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Albert Huang

University of the Pacific, ahuang@pacific.edu

Leon Kappleman

Victor Prybutok

University of North Texas

G. Maples

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USER EMPOWERMENT DURING A COERCIVE ORGANISATIONAL TRANSFORMATION ENABLED BY INFORMATION SYSTEMS CHANGE

ABSTRACT The motivational benefits of employee empowerment in facilitating organisational change and promoting organisational effectiveness are widely recognised. But often, it is not appropriate for an organisation to use a participative, collaborative, or consultative change-management strategy. In this study, the effects of a small empowerment during the information system conversion phase of a directly managed transformation were examined. The findings indicate that even when used in conjunction with an autocratic change-management strategy, significant benefits can be derived from seemingly minor opportunities for user empowerment.

Introduction

An important objective information system (IS) development is to improve the effectiveness of the organisation. It is possible, however, that optimising information system effectiveness may hinder the overall organisational effectiveness. Therefore, it is difficult to discuss information system success without taking organisation success into consideration (Swanson, 1987). Nevertheless, 'much work is still needed, particularly in assessing the impact of information systems on organisational performance' (DeLone & McLean, 1992, p. 88). This study examines the connection between IS development success and organisational effectiveness during an autocratically managed organisational transformation.

Traditional organisational development models suggest early and continuous employee participation in planned incremental change efforts (Coch and French, 1948; Lewin, 1951; Bennis, Benne & Chin, 1961; Bennis, 1966; Argyris, 1970; Schein, 1980). Transformational change, on the other hand is to be accomplished by a change agent through the manipulation of organisational goals. The change agent creates a new vision of what the organisation can be and models the desired attitudes while instilling a more positive and assertive attitude (Kanter, 1983; Tichy & Ulrich, 1984; Bennis & Nanus, 1985; Conger & Kanungo, 1988).

This approach, however, may not be appropriate for organisations that are in need of rapid and radical changes. Dunphy and Stace (1993) suggest that the survival of organisations in the competitive global environment depends on more diverse approaches, and often involves directive leadership strategies. Their model of organisational change may be more appropriate to describe the reality many organisations face.

Two important dimensions to consider in selecting the appropriate change strategy are the scale of change needed and the style of leadership required (Dunphy & Stace, 1993). The scale of change varies from incremental change to radical transformations. The style of leadership varies from the collaborative and consultative to the directive and coercive. Any combination of these two dimensions may be appropriate depending on the circumstances faced by a particular organisation.

A question regarding the selection of change management strategy is: does the use of a directive or coercive strategy preclude employee empowerment as part of the transformation? In other words, must the benefits of employee empowerment be absent when autocratic change-management strategies are required? To answer these questions, the effects of a small empowerment during a 'dictatorial transformation' (Dunphy & Stace, 1993) of a large organisation are studied.

This study examined the effects of empowerment on changes in employee attitudes toward the change itself and toward the organisation. The hypothesised relationship is shown in Figure 1. Simply stated, when employees are provided with empowering opportunities related to an organisational change, their attitudes toward that change will improve, and therefore, their attitudes toward the organisation will also improve. The study took place during the information system conversion phase of a radical organisational transformation.

The hypotheses are:

H1 Empowerment will have an impact on employee

attitudes toward the change.
H2 Employee attitudes toward the change will
have an impact on employee attitudes toward
the organisation.

Empowerment as a Motivational Construct

Organisations influence work efforts through motivation and effective motivation is achieved through positively addressing individual needs and goals with extrinsic or intrinsic rewards; which in turn affects work efforts (Maslow, 1943, 1954; Herzberg, 1968; Mitchell, 1982; Evans, 1986). Empowerment may be viewed as a motivational process. The effect of which can be explained by psychological theories, such as the attribution-self-efficacy theory. Self-efficacy as a motivational theory was developed by Bandura (1977) who proposed that people with perceptions of greater self-efficacy and higher self-esteem usually have higher performance standards and goals, exhibit more positive job attitudes, and put forth greater effort to accomplish challenging tasks (Katzell & Thompson, 1990).

