

Influential Factors in Organizational Member Learning: Empirical Study of Organizations in Thailand

Mutarika Pruksapong¹

¹ PhD Student of Graduate School of Economics, Kyoto University
E-mail: mutarika@gmail.com

This research attempts to determine the direct influential effect a change project has on the learning outcomes of organizational members. The cognitive change of organizational members can be classified as their cognitive understanding of a change project (the *What* of change) and cognitive understanding of the change implementation process (the *How* of change). On the other hand, their behavioral change is viewed straightforwardly as the cooperative behavior exhibited during a change project. In this study, the possible influential factors are derived from the organizational learning and change management literature and the empirical analysis is based on primary data obtained from a questionnaire survey administered to the employees of four large corporations in Thailand. The results reveal that if employees believe that a change project will have adverse impacts on them, the negative perception may strongly hinder their cognitive understanding of the *What* part of the change project and slightly inhibit cooperative behavior. On the other hand, the perception of a positive impact induces cooperative behavior and both the abovementioned aspects of cognitive understanding among the employees to a similar degree. In addition, awareness of the necessity of organizational learning positively influences the understanding of the *What* of change and strongly induces behavioral learning among organizational members.

Keywords: Organizational Member Learning, Individual Learning in Organizations, Organizational Learning, Organizational Change, Thailand

JEL Classification Numbers: M10, M12, M19

1. Introduction

The imprecise definition of learning makes it difficult to develop arguments and studies in the area of organizational learning [41]. Since the term organizational learning is often interpreted differently by different scholars, it is

necessary to clearly state that, for the purposes of this study, the organizational learning refers to the process by which an organization acquires new knowledge and adjusts itself as a means of ensuring continuous development.

Following the above definition, it is crucial to distinguish between the concepts of cognitive and behavioral development. Cognitive development occurs with the interpretation of events and the development of in-depth understanding, while behavioral development takes place when new responses or actions arise [9]. A number of theorists have argued that behavioral development is often a result of acquired knowledge [9], while learning only takes place when new knowledge is translated into a different but replicable behavioral action [4]. The difference between the two types of development is important because each represents a different phenomenon, and behavioral change does not necessarily accompany cognitive change and vice versa [23]. Thus, the appearance of one type of change does not necessarily reflect the appearance of the other.

Even though no concrete agreement exists on the process of how individual learning contributes to organizational learning [2; 9], it cannot be denied that individual learning is important to any organization (e.g. [23; 49; 51]). Indeed, organizational members are key players in the learning process [17], since their ability to learn and apply their learning to their work increases the value of the organization [50]. Thus, the notions pertaining to individual learning are vital to the understanding of organizational learning [32]. In this sense, it is essential to examine the factors that influence changes in individual learning in terms of both cognition and behavior. However, the difficulty of accurately measuring and observing such changes impedes the analysis of these factors [38].

The current research focuses on the learning that occurs within an organization at the individual level and attempts to empirically measure and evaluate individual learning. Specifically, the objective is to examine the cognitive and behavioral changes in employees when organizational change is implemented and determine the influential factors.

The paper is organized as follows. Section 2 provides an overview of individual learning in organizations. Section 3 presents the study's theoretical framework, research assumptions, and hypotheses. Section 4 introduces the field research conducted for this study, including the construction of the questionnaire survey, data findings, and analysis. Section 5 details the results of the analysis. Section 6 provides the research summary and discussion, and Section 7 concludes the paper.

2. Building an Organizational Member Learning Framework

Bearing in mind the operational definition of the term "organizational learning" used in this study, organizational learning can be considered to be two-fold because it involves (1) evidence of improvement in actions, or behavioral development, and (2) better knowledge and understanding, or cognitive development. The cognitive aspect is not an alternative, but rather a complement

to a largely dominated behavioral perspective of change in the past [30]. Thus, when the cognitive development perspective is incorporated, organizational learning becomes distinct from mere change, transformation, or adaptation [9]. Additionally, since organizational change can be regarded as an outcome of the organizational learning process [45], to contribute to the organization's development, the ultimate goal of organizational change should be to gain employees' (1) *cognitive buy-in* to the change project and (2) *cooperative behavior* when the project is implemented. In fact, these two basic dimensions seem to appear with some consistency in the organizational learning literature [23; 15].

Once it is agreed that organizational learning and change may involve two different processes [44], the problem lies in how the learning outcome can be measured, particularly at the individual level [23]. Individual cognition is known, at best, as an explanatory fiction inferred from observations of behavior [22]. However, changes in behavior may occur without cognitive development, from the mere need to accomplish a specific task [23]. Conversely, knowledge may be gained without any accompanying change in behavior [46]. Thus, separate assessments are required for the two aspects of change.

