Exploring the roles of self-determined motivation and perceived organizational support in organizational change

Rui-Ting Huang
Department of Business Administration, National Chung Hsing University, Taichung, Taiwan

Abstract

Purpose – The primary purpose of this study is not only to examine the connections between self-determined motivation, attitudes toward change and participation in change, but also to explore the moderating impact of perceived organizational support on organizational change, and the mediating role of attitudes toward change in the link between perceived competence and participation in change.

Design/methodology/approach – The data were collected from one semiconductor manufacturing company (study 1) and one logistics service company (study 2). Employees who experienced organizational change before were invited to finish the survey. The partial least squares-structural equation modelling (PLS-SEM) technique and SPSS PROCESS (model 14) were utilized to analyze the data.

Findings – The study findings indicated that the perceived autonomy and relatedness were positively connected with perceived competence, which in turn would lead to better attitude toward change. Additionally, it was found that the perceived competence and attitude toward change would positively predict participation in change. More importantly, perceived organizational support would reinforce the positive relationship between attitude toward change and participation in change.

Originality/value – Although there are many organizational change reports, relatively little attention has been paid not only to the mediating role of attitudes toward change in the implication of organizational change but also to the moderating impact of perceived organizational support on the final success of organizational change.

Keywords Attitudes toward change, Change management, Self-determination, Perceived organizational support, Organizational change

Paper type Research paper

Introduction

Several researchers have placed much emphasis on the key role of self-determined motivation in previous research, probably due to its impact on role identity (Güntert and Wehner, 2015), job satisfaction (Lam and Gurland, 2008), organizational outcomes (Gagné and Deci, 2005), psychological well-being (Perreault *et al.*, 2014), learning effectiveness and efficiency (Akbari *et al.*, 2015). For example, an early report by Lam and Gurland (2008) suggested self-determined work motivation positively influences job satisfaction. Another recent review by Güntert and Wehner (2015) found self-determined motivation positively predicts general role identity and

organization-specific role identity. In light of this, although some researchers have intensely concentrated on the pivotal role of self-determined motivation in organizations (Gagne *et al.*, 2000; Sheldon *et al.*, 2003; Shin and Jung, 2021), there is a lack of research looking into the impact of self-determined motivation on organizational change. Specifically, whether self-determined motivation, containing three innate psychological needs: perceived autonomy, perceived relatedness, and perceived competence, facilitates better attitude toward change and participation in change has not yet been fully explored in previous reports.

In addition, recently, there has been growing interest in the roles of perceived organizational support and attitudes toward change in organizational studies, probably because perceived organizational support and attitudes toward change are closely associated with individual performance and organizational outcomes. For example, in a hospitality and tourism management report, Akgunduz and Sanli (2017) revealed perceived organizational support is positively related to job embeddedness, but negatively connected with turnover intention. In another vocational behavior study, Ocampo *et al.* (2018) showed perceived organizational support is closely related to career adaptability. With particular respect to the role of perceived organizational support in change participation, Fuchs and Prouska (2014) suggested perceived organizational support is one of the critical antecedents of change participation.

More importantly, several reports revealed positive attitudes toward change play a key role in implementing successful organizational change (Drzensky *et al.*, 2012; Ming-Chu and Meng-Hsiu, 2015). Although there are many organizational change reports, relatively little attention has been paid not only to the mediating role of attitudes toward change in the implication of organizational change, but also to the moderating impact of perceived organizational support on the final success of organizational change. To close this research gap, the primary purpose of this study is not only to examine the connections between self-determined motivation, attitudes toward change and participation in change, but also to explore the moderating impact of perceived organizational support on organizational change, and the mediating role of attitudes toward change in the link between perceived competence and participation in change.

In a nutshell, the significance of this study is closely and critically related to three major contributions. Specifically, one main contribution has been made by identifying the key relationship between self-determined motivation, attitudes toward change and participation in change. Another pivotal contribution is made by verifying the mediating role of attitudes toward change in the connection between perceived competence and participation. More importantly, the third major contribution is made by proving the moderating impact of perceived organizational support on the success of organizational change. The theoretical reflections and practical suggestions are provided to facilitate researchers and practitioners to improve the effectiveness and efficiency of organizational change.

Literature review and hypothesis development
Organizational change management and drivers of change
Although there is no universal definition as to the concept of organizational change, Hussain *et al.* (2018) suggested "the organizational change explains the movement of an organization from the known (current state) state to the unknown (desired future state) state" (p. 123). Actually, successful organizational change is often very difficult, because change management is closely related not only to "the process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers" (Moran and Brightman, 2000, p. 66), but also to managing different people in organizations. With particular respect to managing people during change, Moran and Brightman (2000) identified three central drivers of organizational change, including purpose, identity and mastery. In the process of organizational change, purpose is important, mainly because "people are goal-oriented" (Moran and Brightman, 2000, p. 66).

Specifically, the new vision and goal are regarded as key intangible forces motivating people to accomplish work requirements during change (Hussain *et al.*, 2018).

In addition, identity refers to personal identification with organizational change. Moran and Brightman (2000) revealed "Change that strikes at the core of a person's sense of who they are will activate powerful motivations to return things to the status quo" (p. 67). In other words, whether people really identify and agree with organizational change plays a key role in determining the successful implementation of organizational change (Todnem, 2005). Finally, mastery is closely connected with personal competence and ability to deal with requirements of organizational changes. Moran and Brightman (2000) indicated since "survival depends on one's ability to manage oneself and the environment effectively" (p. 67), it is critical to provide employees during change with training supports to help them handle possible changes and challenges in the future.

Attitudes toward change and employee participation in organizational change
Attitude, which is described as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly and Chaiken, 1993, p. 1), is one of the key factors influencing behavior intention and actual behavior. An early review by Yadav and Pathak (2016) revealed attitudes toward buying green products play a key role in determining purchase intention. Another recent report by Minibas-Poussard *et al.* (2018) demonstrated that saving attitudes are key predictors of saving behavior. Additionally, Casaló and Escario (2018) showed environmental attitudes are key determinants of pro-environmental behavior.

With particular respect to the role of attitudes toward change in organizational change, many studies have focused on the pivotal impact of employee attitudes toward change in organizational change, mainly because it has been shown to be closely connected with the successful implementation of organizational change (Ming-Chu and Meng-Hsiu, 2015). For example, Kwahk and Lee (2008) suggested "positive attitudes toward behavior – readiness for change – the extent to which organizational members hold positive views about the need for organizational change, as well as their belief that changes are likely to have positive implications for them and the organization" (p. 475). Additionally, Kwahk and Kim (2008) revealed the more positive attitudes toward change employees have, the less likely they are going to resist organizational change. In an early change management study, Drzensky *et al.* (2012) indicated beliefs and attitudes toward change played a key role in implementing successful organizational changes. In another management report, Ming-Chu and Meng-Hsiu (2015) added that employees' positive attitudes toward change should be one of the central elements propelling successful organizational change.