One important means of organisational development is providing opportunities for meaningful participation to people throughout an organisation. Most people desire opportunities for participation in matters directly affecting them. Employee empowerment fosters greater performance, releases latent knowledge and skills, produces better solutions to problems, greatly enhances acceptance of decisions, reduces resistance to change, increases commitment to the organisation, reduces stress levels, and generally makes people feel better about themselves and their world (Lewin, 1951; McGrath, 1984). Employee empowerment is important to the organisational change process because empowerment satisfies the individual's need for a sense of control and this is particularly critical when the changes are beyond the individual employee's control.

User participation is a visible behaviour of information system users in the IS development process (Kappelman & McLean, 1991, 1992; Barki & Hartwick, 1994). It is crucial to the successful development and implementation of information systems, because it helps ensure accurate requirements specifications, facilitates germane input/output designs, and fosters a sense of empowerment and ownership among users. By providing opportunities for empowerment, user participation promotes user motivation and reduces user resistance toward the organisational changes enabled by IS changes. There is sufficient evidence that empowering user participation in IS implementation activities can improve the development of favourable attitudes toward the information system (e.g. Franz & Robey, 1986; Baronas & Louis, 1989; Doll & Torkzadeh, 1989; Kappelman & McLean, 1991, 1992; Barki & Hartwick).

Bandura and Wood (1989) found that managers who were told that organisational productivity was controllable and that decision-making ability was an acquirable skill, performed significantly better than managers who were told that organisations were difficult to control and that decision-making ability was innate. These findings supported previous research by Bandura (1986) that people who believe that their environment is controllable in important matters are motivated to extend themselves fully, exercise their efficacy, and increase their likelihood of success. In addition, Conger and Kanungo (1988) identified specific organisational factors which can either instil feelings of powerlessness or perceptions of empowerment. Among the latter are company policies and cultures which emphasise self-determination.

Although performance measures are preferable for understanding the relationships between empowerment and performance, attitudinal outcomes are also important. Organisational researchers maintain that the small positive relationships between employee attitudes (e.g. commitment, involvement, and satisfaction) and productivity measures (e.g. performance, turnover, and absenteeism) produces meaningful economic results (Zedeck & Cascio, 1984; Schneider, 1985). Moreover, a recent study of steel mills indicates that an empowering human resource strategy aimed at fostering worker commitment results in higher productivity, less waste, and lower employee turnover (Arthur, 1994).

The Conduct of the Study

A field study was conducted during the information system conversion phase of an organisational transformation at 52 branches of a \$40-billion inter-state bank. These branches were recently acquired from 7 small bank companies in the same metropolitan area. As might be expected in such a situation,

everything about these banks was changing: their names, ownership, management, organisational structure, product lines, policies, procedures, technology, job descriptions, corporate culture, reward systems, and so on. Former competitors were suddenly partners. Small, local companies were suddenly parts of a large, geographically dispersed organisation. Many branch managers had been replaced, and all of this was being planned and directed from corporate headquarters in another state.

The new information system had been operational for more than five years at over 600 existing branches and many had successfully met technical and organisational requirements in the past. This allowed the study to focus on the relationships of interest as depicted in Figure 1.

A pre-test was conducted approximately two weeks before implementation of the new information system. A total of 311 questionnaires were distributed using a stratified sampling methodology. A total of 103 usable questionnaires were returned. Five weeks after implementation of the new system, the primary research questionnaires were distributed. The entire population of 512 users was polled. A total of 146 usable questionnaires were returned. The response rates were 33.5% and 30.6% respectively for the pre-test and the primary survey. These rates were considered acceptable for similar types of studies (Lewis et al., 1995), although bias may exist due to the differences between the response and non response strata (Cochran, 1977). The issue regarding the response rate will be further discussed in the DISCUSSION AND CONCLUSIONS section.

Constructs and Measurements

The questionnaire measured two behavioural and 5 attitudinal constructs. Behaviours are visible activities in which employees participate. Attitudes, on the other hand, are invisible psychological states. Opportunities for employee empowerment are visible behaviours which result in invisible employee attitudes.