2.1 Learning in terms of Behavioral Change

Behavioral development takes place when new responses or actions arise [9]. Observing such changes is not problematic if the behavior alone is examined, without associating it with the underlying mental frames. In this regard, Fiol and Lyles [23] suggest that at the organizational level, behavioral adaptation can be measured on the basis of changes in management systems, decisions, and resource allocation. Accepting the possibility that changes in organizational behavior can be observed through changes in the way organizations are run, we can suppose that changes in individual behavior can be similarly observed through changes in individual actions. In the case of organizational change, evidence of cooperative behavior during the implementation of a change project constitutes the desired change in action.

2.2 Learning in terms of Cognitive Change

The investigation of cognitive development has become crucially important in social science research. The perceptions of human beings do not necessarily rely on facts alone. Rather, we employ certain mental frames to perceive and interpret our surroundings [3]. Thus, to ensure that people effectively undergo change, it is necessary to pay attention to changes in their mindsets [13]. As a consequence, to capture the cognitive changes within individuals, it is essential to conduct in-depth assessments that can distinguish cognitive development from pure behavioral adaptation [23].

The nature of organizational change is a well-functioning combination of the "what is" and "how to" of knowledge [42]. This distinction is necessary because the *what* provides information on the vision and overall direction of the change, while the *how* explains how the change is to be implemented and adopted [10].

Moreover, the identification of change characteristics provides information on what change involves and why it is important to organizations. It also helps people gain a deeper understanding of the necessary change. Once the *what* of knowledge is delivered, the *how* of knowledge becomes crucially important because it involves a more sophisticated knowledge that demands practical engagement by employees [42]. Specifically, the *how* of knowledge identifies the manner in which employees are to be involved and carry out such change. Employee awareness of why the change initiative is essential is thus required when engaging with a change project, and the knowledge of how to change—among other things—is an important element in the management of organizational change [29].

On the basis of this notion, the present paper proposes to distinguish the measurement of cognitive development on the basis of two aspects: the understanding of (1) *what* change is and (2) *how* it should be implemented.

3. Research Hypotheses

3.1 Perceived Impact of an Organizational Change Project

Emotion and attitude are key characteristics of human beings. In most cases, people's behavior changes depending on how they feel. Thus, people often use emotion and not just facts to influence others and help them deal with problems and seek solutions, even in the case of successful changes [33]. However, altering an individual's mindset is difficult, since individuals have different mental frames through which they interpret the world around them [3; 13; 25]. To state it simply, people think differently. Nevertheless, there is one thing even a diverse group of people have in common: people have a natural inclination toward the people, ideas, or objects that they feel positively about and tend to draw back from those they feel negatively about [19].

An individual's decision to accept or reject change is influenced by how he or she perceives the change [12]. That is, upon acquiring knowledge of a change initiative, people emotionally assess the information and then make a decision on whether or not to resist [27]. This process is shaped by a number of key variables. However, the first question people often ask themselves upon hearing of the change initiative is "*How is this (change) going to affect me?*" [5, parenthesis added].

Change implementation may lead to perceived threats—for example, threats to job security, performance, power, or the status quo—that will cause the individual to believe that he or she will lose out as a result of the change (e.g. [13; 18]). This is because change essentially means doing things differently, which entails the learning and application of new knowledge [5]. Thus, changes create anxiety and fear of the unknown. As a consequence, people resist; that is, they refuse to cooperate with the plan. Indeed, resistance to change seems to be one of the biggest obstacles to the successful implementation of a change project, and it is something all organizations wish to avoid. However, it is also undeniable that any

change attracts some degree of resistance [5]. It is perhaps quite natural that if people feel that a change will affect them negatively, they will not wish to participate or become involved in any activity that would bring it about.

In many circumstances, employees do not seek or welcome change and rather consider it as something that could potentially upset the status quo [48]. However, on the other hand, not all employees are always opposed to change. In fact, organizational members often take sides, with some against and others for the change. The employees who react unfavorably tend to feel anxious about the change, while the employees who support the change feel comfortable about it and its implementation [27]. Thus, it is very important to create emotional resonance and evoke positive experiences when attempting to gain people's acceptance of a proposal or idea [25], since people will have a strong tendency to resist if they believe that it may lead to a negative outcome for them [19].