Although numerous studies have explored organizational change, limited efforts have been devoted to examining the association between attitudes toward change and participation in change, which generally "refers to allowing employees to have input during the process of organizational change" (Chiang, 2010, p. 160). To clarify the link between these two variables, this study proposes the following hypothesis.

H1. Attitudes toward change will have a positive influence on participation in change.

Self-determined motivation, attitudes toward change and participation in change
The self-determination theory (SDT), initially proposed by Deci and Ryan (1985), has been gradually applied to psychological research (Deci *et al.*, 2001; Philippe and Vallerand, 2008), educational reports (Roca and Gagné, 2008; Sørebø *et al.*, 2009), aging studies (Custers *et al.*, 2012), food research (Schösler *et al.*, 2014), information management reports (Lee *et al.*, 2015), sport review (Brickell and Chatzisarantis, 2007), business research (Leung and Matanda, 2013)

and organizational studies (Kuvaas, 2009; Lam and Gurland, 2008; Gagné and Deci, 2005). Nevertheless, there is still a lack of research examining the role of self-determined motivation in the implementation of organizational change. Previous studies suggested perceived competence, relatedness and autonomy, three intrinsic motivators, are central elements facilitating more positive learning achievement, affective commitment, information technology adoption, psychological well-being and organizational outcomes (Akbari *et al.*, 2015; Baerdemaeker and Bruggeman, 2015; Deci *et al.*, 2001; Gagné and Deci, 2005; Lee *et al.*, 2015; Vandenberghe and Panaccio, 2012). A work and stress report by Elst *et al.* (2012) showed the frustration of autonomy, competence and belongingness make emotional exhaustion worse.

Additionally, in terms of the connections between perceived competence, user satisfaction, behavioral intention, learning achievement and organizational outcomes, it has been shown perceived competence, which refers to a requirement for "succeeding at optimally challenging tasks and attaining desired outcomes" (Deci *et al.*, 2001, p. 931), is one of the key determinants of readiness for change (Kwahk and Lee, 2008), user satisfaction (Rezvani *et al.*, 2017), behavioral intention (Khan *et al.*, 2018) and learning outcomes (Akbari *et al.*, 2015). Especially for implementing the enterprise resource planning (ERP) systems in organizations, Kwahk and Lee (2008) found perceived personal competence positively impacts readiness for change, which in turn leads to better perceived usefulness of ERP systems. More importantly, in regard to total quality management (TQM) implementation, Iqbal and Asrar-ul-Haq (2018) indicated individual attitudes toward change are closely linked to the successful implementation of organizational change. In the same vein, it is likely employees with higher levels of perceived competence have better attitudes toward change, which in turn will lead to more positive participation in change. Accordingly, this study proposes the following hypotheses.

H2. Perceived competence will have a positive influence on attitudes toward change.

H3. Perceived competence will have a positive influence on participation in change.

H4. Attitudes toward change will mediate the link between perceived competence and participation in change.

Connections between perceived autonomy, relatedness and competence
In terms of the pivotal role of perceived relatedness in organizational outcomes, an early review by Gagné and Deci (2005) suggested "the need for relatedness plays a central role in internalization of values and regulations" (p. 355). Another aging study by Custers *et al.* (2012) found residents of nursing homes regard perceived relatedness, which refers to a requirement for "a sense of mutual respect, caring, and reliance with others" (Deci *et al.*, 2001, p. 931), as more important than perceived competence and autonomy, especially in caring relationships. Moreover, several reports indicated perceived relatedness plays a key role not only in reducing work strain (Cho and Yang, 2018), but also in predicting job outcomes (Lam and Gurland, 2008), organizational commitment and psychological well-being (Gagné and Deci, 2005).

With particular respect to the roles of perceived autonomy and relatedness in previous research, several researchers indicated a positive relationship between perceived autonomy, relatedness and competence. For example, an early review by Leung and Matanda (2013) demonstrated perceived autonomy, which refers to a requirement for "experiencing choice and feeling like the initiator of one's own actions" (Deci *et al.*, 2001 p. 931), is closely connected not only with better adoption of self-service technologies, but also with perceived competence (Huang *et al.*, 2017). Another recent report by Martela and Riekki (2018) indicated perceived relatedness is positively associated with perceived competence. Based on previous suggestions, similarly, it is possible employees with higher levels of perceived autonomy

and relatedness are likely to have more positive perceived competence. Consequently, this study proffers the following hypotheses.

H5. Perceived autonomy will have a positive influence on perceived competence.

H6. Perceived relatedness will have a positive influence on perceived competence

Perceived organizational support
Perceived organizational support, which refers to "the general belief that the organization cares for the contributions and welfare of its employees" (Akgunduz and Sanli, 2017, p. 119), has received much attention in previous research, mainly because it is closely linked to organizational performance. First, an early review by Baranik *et al.* (2010) demonstrated perceived organizational support is positively connected not only with job satisfaction but also with organizational commitment. Another recent study by Duan *et al.* (2019) suggested perceived organizational support is highly associated with organizational helping behaviors, which in turn leads to better employee workplace well-being. Second, Akgunduz and Sanli (2017) revealed perceived organizational support plays a key role in determining job embeddedness and turnover intention. Ocampo *et al.* (2018) added perceived organizational support positively predicts career adaptability. Third, in terms of the central impact of perceived organizational support on organizational change, several reports demonstrated perceived organizational support is one of the key elements propelling successful organizational change. For example, Neves (2009) showed lack of management support leads to failures in organizational change. Additionally, Fuchs and Prouska (2014) showed perceived organizational support and change participation play a key role in determining more positive change evaluation. With particular respect to the role of perceived organizational support in readiness for change, an early management review by Ming-Chu and Meng-Hsiu (2015) demonstrated perceived organizational support is positively connected to readiness for change. More importantly, another recent change management study by Gigliotti *et al.* (2019) indicated a positive relationship between perceived organizational support and change readiness.