Behavioural Measurements

Empowerment was operationalised with a single question from Kappelman and McLean's (1991, 1992) information system user participation scale. The opportunity for empowerment was the fact that some of the branches allowed their employees to schedule their own training sessions as long as certain deadlines were met. The question, Regarding the NEW SYSTEM, I participated in scheduling my own training sessions, was followed by a six point Likert scale ranging from 0 to 5 and labelled: Not Applicable, Very Little, A Little, Moderately, Much, Very Much. Additional information system user participation data was collected and the instructions read:

The following is a list of activities related to the development and implementation of the NEW COMPUTER SYSTEM. Please indicate how much each phrase describes YOUR EXTENT OF PARTICIPATION in each activity.

Because their empowerment was so closely associated with their training, training was also measured in order to separate the effects of training from the effects of empowerment. All employees were trained, only some were empowered. This single item from Kappelman and McLean (1991, 1992) was used to measure training:

Regarding the NEW SYSTEM, I participated in training sessions (as a trainee).

The validation of a single item instrument is simple but can be difficult. It is by definition internally consistent and unidimensional; therefore, it is reliable and valid with respect of assessments like Cronbach's alpha and factorial validity. Cross validation of multiple instruments measuring the same construct was not conducted. Using pre-test and primary data, a test-retest reliability coefficient of 0.62 was calculated for empowerment ($p < 0.0002$, $n = 31$) and of 0.37 for training ($p < 0.04$, $n = 31$). The indication is that both these one-item scales are temporally stable.

Attitudinal Measurements

Three measures assessed an employee's attitude toward the change (overall satisfaction with IS change, motivation toward IS change, and satisfaction with IS training) and 2 scales measured an employee's attitude toward the organisation (job involvement and organisational commitment). Four of these 5 attitudinal instruments consisted of multi-item scales. In order to enhance discriminant validity and unidimensionality, and to minimise multicollinearity during statistical analysis, some of the individual questions from 3 of the 4 multi-item instruments were eliminated (Crano & Brewer, 1973; Segars, 1994). This was the case with the motivation toward IS change, job involvement, and organisational commitment scales. These revised versions of the instruments were used for hypothesis testing.

The overall IS change satisfaction scale consisted one overall satisfaction question. The user satisfaction construct was used because it is a widely-used individual assessment. It is suitable for nondiscretionary use situations, and facilitates comparisons with prior research (e.g. Franz & Robey, 1986; Baronas & Louis, 1988; Kappelman & McLean, 1991, 1992; Barki & Hartwick, 1994). The single question was followed by a five-choice Likert scale ranging from 1 to 5 and labelled: Strongly Disagree, Disagree, Neither Agree or Disagree, Agree, Strongly Agree. This single-item approach has been shown to be more reliable than multiple questions when issues of unidimensionality and item homogeneity are critical (Scarpello & Campbell, 1983; Galletta & Lederer, 1989). The following question comprised the single item measure used to operationalise overall IS change satisfaction in this analysis (Kappelman & McLean, 1991, 1992): Overall, I am very satisfied with the new system.

The test-retest reliability coefficient was 0.49 ($p < 0.0077$, $n = 29$) for this overall IS satisfaction item. Cross validation of this single question with the linear sum of 16 specific information system user satisfaction items had a significant correlation coefficient of 0.755 ($p < 0.0001$, $n = 142$), and a significant correlation with each of the other 16 items individually ($p < 0.001$ for all items).

Motivation toward the IS change was operationalised with Zaichowsky's (1985) 'Personal Involvement Inventory' which was developed to measure a person's need based on motivation toward objects. Thus, an employee's involvement with the information system was the variable actually measured. This instrument has been used previously to measure the involvement of users with information systems (Kappelman, 1990, 1994, 1995; Kappelman & McLean, 1991, 1992; Barki & Hartwick, 1994). The instrument consists of an object statement ('THE NEW COMPUTER SYSTEM (is/was)...') followed by 20 bipolar adjective paired items and a seven-point response scale situated between them, for example:

useless --:--:--:--:--:--: useful.

The scale was trimmed to 14 items with a Cronbach's alpha of 0.93 ($p < 0.0001$, $n = 143$) and a test-retest reliability coefficient of 0.69 ($p < 0.0001$, $n = 40$).