Hypothesis 1: *The higher the negative impact perceived with respect to the change project, the less the organizational members learn cognitively/behaviorally.*

Hypothesis 2: *The higher the positive impact perceived with respect to the change project, the more the organizational members learn cognitively/behaviorally.*

3.2 Understanding of the Need for Organizational Learning

For additional analysis, people's understanding of the need for organizational learning is also taken into account. It may be a cliché to restate that organizational learning and change are crucial organizational practices. The interconnectedness of businesses around the world through the use of advanced technology has eroded the boundaries of business. Given the rapid pace of changes and fast and widespread information exchanges that characterize the modern business environment, organizations that can learn and utilize their knowledge quickly and efficiently are more likely to gain and maintain a competitive advantage [8; 14; 16; 39; 47; 49]. In other words, continuous adaptation and improvement are no longer optional but rather compulsory to organizations seeking to survive in the present turbulent business environment [26; 31].

Organizational change and adaptation take place when an organization strives for survival, especially in the long run. Moreover, changes contributed by individuals are implemented to drive the organization in the desired direction [10]. In this regard, Marsick and Watkins [39] assert that employees themselves are key contributors to the success of organizational learning and change. Even if they do not wish to learn for their own pleasure, they appear to acknowledge learning as a necessary burden to remain employable [39]. Regardless of whether their intention is primarily for personal fulfillment or the benefit of the organization, since organizational learning is widely accepted as an essential tool for the organization's survival, organizational members are increasingly recognizing the need to learn continually.

***Hypothesis 3:** The more organizational members recognize the importance of organizational learning, the more they tend to learn cognitively/behaviorally.*

4. Research Methodology

4.1 Sample and Procedures

The empirical analysis in this study is based on primary data obtained through a questionnaire survey. The questionnaire items were originally created in English on the basis of the literature, and the content was carefully designed and revised with organizational researchers. Since the data for this study was collected in Thailand, once the items in each scale were fixed, the questionnaire was translated into Thai. Moreover, the translations were cross-checked with language experts. The questionnaire was then pilot-tested with twelve Thai graduate students with various educational and work experience backgrounds in order to observe their understanding of the questions. The wording, question order, format, and overall appropriateness of the survey was then refined accordingly. The completed version of the questionnaire was tested one final time with the employees of a family-owned service business in Thailand to verify that the questionnaire items captured the respondents' perceptions of real situations.

At the time of the questionnaire pilot study, a number of organizations in Thailand were handpicked using the convenience sampling technique. The selected organizations fulfill the following conditions: they demonstrably emphasize organizational learning and human resource development, have had previous experience in handling change projects, and focus on delivering continuous organizational development. A letter of invitation was sent to a number of selected organizations, requesting them to participate in the questionnaire survey.

Four large organizations, each with employees of more than 800 people, replied with positive responses. While all the four organizations specialize in different product types, they are mainly in the manufacturing and trading or services industries. Pre-questionnaire interviews were conducted with the companies' human resources personnel and/or executives in order to gain a basic understanding of each company and its vision with respect to organizational change and development. Subsequently, in June 2008, a total of 675 questionnaires were distributed to the participating organizations.

Before the end of July 2008, a total of 642 questionnaires were returned (response rate of 95.11 percent). The first part of the questionnaire asked the respondents to recall a specific change project with which they had recent experience in the organization. In the subsequent sections, they were required to self-assess their cognitive understanding and behavioral cooperation toward the changes. After screening the completed questionnaires for unfinished or invalid responses, 447 questionnaires were included for the analysis.

The demographic characteristics of the respondents are as follows.

Approximately 41.16 percent of the respondents were 21–30 years of age, 37.36 percent were 31–40 years of age, and approximately 21.47 percent were above 40 years of age. Slightly more than half of the respondents were female (56.15 percent). The majority of the respondents (67.11 percent) hold a bachelor's degree, with an additional 16.11 percent holding a master's or higher degree. Further, 10.29 percent of the respondents had been working at their current organization for less than one year, approximately half (50.78 percent) were there for more than 1 year but less than 10 years, and 38.93 percent had been there for more than 10 years. Finally, 58.39 percent of the respondents were regular employees, 26.17 percent were team leaders or of equivalent rank, and 15.21 percent were at the middle or upper management level.

4.2 Development of the Organizational Member Learning Measurement Scale

The study of organizational learning, similar to that of other organizational phenomena, usually involves some form of measurement [11]. A number of empirical studies have investigated organizational learning using a variety of measurement instruments. Aside from the quantitative method, which is based on the use of questionnaire surveys (see review in [6]), other means such as analyses of learning or experience curves [21] have been utilized. However, such studies often adopt the by-products of learning, such as increases in sales amounts [37] or production capacity [40], as the proxy variables for the outcomes of change.

Empirical studies that examine learning at the individual level are restricted to the use of cognitive science methodology—namely, cognitive mapping or cause mapping [7; 20; 36]—to capture the understanding of individuals [24]. However, these instruments are unable to capture the behavioral aspect of change. In fact, none of the existing methods are suitable for measuring both the cognitive and behavioral changes in organizational members.