Moreover, in regard to the moderating role of perceived organizational support in prior research, several reports revealed perceived organizational support plays a moderating role in determining individual outcomes (Choi, 2020). For example, Wang *et al.* (2017) suggested perceived organizational support moderates the link between a person's proactive personality and work engagement. Cheng and O-Yang (2018) indicated "furthermore, perceived organizational support moderates the relationships among job crafting, burnout, and satisfaction" (p. 78). In the context of organizational change, likewise, it is possible perceived organizational support plays a moderating role in determining the link between change attitudes and participation. More precisely, people with higher levels of perceived organizational support are likely to have a more positive connection between attitudes toward change and participation in change. Although there are numerous organizational change reports, limited efforts have been devoted to examining the moderating role of perceived organizational support in organizational change. Accordingly, to further understand the moderating impact of perceived organizational support on the connections between attitudes toward change and participation in change, this study proposes the following hypothesis (see Figure 1).

H7. Perceived organizational support will moderate the link between attitudes toward change and participation in change. Specifically, people with higher levels of perceived organizational support will have a stronger relationship between attitudes toward change and participation in change.
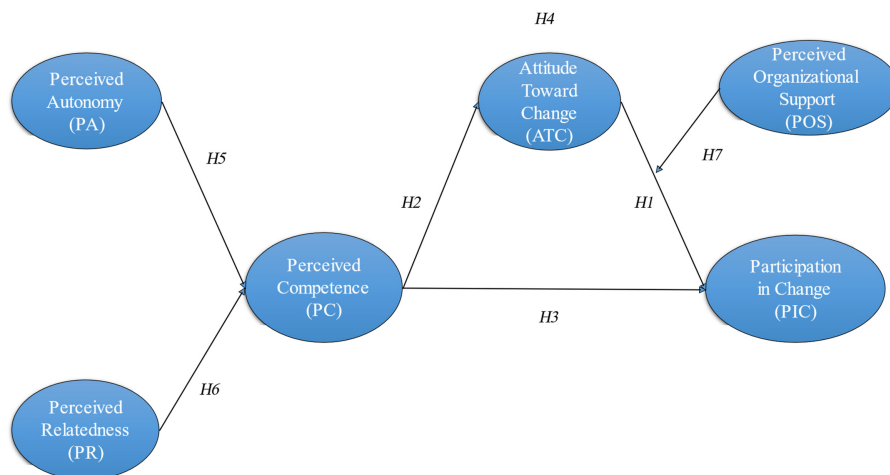
Figure 1.
Research framework of the study

Research methodology

Demographic data for respondents for study 1
A total of 359 employees from one semiconductor manufacturing company took part in study 1. Excluding 7 missing data, 271 males and 81 females participated in this study. As shown in Table 1, married and single employees accounted for 204 and 142 of respondents, respectively, and the majority of employees held a bachelor's degrees ($n = 253$; 70%). Moreover, the mean and median ages of participants were 35.87 and 35, respectively. Finally, the mean tenure of participants was 6.03 (with standard deviation = 5.59).

Demographic data for respondents in the study 2
A total of 179 employees from one logistics service company participated in study 2. Excluding 2 missing data, 98 males and 79 females participated in study 2. As shown in Table 2, married and single employees accounted for 81 and 93 of the respondents,

Demographics	Items	Number	Percentage of respondents
Gender	Male	271	75
	Female	81	23
	Missing data	7	2
Marital status	Married	204	57
	Single	142	40
	Missing data	13	3
Education	High school	7	2
	Bachelor	253	70
	Master	79	22
	Missing data	20	6
Age	Mean age	35.87	
	Median	35	
	Standard deviation	7.887	
Tenure	Mean	6.030	
	Median	5	
	Standard deviation	5.59	

Table 1.
Demographic data for respondents

Demographics	Items	Number	Percentage of respondents
Gender	Male	98	55
	Female	79	44
	Missing data	2	1
Marital status	Married	81	45
	Single	93	52
	Missing data	5	3
Education	High school	8	5
	Bachelor	122	68
	Master	41	23
	Missing data	8	4
Age	Mean age	33.97	
	Median	33	
	Standard deviation	9.156	
Tenure	Mean	6.27	
	Median	3	
	Standard deviation	6.678	

Table 2.
Demographic data for respondents in the study 2

respectively, and the majority of employees held bachelor's degrees ($n = 122$; 68%). Moreover, the mean and median ages of participants were 33.97 and 33, respectively. Finally, the mean tenure of participants was 6.27 (with standard deviation = 6.678).

Data collection for study 1 and 2
The data were collected from one semiconductor manufacturing company in study 1, and from one logistics service company in study 2. More precisely, in study 1, employees who experienced changes during a merger were invited to finish the survey. In study 2, employees who experienced changes regarding implementing new information systems in an organization were requested to finish the survey. In order to allow participants to feel free to complete the survey, study 1 and 2 adopted both online surveys and paper-based surveys to collect the data. After incomplete surveys were screened out, this study finally acquired 359 useable data for study 1, and 179 useable data for study 2.

Common method bias
In order to probe into the existence of common method bias in these two studies (Podsakoff *et al.*, 2003), the Harman's single-factor test was used to examine whether there was any common method bias in the reports. Because the study findings revealed that one single factor in study 1 only explained 43.2% of total variances, and one single factor in study 2 only interpreted 42.3% of total variances, common method bias should not be considered a severe problem.

Instrumentation
We utilized 25 survey items, which were rated on a seven-point Likert scale, to investigate the impact of self-determined motivation and perceived organizational support on organizational change. As shown in Table 3, 12 items, which evaluated the constructs of perceived autonomy, competence and relatedness, were developed from Deci *et al.* (2001). Sample items of perceived autonomy, competence and relatedness were, "I feel like I can make a lot of input to decide how my job gets done", "People at work tell me I am good at what I do", and "I really like the people I work with". Second, this study adopted four items from Chiang (2010) to evaluate the construct of attitude toward change. Sample items were, "The changes are needed and are for the better", and "I am willing to support any further changes". Additionally, six items, which examined the construct of perceived organizational support,

						Factor loading						
Items	S1	S2	S1	S2	S1	S2	S1	S2	S1	S1	S1	S2
ATD1	0.87	0.85										
ATD2	0.90	0.87										
ATD3	0.90	0.86										
ATD4	0.90	0.89										
α	0.92	0.89										
CR	0.94	0.92										
AVE	0.80	0.75										
VIF	1.44	1.18										
PA1			0.86	0.85								
PA2			0.88	0.83								
PA3			0.88	0.87								
PA4			0.86	0.86								
α			0.89	0.88								
CR			0.93	0.91								
AVE			0.76	0.73								
VIF			2.62	2.27								
PC1					0.86	0.88						
PC2					0.78	0.80						
PC3					0.81	0.73						
α					0.75	0.73						
CR					0.86	0.85						
AVE					0.67	0.65						
VIF					1.95	2.11						
PIC1							0.93	0.89				
PIC2							0.93	0.91				
PIC3							0.93	0.92				
α							0.92	0.89				
CR							0.95	0.93				
AVE							0.86	0.82				
VIF							1.36	1.39				
POS1									0.87	0.84		
POS2									0.90	0.92		
POS3									0.88	0.92		
POS4									0.77	0.71		
POS5									0.84	0.85		
POS6									0.84	0.85		
α									0.93	0.92		
CR									0.94	0.94		
AVE									0.73	0.73		
VIF									2.65	2.20		
PR1											0.87	0.91
PR2											0.87	0.94
PR3											0.86	0.89
PR4											0.86	0.81
PR5											0.84	0.85
α											0.91	0.93
CR											0.94	0.94
AVE											0.74	0.78
VIF											1.73	1.69