A recent study (Barki & Hartwick, 1994) suggests that a user's involvement with an information system, when operationalised with a subset of Zaichowsky's (1985) instrument, is a multi-dimensional construct. However, the development, validation, and use of this instrument in marketing research would suggest otherwise. Zaichowsky concluded 'that it is the [20 item] scale taken as a whole that tends to measure the involvement construct' (p. 344); which she defined as 'a person's perceived relevance of the object based on inherent needs, values, and interests' (p. 342). Although some evidence of multiple dimensionality does occur (e.g. Zaichowsky (1985); Kappelman, 1990, 1994, 1995; Kappelman & McLean, 1991, 1992; Seitz, Kappelman & Massey, 1993; Barki & Hartwick, 1994), these findings seems to be a function of the particular object of involvement being considered and subject to temporal fluctuations. This suggests an opportunity for further research.

IS training satisfaction was measured using a nine-item scale developed by Kappelman (1990). The response scale was the same as that used for overall IS change satisfaction. All 9 items were used. A Cronbach's alpha of 0.92 ($p < 0.0001$, $n = 143$) and a test-retest reliability coefficient of 0.60 ($p < 0.0003$, $n = 31$) were calculated.

Employee attitude towards the organisation was operationalised with two separate scales. Organisational commitment (Porter, Crampon & Smith, 1976) and job involvement (Lodahl & Kejner, 1965; Kanungo,

1982). The independence of these two measurements has been shown (Blau, 1987). The instructions to the section of the questionnaire which contained these measurements stated:

Please circle the answer to the right of each statement that best describes how you feel. There are no right or wrong answers. We would like your honest opinion on each of these statements.

Each question was followed by the same five-choice answer scale as used for overall-IS satisfaction.

Six of the 7 job involvement items were taken from Kanungo's (1982) ten-item measurement by Blau (1988) who 'did not feel that such item elimination would jeopardise measuring the job involvement construct' (p. 290). The seventh item was originally developed by Lodahl and Kejner (1965) and shown by Blau (1985) to be a strong measure of the variable of interest and suitable for use with Kanungo's (1982) instrument. In fact, Kanungo used several items from Lodahl and Kejner's (1965) earlier job involvement instrument. The scale was trimmed to 6 items with a Cronbach's alpha of 0.89 ($p < 0.0001$, $n = 145$) and a test-retest reliability coefficient of 0.61 ($p < 0.0068$, $n = 18$).

Organisational commitment was operationalised with Porter, Crampon, and Smith's (1976) 9-item scale. The scale was trimmed to 7 items with a Cronbach's alpha of 0.85 ($p < 0.0001$, $n = 142$) and a test-retest reliability coefficient of 0.49 ($p < 0.037$, $n = 18$).

Findings

The means, standard deviations, and inter item correlations for the seven variables are reported in Table 1. The results showed that training does not have a significant correlation with any of the 5 employee attitude scales. Empowerment, on the other hand, has a significant correlation ($p < 0.005$) with both motivation toward IS change and IS training satisfaction. This supports hypothesis H1 (i.e. that empowerment is positively associated with change related attitudes). Moreover, all three variables related to the employee attitude toward the IS change are correlated with each other.

Further examination of Table 1 reveals that both training and empowerment have very weak correlations with both variables related to employee attitudes toward the organisation. The correlations between both IS motivation and overall IS satisfaction with organisational commitment are significant ($p < 0.003$). This supports the hypothesis H1. Moreover, the correlation between change motivation (i.e. user involvement) and job involvement is also significant ($p < 0.006$). Both of the employee attitude toward the organisation variables are also significantly correlated with each other ($p < 0.0001$).

Further hypothesis testing was conducted with multiple regression analysis. Regressions of each of the five attitudinal variables on the two behavioural variables were conducted to test hypothesis H1. In the case of the three variables related to IS change attitude, it was hypothesised that empowerment will be a significant predictor, and training will not. In the case of the two organisational attitude variables, it was hypothesised that neither empowerment nor training will be significant predictors. Specifically, it was hypothesised that:

- H1a: Empowerment will predict motivation toward IS change, training will not.
- H1b: Empowerment will predict satisfaction with IS training, training will not.
- H1c: Empowerment will predict satisfaction with IS change, training will not.
- H1d: Neither empowerment nor training will predict job involvement.
- H1e: Neither empowerment nor training will predict organisational commitment.

The results of the 5 multiple regression analyses are shown in Table 2.

