study also extends previous research by demonstrating the mediating effect of organizational commitment on the relationship between profit sharing and OCB. We encourage future research to explore the effects of other organizational rewards (e.g. salary increase, bonus, merit pay, employee benefits and promotion) on OCB.

## Note

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