Table 3.
Confirmatory factor
analysis

Note(s): S1: study 1; S2: study 2; ATC: attitude toward change; PA: perceived autonomy; PC: perceived competence; PR: perceived relatedness; POS: perceived organizational support; PIC: participation in change; CR: composite reliability; AVE: average variance extracted; α: Cronbach's alpha; VIF: variance inflation factors

were adopted from Eisenberger *et al.* (1986). Sample items were, "My organization really cares about my well-being", and "My organization cares about my opinions". Finally, this study adopted three items form Chiang (2010) to evaluate the construct of participation in change. Sample item were, "I have been able to participate in the implementation of the changes", and "I have input into the decisions being made about the changes".

Data analysis

The partial least squares-structural equation modelling (PLS-SEM) technique was utilized to examine the relationship between self-determined motivation and attitudes toward change and participation in change. Moreover, this study adopted the SPSS PROCESS (model 14) and 5,000 bootstrap samples to evaluate the moderated mediation effect (Hayes, 2013).

Multicollinearity, convergent and discriminant validity for study 1 and study 2
First, the reliability and internal consistency of the survey instrument were assessed using composite reliability (CR) and factor loadings. In Table 3, it was demonstrated that the CR values, in study 1 and 2, were all larger than 0.80. Moreover, because all factor loadings in different constructs were all above 0.70, the reliability and internal consistency of the survey instrument were considered to be acceptable (Fornell and Larcker, 1981). Second, the multicollinearity issue for study 1 and 2 was further addressed by using the variance inflation factors (VIF) for different variables in studies 1 and 2. As shown in Table 3, the values of variance inflation factors (VIF) were all lower than 5, which indicates that multicollinearity is not a severe problem in this study (Hair *et al.*, 2019). Third, the convergent and discriminant validity of the measurement models in both studies were examined using the average variance extracted (AVE) and square root of AVE. Tables 3 and 4 show that the AVE values, in both studies, were in line with the suggested criteria (higher than 0.50), and the square root of AVE on the diagonal exceeded off-diagonal correlation values (Fornell and Larcker, 1981). Consequently, it was shown that the convergent and discriminant validity in both studies were satisfactory and in accordance with the recommended standards.

Construct	M	SD	ATC	PA	PC	PIC	POS	PR
The correlations of each construct for study 1								
ATC	4.98	1.086	0.89					
PA	4.99	1.049	0.37	0.87				
PC	4.89	0.945	0.40	0.65	0.82			
PIC	4.21	1.26	0.47	0.39	0.47	0.93		
POS	4.97	1.052	0.45	0.74	0.64	0.45	0.85	
PR	5.41	0.936	0.50	0.55	0.50	0.24	0.53	0.86
The correlations of each construct for study 2								
ATC	5.22	1.00	0.87					
PA	5.20	1.11	0.18	0.85				
PC	5.04	0.951	0.28	0.67	0.80			
PIC	4.44	1.21	0.61	0.34	0.39	0.90		
POS	4.88	1.08	0.35	0.65	0.62	0.52	0.85	
PR	5.53	1.00	0.19	0.57	0.56	0.25	0.56	0.88

Note(s): ATC: attitude toward change; PA: perceived autonomy; PC: perceived competence; PR: perceived relatedness; POS: perceived organizational support; PIC: participation in change; Diagonal elements are the square root of average variance extracted

Table 4.
The correlations of each construct

T-values, path coefficients, R-square and SRMR values for study 1 and study 2
This study adopted *t*-values, path coefficients and *R*-square values to evaluate the structural model and hypotheses (Hair *et al.*, 2019). Figure 2 shows that the findings of study 1 supported H1, H2, H3, H5 and H6. More precisely, the study findings indicated perceived autonomy (H5; $\beta = 0.532$; $t = 10.906$) and relatedness (H6; $\beta = 0.212$; $t = 4.069$), which explain a total of 45.1% of variance in perceived competence, were positively connected with perceived competence. Additionally, perceived competence (H2; $\beta = 0.397$; $t = 6.718$), which explained a total of 15.8% of variance in attitudes toward change, play a key role in attitudes toward change. More importantly, it was demonstrated that perceived competence (H3; $\beta = 0.345$; $t = 5.557$) and attitudes toward change (H1; $\beta = 0.318$; $t = 4.749$), which accounted for a total of 30.8% of variance in change participation, had a positive impact on participation in change.

Second, it was shown that the findings for study 2 also buttressed H1, H2, H3, H5 and H6. Specifically, in Figure 3, the study findings revealed that perceived autonomy (H5; $\beta = 0.530$; $t = 9.757$) and relatedness (H6; $\beta = 0.259$; $t = 4.629$), which explained a total of 50.5% of variance in perceived competence, were positively associated with perceived competence. Additionally, perceived competence (H2; $\beta = 0.283$; $t = 3.103$), which accounted for a total of 8.0% of variance in attitudes toward change, were a key determinant of attitudes toward change. Third, it was found that perceived competence (H3; $\beta = 0.243$; $t = 3.952$) and attitudes toward change (H1; $\beta = 0.546$; $t = 9.767$), which explained a total of 43.3% of variance in change participation, positively predicted participation in change. Finally, the standardized root mean square residual (SRMR) value was adopted to assess the model fit. The SRMR values for study 1 (0.058) and study 2 (0.066) were all less than the suggested criteria (<0.08), which revealed acceptable model fit (Hair *et al.*, 2019; Henseler *et al.*, 2016; Hu and Bentler, 1999).