As seen in Table 2, four of the five hypotheses were confirmed. As suggested in the correlation analysis, empowerment is a good predictor of both motivation toward IS change and IS training satisfaction. This supports hypotheses H1a and H1b. However, empowerment was not a good predictor of overall IS change satisfaction, and thus hypothesis H1c was rejected. As predicted in hypotheses H1d and H1e,

empowerment was not a predictor of organisational attitudes, and in general this supports hypothesis H1 that employee empowerment will predict employee attitudes toward the change.

Second, multiple regression analysis was used to test hypothesis H2 that employee attitudes toward the change will predict employee attitudes toward the organisation. In order to test this hypothesis, we conducted regressions of each of the two variables regarding organisational attitude on the three variables regarding change related attitude. It was hypothesised that each of these change related attitudes will be a significant predictor of each of the organisational attitudes. The hypotheses are:

H2a-1: IS Motivation will predict organisational commitment.

H2a-2: IS training satisfaction will predict organisational commitment.

H2a-3: Overall IS satisfaction will predict organisational commitment.

H2b-1: IS Motivation will predict job involvement.

H2b-2: IS training satisfaction will predict job involvement.

H2b-3: Overall IS satisfaction will predict job involvement.

The results of the two multiple regression analyses are shown in Table 3.

As seen in Table 3, both of the two regression equations were significant in predicting organisational attitudes. However, neither demonstrated substantial predictive strength. Only two of the six hypotheses regarding the abilities of individual IS change related attitudes to predict organisational related attitudes were confirmed. Moreover, only the degree of user involvement with the information system was a significant predictor of either job involvement or organisational commitment.

Discussion and Conclusions

While this study examined the experience of one organisation during the information system conversion phase of a larger organisational transformation, the findings may also have implications about the success of other organisational change efforts that concern employees.

This study shows that giving employees an empowering opportunity can affect important work related employee attitudes. Empowering workers provided them with some sense of control over a change process that they actually had no control. Several conclusions can be drawn from these analyses.

First, these results support the notion that empowerment is a strong motivator and through its influence on employee motivation regarding the change (i.e. user IS involvement), empowerment has an influence on performance related employee attitudes toward the organisation.

Second, it seems that these motivational effects of empowerment also has an influence on training outcomes. Training alone had little association with training satisfaction; and yet, empowerment was a good predictor of training satisfaction. This supports the notion that trainee motivation significantly impacts training outcomes (Bostrom, Olfman & Sein, 1990; Tannenbaum & Yukl, 1992).

Third, the research results support the relationships depicted in Figure 1. Thus:

1. Employee empowerment during an organisational change is positively associated with employee attitudes toward that change; and,
2. These change related attitudes are positively associated with employee attitudes toward the organisation.

Moreover, while empowerment was a statistically significant predictor of change motivation and training satisfaction, it was not a good predictor of overall user satisfaction. Furthermore, the association of these three change related attitude variables supports the behavioural attitudinal theory of IS success (i.e. that participation causes involvement, which mediates the participation satisfaction relationship: Kappelman & McLean, 1991, 1992). Although IS training satisfaction mediates the involvement satisfaction relationship when empowerment precedes training. This suggested relationship is depicted in Figure 2.

The fact that the beta coefficients were approximately equal to the correlation coefficients for the empowerment vs. IS related attitudes analyses enhance the validity of the results (Pedhauzer, 1982). Such a correspondence was not evident in the change attitude vs. organisation attitude analyses. Although there were some indications of minor multicollinearity in the two multiple regressions reported in Table 3 (i.e. condition index nearly 25 in both cases), it is likely that there are moderating and/or mediating variables that have been excluded from the analyses. Moreover, it is possible that when an IS change is part of a larger organisational transformation the relationship of IS attitudes and organisational attitudes may be influenced by larger change related attitudes. This too suggests areas for further research; especially since, (1) the particular employee attitudes to the organisation used here (i.e. job involvement and organisational commitment) have not been used much in IS-research contexts (DeLone & McLean, 1992; Kappelman, 1990); and, (2) there is a lack of research that examines the associations between an IS-change process and a larger organisational transformation process of which that IS-change process is a part. In this light, the findings reported here must be viewed as preliminary.