Moderated mediation effect for study 1and study 2
In order to evaluate the moderated mediation effect for study 1 and 2, hypothesis 4 and 7 were assessed using SPSS PROCESS (model 14) and 5,000 bootstrap samples (Hayes, 2013).
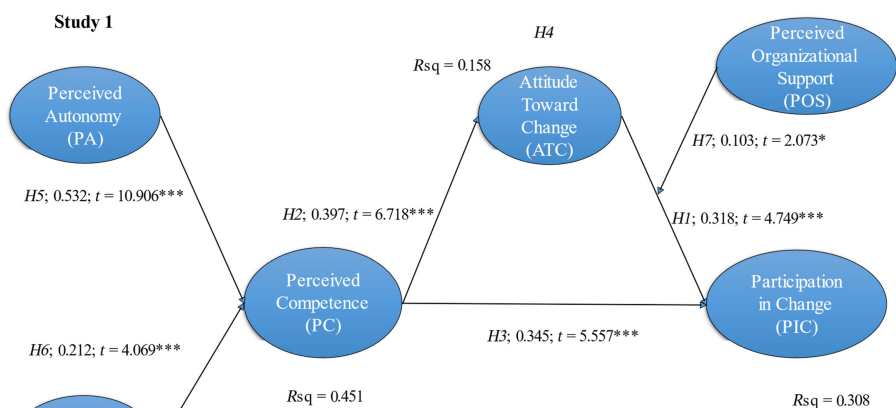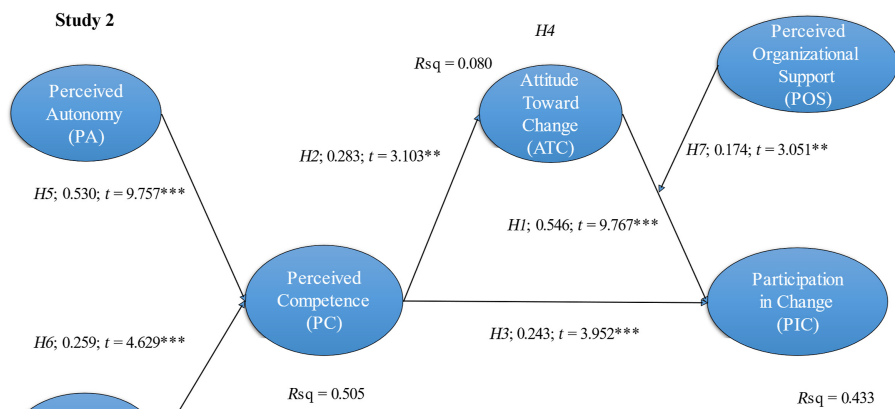

Study 1

H4

Rsq = 0.158

Perceived Organizational Support (POS)

Attitude Toward Change (ATC)

Perceived Autonomy (PA)

H5; 0.532; *t* = 10.906***

H2; 0.397; *t* = 6.718***

H7; 0.103; *t* = 2.073*

H1; 0.318; *t* = 4.749***

Perceived Competence (PC)

H3; 0.345; *t* = 5.557***

Participation in Change (PIC)

H6; 0.212; *t* = 4.069***

Rsq = 0.451

Rsq = 0.308

Perceived Relatedness (PR)

Figure 2.
The path coefficient, *R*-square and *t*-values for study 1

Note(s): *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Note(s): *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

In Tables 5 and 6, it was found study findings for study 1 ($\beta = 0.103$, $t = 2.073$) and for study 2 ($\beta = 0.174$, $t = 3.051$) all supported hypothesis 7, which indicated that perceived organizational support would moderate the relationship between attitudes toward change and participation in change. Moreover, in Tables 7 and 8, the study findings, which supported hypothesis 4, demonstrated attitudes toward change would mediate the link between perceived competence and participation in change, mainly because 95% confidence interval (95% CI) did not contain 0 (Hayes, 2013).

Discussion and implication
Theoretical contributions
First, the study results not only indicated perceived relatedness and autonomy are positively related to perceived competence, but also revealed perceived competence plays a key role in determining more positive attitudes toward change, and participation in change. The study

	β	SE	t	p	LLCI	ULCI
Mediator variable model (ATC)						
Constant	−2.2278	0.4041	−5.5126	0.0000	−3.0226	−1.4330
PC	0.4551	0.0792	5.7479	0.0000	0.2994	0.6109
Dependent variable model (PIC)						
Constant	2.4734	0.4666	5.3014	0.0000	1.5558	3.3910
ATC	0.3514	0.0812	4.3256	0.0000	0.1916	0.5112
PC	0.3434	0.0934	3.6778	0.0003	0.1598	0.5271
POS	0.1899	0.0853	2.2277	0.0265	0.0223	0.3576
ATC*POS	0.1033	0.0498	2.0738	0.0388	0.0053	0.2012

Note(s): ATC: attitude toward change; PA: perceived autonomy; PC: perceived competence; PR: perceived relatedness; POS: perceived organizational support; PIC: participation in change; LLCI: low limit confidence interval; ULCI: upper limit confidence interval

	β	SE	t	p	LLCI	ULCI
Mediator variable model (ATC)						
Constant	−1.4790	0.4618	−3.2029	0.0016	−2.3904	−0.5677
PC	0.2933	0.0912	3.2151	0.0015	0.1133	0.4733
Dependent variable model (PIC)						
Constant	4.0096	0.4653	8.6177	0.0000	3.0913	4.9280
ATC	0.5849	0.0754	7.7564	0.0000	0.4360	0.7337
PC	0.0733	0.0898	0.8164	0.4154	−0.1039	0.2505
POS	0.2943	0.0983	2.9953	0.0031	0.1004	0.4882
ATC*POS	0.1748	0.0573	3.0519	0.0026	0.0618	0.2879

Table 6.
Moderated mediation model for study 2

Note(s): ATC: attitude toward change; PA: perceived autonomy; PC: perceived competence; PR: perceived relatedness; POS: perceived organizational support; PIC: participation in change; LLCI: low limit confidence interval; ULCI: upper limit confidence interval

	Effect	SE (Boot)	t	p	Boot LLCI	Boot ULCI
Direct effect of PC on PIC						
	0.3434	0.0934	3.6778	0.0003	0.1598	0.5271

Mediator	POS	Effect	SE (Boot)	Boot LLCI	Boot ULCI
Conditional indirect effects					
ATC	−1.0522	0.1105	0.0467	0.0323	0.2200
ATC	0.0000	0.1599	0.0467	0.0820	0.2700
ATC	1.0522	0.2094	0.0562	0.1119	0.3351

Mediator	Index	SE (Boot)	Boot LLCI	Boot ULCI
Index of moderated-mediation				
ATC	0.0470	0.0211	0.0073	0.0894

Table 7.
Conditional direct and indirect effects for study 1

Note(s): Values for POS are the mean and plus/minus one SD from mean; ATC: attitude toward change; PA: perceived autonomy; PC: perceived competence; PR: perceived relatedness; POS: perceived organizational support; PIC: participation in change; LLCI: low limit confidence interval; ULCI: upper limit confidence interval

suggestions add to the body of knowledge in organizational change by proving the key relationship between self-determined motivation, attitudes toward change and participation in change. Specifically, the change management model, further considering the key connections between perceived autonomy, perceived relatedness and perceived competence in the effectiveness and efficiency of organizational change, will shed more light on how to carry out a successful organizational change (Deci *et al.*, 2001; Iqbal and Asrar-ul-Haq, 2018; Rezvani *et al.*, 2017).

Additionally, the study results indicated attitudes toward change will play a key role not only in mediating the link between perceived competence and participation in change, but also in implementing the successful organizational changes (Drzensky *et al.*, 2012; Iqbal and Asrar-ul-Haq, 2018; Kwahk and Kim, 2008; Ming-Chu and Meng-Hsiu, 2015). The study suggestions contributed to the body of knowledge in the field of organizational change by verifying the pivotal influence of attitudes toward change on organizational change. More precisely, the theoretical framework, incorporating the mediating role of change attitudes into the organizational change model, provides the researchers and practitioners in organizational

	Effect	SE (Boot)	t	p	Boot LLCI	Boot ULCI
Direct effect of PC on PIC						
	0.0733	0.0898	0.8164	0.4154	−0.1039	0.2505

Mediator	POS	Effect	SE (Boot)	Boot LLCI	Boot ULCI
Conditional indirect effects					
ATC	−1.0865	0.1158	0.0464	0.0393	0.2228
ATC	0.0000	0.1715	0.0591	0.0599	0.2938
ATC	1.0865	0.2273	0.0787	0.0776	0.3874

Mediator	Index	SE (Boot)	Boot LLCI	Boot ULCI
Index of moderated-mediation				
ATC	0.0513	0.0241	0.0124	0.1078

Note(s): Values for POS are the mean and plus/minus one SD from mean; ATC: attitude toward change; PA: perceived autonomy; PC: perceived competence; PR: perceived relatedness; POS: perceived organizational support; PIC: participation in change; LLCI: low limit confidence interval; ULCI: upper limit confidence interval

Table 8.
Direct and conditional indirect effects for study 2

change with theoretical underpinnings to evaluate the mediating role of attitudes toward change in change management.

Finally, the study suggests, expanding the body of knowledge in change management, revealed perceived organizational support plays a key role in moderating the link between attitudes toward change and participation in change. Specifically, perceived organizational support, one of the key drivers in organizational change, helps institutions and organizations to implement successful organizational change. It is hinted more research is needed to verify the moderating impact of perceived organizational support on the effectiveness and efficiency of organizational change (Cheng and O-Yang, 2018; Fuchs and Prouska, 2014; Ming-Chu and Meng-Hsiu, 2015; Wang *et al.*, 2017).

Empirical implications
The primary purpose of this study is not only to examine the connection between self-determined motivation, attitudes toward change, and participation in change, but also to explore the moderating impact of perceived organizational support on organizational change, and the mediating role of attitudes toward change in the link between perceived competence and participation in change. First, the study findings, consistent with previous suggestions (Akbari *et al.*, 2015; Deci *et al.*, 2001; Iqbal and Asrar-ul-Haq, 2018; Deci *et al.*, 2001), indicated self-determined motivation will be closely connected with attitudes toward change. That is, individuals with higher levels of perceived autonomy and relatedness are likely to have better perceived competence, which in turn leads to more positive attitudes toward change. It is implied more efforts should be devoted to satisfying individuals' need for autonomy, competence and relatedness. For example, considerably more attention should be paid to offering support for autonomy, relatedness and competence to help employees have better attitudes toward change and participation in change (Deci *et al.*, 2001; Iqbal and Asrar-ul-Haq, 2018; Rezvani *et al.*, 2017).

Moreover, the study findings, consistent with previous reports (Drzensky *et al.*, 2012; Iqbal and Asrar-ul-Haq, 2018; Kwahk and Kim, 2008; Ming-Chu and Meng-Hsiu, 2015), indicated attitudes toward change play a key role not only in mediating the link between perceived competence and participation in change, but also in implementing successful organizational changes. In other words, perceived competence has a positive impact on attitudes toward

change, which in turn will result in better participation in change. Accordingly, to improve outcomes of organizational change, it is critical top management focus on key factors that lead to better attitudes toward change, mainly because change attitudes play a key role in improving the outcomes of organizational change.

Last but not least, the study results are in line with previous suggestions (Cheng and O-Yang, 2018; Fuchs and Prouska, 2014; Ming-Chu and Meng-Hsiu, 2015; Wang *et al.*, 2017), which indicate perceived organizational support has a moderating impact on organizational change. More precisely, perceived organizational support will reinforce the positive link between attitudes toward change and participation in change. It is implied more attention should be paid to improving perceived organizational support, mainly because perceived organizational support facilitates better attitudes toward change and participation in change. For example, to improve the outcomes of organizational change, it is suggested training and management support play a pivotal role in helping people have better attitudes toward change, which in turn leads to better change participation (Akbari *et al.*, 2015).

Limitations and future research

There are several research limitations worthy of further discussion in this report. First, in regard to the control variables, research and sampling design, the study results of self-determined motivation should be interpreted with caution, mainly because this study gathered data from one semiconductor manufacturing company (study 1) and another logistics service company (study 2) in Taiwan. Specifically, in study 1, employees who experienced changes during a merger were invited to finish the survey. In study 2, employees who experienced changes regarding implementing a new information system in an organization were asked to finish the survey. Control variables such as types of organizational change, transformational change or trans-organizational change should be incorporated into future research design, and more studies from different countries and industries are needed to verify the generalizability of study findings. Second, employees' previous experiences of change implementation and management were neglected in this report. Specifically, whether prior experience plays a key role in determining successful change implementation has not yet been fully explored in previous change management research. It is suggested that future studies incorporate prior experience of change implementation into the research design. Third, because this study did not address the key impact of employees' tenure and resistance to participation in change in successful organizational change, it is critical for future studies to incorporate these key control variables into the change model to further measure the effectiveness and efficiency of organizational change. Finally, although the connections between self-determined motivation, attitudes toward change and participation in change have been further discussed in this report, this study does not examine the role of training support in organizational change. Specifically, whether training for organizational change is closely linked to attitudes toward change and participation in change deserves more attention in future studies (Akbari *et al.*, 2015). Accordingly, it is critical more efforts be devoted to the impact of training for organizational change on the effectiveness and efficiency of organizational change.