The low response rate, 33.5% and 30.6 % respectively for the pre-test and the primary survey, may introduce bias due to the different characteristics between the response and nonresponse strata (Cochran, 1977). Yet, the nonresponse bias should not affect the significance of this study for the following reasons. First, the results of this study showed that even a small empowerment had a positive impact on the attitude of employees who responded to the survey. This indicated potential benefits for the organisation (Maslow, 1943, 1954; Herzberg, 1968; Mitchell, 1982; Evans, 1986), even if only 30% of the employees changed their attitude. Second, existing studies showed that employee empowerment was beneficial to the organisation (Lewin, 1951; McGrath, 1984). Thus, it is logical to assume that the nonresponse stratum would not have a significant negative attitude change toward the new information system and the organisation as a result of the empowerment. Besides, the cost associated with the empowerment was minimal.

Fourth, the most interesting finding of this study is that the value of empowerment was found when:

1. The change process was being managed in a directive, non-participative, non-collaborative, and autocratic manner;
2. The empowerment was extremely minor in terms of the degree of control during the time of massive organisational transformation;
3. The empowerment came in the later part of the change process; and,
4. The empowering opportunity for meaningful user participation came late in the life cycle of this information system. These findings suggest that regardless of whether the scale of change is small or large, or the style of change management is participative or directive, providing empowerment opportunities to employees is beneficial. This study found that large payoffs can be associated with an essentially no-cost empowerment, during a large-scale organisational transformation being brought about with a coercive style of change management (Dunphy & Stace, 1993).

Fifth, even when it is limited and late in the information system life cycle, meaningful user participation can lead to significant payoffs. Most users will never have the empowering opportunity of contributing to the early, definitional activities of information system development, but almost every user will be trained. This study clearly shows that giving users an empowering opportunity, although insignificant in relation to its impact on the information system itself, can have some effect on that user's motivation and satisfaction with the information system.

Empowered users had more positive attitudes toward the new information system because their need for control was being met through their empowerment, rather than by their resistance. The large effect of this small empowerment strongly suggests that significant dividends can come from a purposeful search for opportunities for user empowerment. Apparently, these opportunities for meaningful participation need not be significant to provide the organisation with noticeable pay-offs. Moreover, they need not be limited to the early stages of the information system life cycle.

It is also possible that the benefits of any empowerment is mediated by factors such as the type of work the employee performs, the culture of the organisation, individual differences, the scale of change, the

style of change leadership, and other influences. Research is needed in order to determine these associations and the appropriate measurements to use in particular situations. The preliminary nature of these findings must be kept in mind.

Table 1. Means, standard deviations and correlation coefficients

| | M | SD | 1 | 2 |
|------------------------------|-------|------|------------|-----------|
| 1 Empowerment | 1.88 | 1.98 | | 0.25[***] |
| 2 Training | 2.86 | 2.09 | 0.25[***] | |
| 3 Motivation toward change | 87.40 | 9.89 | 0.30[****] | 0.15[*] |
| 4 Satisfaction with training | 33.63 | 5.45 | 0.24[***] | 0.10 |
| 5 Satisfaction with change | 4.11 | 0.60 | 0.14[*] | 0.07 |
| 6 Organisational commitment | 25.61 | 4.36 | 0.07 | 0.00 |
| 7 Job involvement | 15.22 | 5.02 | 0.12 | 0.02 |

| | 3 | 4 | 5 | 6 |
|------------------------------|------------|------------|------------|------------|
| 1 Empowerment | 0.30[****] | 0.24[***] | 0.14[*] | 0.07 |
| 2 Training | 0.15[*] | 0.10 | 0.07 | 0.00 |
| 3 Motivation toward change | | 0.22[***] | 0.34[****] | 0.26[***] |
| 4 Satisfaction with training | 0.22[***] | | 0.46[****] | 0.18[**] |
| 5 Satisfaction with change | 0.34[****] | 0.46[****] | | 0.25[***] |
| 6 Organisational commitment | 0.26[***] | 0.18[**] | 0.25[***] | |
| 7 Job involvement | 0.23[***] | 0.16[*] | 0.11 | 0.48[****] |

[*]p < 0.10; [**]p < 0.05; [***]p < 0.01; [****]p < 0.001

Table 2. Standardised regression coefficients (betas), overall variance explained (R squareds), and significance tests (p values) for HI: empowerment will predict attitudes toward change

| Hypothesis: | | H1a | H1b |
|------------------------|-----------|---------------------|----------------------|
| Dependent variable: | | Motivation w/change | Satisfied w/training |
| Independent variables: | | | |
| Empower | Beta | 0.31[****] | 0.24[***] |
| | p < | 0.0003 | 0.0063 |
| Train | Beta | 0.07 | 0.04 |
| | p < | 0.4 | 0.66 |
| Model | | | |
| | R squared | 0.111[****] | 0.062[**] |
| | F-value | 8.49 | 4.52 |
| | p < | 0.0003 | 0.013 |
| Hypothesis confirmed? | | Yes | Yes |
| Hypothesis: | | H1c | H1d |
| Dependent variable: | | Satisfied w/change | Job involvement |
| Independent variables: | | | |
| Empower | Beta | 0.15[*] | 0.13 |

| | | | |
|-----------------------|------|-------|-------|
| | p < | 0.925 | 0.14 |
| Train | Beta | 0.04 | -0.01 |
| | p < | 0.67 | 0.91 |
| Model | | | |
| R squared | | 0.027 | 0.017 |
| F-value | | 1.82 | 1.15 |
| p < | | 0.17 | 0.32 |
| Hypothesis confirmed? | | No | Yes |

Hypothesis: H1e

Dependent variable: Orr. commitment

Independent variables:

| | | |
|---------|------|-------|
| Empower | Beta | 0.07 |
| | p < | 0.46 |
| Train | Beta | -0.02 |
| | p < | 0.82 |

Model

| | |
|-----------|-------|
| R squared | 0.004 |
| F-value | 0.27 |
| p < | 0.76 |

Hypothesis confirmed? Yes

[*]p<0.10
 [**]p < 0.05
 [***]p < 0.01
 [****]p < 0.001

Table 3. Standardised regression coefficients (betas), overall variance explained (R squareds), and significance tests (p values for H2: attitudes toward change predict attitudes toward organisation

| | | | | |
|------------------------|------|---------------------------|-------|-------|
| Hypothesis: | | H2a-1 | H2a-2 | H2a-3 |
| Dependent variable: | | Organisational commitment | | |
| Independent variables: | | | | |
| Motivation | Beta | 0.21[**] | | |
| | p < | 0.0222 | | |
| Train-sat. | Beta | | 0.07 | |
| | p < | | 0.46 | |
| Overall-sat. | Beta | | | 0.8 |
| | p < | | | 0.44 |
| Model: | | | | |
| R squared | | 0.077[**] | | |
| F-value | | 3.54 | | |
| p < | | 0.0166 | | |
| Hypothesis confirmed? | Yes | No | No | Yes |

| | | | | |
|------------------------|------|-----------------|-------|-------|
| Hypothesis: | | H2b-1 | H2b-2 | H2b-3 |
| Dependent variable: | | Job involvement | | |
| Independent variables: | | | | |
| Motivation | Beta | 0.20[**] | | |
| | p < | 0.0311 | | |
| Train-sat. | Beta | | 0.09 | |
| | p < | | 0.34 | |
| Overall-sat. | Beta | | | 0.01 |
| | p < | | | 0.90 |
| Model: | | | | |
| R squared | | 0.058[**] | | |
| F-value | | 2.71 | | |

| | | | |
|-----------------------|-----|--------|----|
| p < | | 0.0476 | |
| Hypothesis confirmed? | Yes | No | No |

[*]p < 0.10
 [**]p < 0.05
 [***]p < 0.01
 [****]p < 0.001

DIAGRAM: Figure 1. Hypothesised relationship of empowerment during a change and employer attitudes toward change and toward the organisation.

DIAGRAM: Figure 2. Hypothesised relationships among empowering user participation, user involvement, user training satisfaction, and overall user satisfaction.

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HSIN-CHIH HUANG, LEON A. KAPPELMAN, VICTOR PRYBUTOK, GISELA M. VON DRAN & GLEN MAPLES, University of Hawaii-Hilo, Hilo, Hawaii 96720-4091, USA & University of North Texas, Denton, Texas 76203-3677, USA

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