In conclusion, three major contributions can be found in this study. One significant contribution has been made by verifying the central impact of self-determined motivation on attitudes toward change. Another pivotal contribution has been made by proving the mediating role of attitudes toward change in the link between perceived competence and participation in change. Last but not least, the study findings contribute to the body of knowledge in change management by demonstrating the moderating impact of perceived organizational support on the relationship between attitudes toward change and participation in change. In fact, change management plays a pivotal role in determining future organizational competitiveness, mainly because "employees who have experienced

poor change management in the past are more likely to resist new changes" (Fuchs and Prouska, 2014, p. 361). Accordingly, it is important to pay more attention to the impact of perceived organizational support and self-determined motivation on organizational change.

References

Akbari, E., Pilot, A. and Simons, P.R.-J. (2015), "Autonomy, competence, and relatedness in foreign language learning through Facebook", *Computers in Human Behavior*, Vol. 48, pp. 126-134.

Akgunduz, Y. and Sanli, S.C. (2017), "The effect of employee advocacy and perceived organizational support on job embeddedness and turnover intention in hotels", *Journal of Hospitality and Tourism Management*, Vol. 31, pp. 118-125.

Baerdemaeker, J.D. and Bruggeman, W. (2015), "The impact of participation in strategic planning on managers' creation of budgetary slack: the mediating role of autonomous motivation and affective organisational commitment", *Management Accounting Research*, Vol. 29, pp. 1-12.

Baranik, L.E., Roling, E.A. and Eby, L.T. (2010), "Why does mentoring work? The role of perceived organizational support", *Journal of Vocational Behavior*, Vol. 76 No. 3, pp. 366-373.

Brickell, T.A. and Chatzisarantis, N.L.D. (2007), "Using self-determination theory to examine the motivational correlates and predictive utility of spontaneous exercise implementation intentions", *Psychology of Sport and Exercise*, Vol. 8 No. 5, pp. 758-770.

Casaló, L.V. and Escario, J.-J. (2018), "Heterogeneity in the association between environmental attitudes and pro-environmental behavior: a multilevel regression approach", *Journal of Cleaner Production*, Vol. 175, pp. 155-163.

Cheng, J.-C. and O-Yang, Y. (2018), "Hotel employee job crafting, burnout, and satisfaction: the moderating role of perceived organizational support", *International Journal of Hospitality Management*, Vol. 72, pp. 78-85.

Chiang, C.-F. (2010), "Perceived organizational change in the hotel industry: an implication of change schema", *International Journal of Hospitality Management*, Vol. 29 No. 1, pp. 157-167.

Cho, H.-T. and Yang, J.-S. (2018), "How perceptions of organizational politics influence self-determined motivation: the mediating role of work mood", *Asia Pacific Management Review*, Vol. 23 No. 1, pp. 60-69.

Choi, Y. (2020), "A study of the influence of workplace ostracism on employees' performance: moderating effect of perceived organizational support", *European Journal of Management and Business Economics*, Vol. 29 No. 3, pp. 333-345, doi: 10.1108/EJMBE-09-2019-0159.

Custers, A.F.J., Westerhof, G.J., Kuin, Y., Gerritsen, D.L. and Riksen-Walraven, J.M. (2012), "Relatedness, autonomy, and competence in the caring relationship: the perspective of nursing home residents", *Journal of Aging Studies*, Vol. 26 No. 3, pp. 319-326.

Deci, E.L. and Ryan, R.M. (1985), *Intrinsic Motivation and Self-Determination in Human Behavior*, Plenum, New York.

Deci, E.L., Ryan, R.M., Gagne ́, M., Leone, D., Usunov, J. and Kornazheva, B.P. (2001), "Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country", *Personality and Social Psychology Bulletin*, Vol. 27 No. 8, pp. 930-942.

Drzensky, F., Egold, N. and van Dick, R. (2012), "Ready for a change? A longitudinal study of antecedents, consequences and contingencies of readiness for change", *Journal of Change Management*, Vol. 12 No. 1, pp. 95-111.

Duan, J., Wong, M. and Yue, Y. (2019), "Organizational helping behavior and its relationship with employee workplace well-being", *Career Development International*, Vol. 24 No. 1, pp. 18-36.

Eagly, A.H. and Chaiken, S. (1993), *The Psychology of Attitudes*, Harcourt Brace Jovanovich College Publishers, Orlando, FL.

Eisenberger, R., Huntingon, R., Hutchison, S. and Sowa, D. (1986), "Perceived organizational support", *Journal of Applied Psychology*, Vol. 71 No. 3, pp. 500-507.

Elst, T.V., Broecka, A.V.D., Wittea, H.D. and Cuyper, N.D. (2012), "The mediating role of frustration of psychological needs in the relationship between job insecurity and work-related well-being", *Work and Stress*, Vol. 26 No. 3, pp. 252-271.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Fuchs, S. and Prouska, R. (2014), "Creating positive employee change evaluation: the role of different levels of organizational support and change participation", *Journal of Change Management*, Vol. 14 No. 3, pp. 361-383.

Gagné, M. and Deci, E.L. (2005), "Self-determination theory and work motivation", *Journal of Organizational Behavior*, Vol. 26 No. 4, pp. 331-362.

Gagne, M., Koestner, R. and Zuckerman, M. (2000), "Facilitating acceptance of organizational change: the importance of self-determination", *Journal of Applied Social Psychology*, Vol. 30 No. 9, pp. 1843-1852.

Gigliotti, R., Vardaman, J., Marshall, D.R. and Gonzalez, K. (2019), "The role of perceived organizational support in individual change readiness", *Journal of Change Management*, Vol. 19 No. 2, pp. 86-100.

Güntert, S.T. and Wehner, T. (2015), "The impact of self-determined motivation on volunteer role identities: a cross-lagged panel study", *Personality and Individual Differences*, Vol. 78, pp. 14-18.

Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, Vol. 21 No. 1, pp. 2-24.

Hayes, A.F. (2013), *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, The Guilford Press, New York, NY.

Henseler, J., Hubona, G. and Ray, P.A. (2016), "Using PLS path modeling in new technology research: updated guidelines", *Industrial Management and Data Systems*, Vol. 116 No. 1, pp. 2-20.

Hu, L.T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 6 No. 1, pp. 1-55.

Huang, R.-T., Sun, H.-S., Hsiao, C.-H. and Wang, C.-W. (2017), "Minimizing counterproductive work behaviors: the roles of self-determined motivation and perceived job insecurity in organizational change", *Journal of Organizational Change Management*, Vol. 30 No. 1, pp. 15-26.

Hussain, S.T., Lei, S., Akram, T., Haider, M.J., Hussain, S.H. and Ali, M. (2018), "Kurt Lewin's change model: a critical review of the role of leadership and employee involvement in organizational change", *Journal of Innovation and Knowledge*, Vol. 3 No. 3, pp. 123-127.

Iqbal, A. and Asrar-ul-Haq, M. (2018), "Establishing relationship between TQM practices and employee performance: the mediating role of change readiness", *International Journal of Production Economics*, Vol. 203, pp. 62-68.

Khan, I.U., Hameed, Z., Yu, Y., Islam, T., Sheikh, Z. and Khan, S.U. (2018), "Predicting the acceptance of MOOCs in a developing country: application of task-technology fit model, social motivation, and self-determination theory", *Telematics and Informatics*, Vol. 35 No. 4, pp. 964-978.

Kuvaas, B. (2009), "A test of hypotheses derived from self-determination theory among public sector employees", *Employee Relations*, Vol. 31 Nos 1/2, pp. 39-56.

Kwahk, K.-Y. and Kim, H.-W. (2008), "Managing readiness in enterprise systems-driven organizational change", *Behaviour and Information Technology*, Vol. 27 No. 1, pp. 79-87.

Kwahk, K.-Y. and Lee, J.-N. (2008), "The role of readiness for change in ERP implementation: theoretical bases and empirical validation", *Information and Management*, Vol. 45 No. 7, pp. 474-481.

Lam, C.F. and Gurland, S.T. (2008), "Self-determined work motivation predicts job outcomes, but what predicts self-determined work motivation?", *Journal of Research in Personality*, Vol. 42 No. 4, pp. 1109-1115.

Lee, Y., Lee, J. and Hwang, Y. (2015), "Relating motivation to information and communication technology acceptance: self-determination theory perspective", *Computers in Human Behavior*, Vol. 51, pp. 418-428.

Leung, L.S.K. and Matanda, M.J. (2013), "The impact of basic human needs on the use of retailing self-service technologies: a study of self-determination theory", *Journal of Retailing and Consumer Services*, Vol. 20 No. 6, pp. 549-559.

Martela, F. and Riekki, T.J.J. (2018), "Autonomy, competence, relatedness, and beneficence: a multicultural comparison of the four pathways to meaningful work", *Frontiers in Psychology*, Vol. 9, p. 1157.

Ming-Chu, Y. and Meng-Hsiu, L. (2015), "Unlocking the black box: exploring the link between perceive organizational support and resistance to change", *Asia Pacific Management Review*, Vol. 20 No. 3, pp. 177-183.

Minibas-Poussard, J., Bingol, H.B. and Roland-Levy, C. (2018), "Behavioral control or income? An analysis of saving attitudes and behavior, credit card use and buying on installment", *Revue Européenne de Psychologie Appliquée*, Vol. 68 No. 6, pp. 205-214.

Moran, J.W. and Brightman, B.K. (2000), "Leading organizational change", *Journal of Workplace Learning*, Vol. 12 No. 2, pp. 66-74.

Neves, P. (2009), "Readiness for change: contributions for employee's level of individual change and turnover intentions", *Journal of Change Management*, Vol. 9 No. 2, pp. 215-231.

Ocampo, A.C.G., Restubog, S.L.D., Liwag, M.E., Wang, L. and Petelczyc, C. (2018), "My spouse is my strength: interactive effects of perceived organizational and spousal support in predicting career adaptability and career outcomes", *Journal of Vocational Behavior*, Vol. 108, pp. 165-177.

Perreault, D., Mask, L., Morgan, M. and Blanchard, C.M. (2014), "Internalizing emotions: self-determination as an antecedent of emotional intelligence", *Personality and Individual Differences*, Vol. 64, pp. 1-6.

Philippe, F.L. and Vallerand, R.J. (2008), "Actual environments do affect motivation and psychological adjustment: a test of self-determination theory in a natural setting", *Motivation and Emotion*, Vol. 32 No. 2, pp. 81-89.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.

Rezvani, A., Khosravi, P. and Dong, L. (2017), "Motivating users toward continued usage of information systems: self-determination theory perspective", *Computers in Human Behavior*, Vol. 76, pp. 263-275.

Roca, J.C. and Gagné, M. (2008), "Understanding e-learning continuance intention in the workplace: a self-determination theory perspective", *Computers in Human Behavior*, Vol. 24 No. 4, pp. 1585-1604.

Schösler, H., Boer, J.D. and Boersema, J.J. (2014), "Fostering more sustainable food choices: can Self-Determination Theory help?", *Food Quality and Preference*, Vol. 35, pp. 59-69.

Sheldon, K.M., Turban, D.B., Brown, K.G., Barrick, M.R. and Judge, T.A. (2003), "Applying self-determination theory to organizational research", *Research in Personnel and Human Resources Management*, Vol. 22, pp. 357-393.

Shin, I. and Jung, H. (2021), "Differential roles of self-determined motivations in describing job crafting behavior and organizational change commitment", *Current Psychology*, Vol. 40, pp. 3376-3385.

Sørebø, Ø., Halvari, H., Gulli, V.F. and Kristiansen, R. (2009), "The role of self-determination theory in explaining teachers' motivation to continue to use e-learning technology", *Computers and Education*, Vol. 53 No. 4, pp. 1177-1187.

Todnem, R. (2005), "Organisational change management: a critical review", *Journal of Change Management*, Vol. 5 No. 4, pp. 369-380.

Vandenberghe, C. and Panaccio, A. (2012), "Perceived sacrifice and few alternatives commitments: the motivational underpinnings of continuance commitment's subdimensions", *Journal of Vocational Behavior*, Vol. 81 No. 1, pp. 59-72.

Wang, Z., Zhang, J., Thomas, C.L., Yu, J. and Spitzmueller, C. (2017), "Explaining benefits of employee proactive personality: the role of engagement, team proactivity composition and perceived organizational support", *Journal of Vocational Behavior*, Vol. 101, pp. 90-103.

Yadav, R. and Pathak, G.S. (2016), "Young consumers' intention towards buying green products in a developing nation: extending the theory of planned behavior", *Journal of Cleaner Production*, Vol. 135, pp. 732-739.

About the author
Dr Rui-Ting Huang is an associate professor at National Chung Hsing University, Taiwan. He received his PhD from Louisiana State University, Baton Rouge. His research interests focus on human resource development, mobile learning, and organizational learning. Rui-Ting Huang can be contacted at: rthuang0324@dragon.nchu.edu.tw