For this study, a measurement scale was then constructed by using the following standard procedure: (1) theoretically represent the concept such that its defining features is reflected; (2) specify the concept by decomposing it into various dimensions or aspects; (3) compose of a number of relevant indicators; and (4) synthesize the indicators through the elaboration of a weighted index for each conceptual dimension (see [11]). Subsequently, on the basis of organizational learning and change management literature (e.g. [18; 33; 43; 48]), the following measurement instruments were developed.

Perceived Cognitive and Behavioral Changes of Organizational Members

To measure the participants' cognitive changes, four items were used to evaluate their perceptions of a particular change project, its characteristic, and their understanding of the necessity of the changes (the *What* of change). In addition, four items were included to evaluate their perceptions of the overall understanding of the change implementation (the *How* of change).

Prior to completing the questionnaire items, the respondents were asked to

recall a specific organizational change that they were directly involved with and affected by in the organization where they currently work. A semantic differential scaling with two contrasting adjectives at the opposite ends of the scale (e.g. bad/good and unnecessary/necessary for the *What* of Change; confusing/clear and problematic/unproblematic for the *How* of Change) was chosen as the instrument to measure the respondents' attitudes [28] in terms of their cognitive understanding toward such change projects. A 7-point semantic differential scale was adopted because it allows neutrality and has enough gradations to allow for meaningful data, and yet is not too tedious for respondents [1]. The ratings 1-3 represented negative perceptions toward change projects; 4, neutral perceptions; and 5-7, positive perceptions.

Four additional items were included to measure respondents' perceived behavioral changes. A 7-point Likert scale was adopted, with 1 representing "strongly disagree" and 7, "strongly agree." Example items are such as "I responded favorably to the change," and "I am enthusiastic about making this change happen."

Perceived Impact of a Change Project and Understanding of the Need for Organizational Learning

Following the method describe above, six items were developed to measure the positive and negative impacts of the changes perceived by the respondents. Two examples of these items are "This change makes my future employment at this organization uncertain," and "I receive substantial support from my organization in terms of obtaining the necessary resources for this change implementation."

Three additional items were included in the questionnaire to capture the organizational members' perception of organizational learning. Example items are "I basically agree that our ability to learn is the key to improving our work process," and "If we quit learning, we endanger our future." The 7-point Likert scale was adopted, with the rating of 1 representing "strongly disagree," and 7, "strongly agree."

Control Variables

The following were the control variables: age, gender (0 = male, 1 = female), education, years of tenure, and ranking within the company.

4.3 Factor Analysis and Scale Reliability

The factor analysis was conducted with Statistical Package for Social Science (SPSS) version 15.0. The components were extracted using the principal axis factoring method with varimax rotation and eigen-value greater than unity rule.

Perceived Cognitive and Behavioral Changes in Organizational Members

After removing item 8, which loaded closely on factor 1 (.518) and factor 3 (.552) in the first rotation, three factors were extracted from the analysis (Table 1). Factor 1 comprises four items representing the respondents' *perceived cognitive*

understanding of a change project (Cronbach's alpha of 0.939). Factor 2 comprises four items, denoting the respondents' *perceived behavioral change* (Cronbach's alpha of 0.851). Lastly, Factor 3 comprises three items representing the respondents' *perceived cognitive understanding of change implementation* (Cronbach's alpha of 0.796). The factor reduction explains 68.700 percent of the variance.

Table 1 Factor Analysis of Cognitive and Behavioral Changes in Organizational Members

	Factor 1	Factor 2	Factor 3
3. You think this change is. . . useless/useful	<u>.917</u>	.266	.088
4. You think this change is. . . worthless/valuable	<u>.904</u>	.283	.103
2. You think this change is. . . unnecessary/ necessary	<u>.802</u>	.286	.138
1. You think this change is. . . bad/good	<u>.719</u>	.321	.210

11. I cooperated greatly during this change implementation	.243	<u>.718</u>	.136
10. I am enthusiastic about making this change happen	.338	<u>.708</u>	.187
9. I responded favorably to the change	.392	<u>.699</u>	.175
12. My participation in the change activities contributed to the success of the change initiative	.151	<u>.673</u>	.143

6. You think the implementation procedure for this change project is. . . confusing/clear	.218	.153	<u>.921</u>
5. You think the implementation procedure for this change is. . . difficult/easy	-.032	.110	<u>.722</u>
7. You think the implementation procedure of this change is. . . problematic/unproblematic	.291	.268	<u>.547</u>

Eigen Value	5.297	1.380	.880
Percentage of Variance	48.155	12.544	8.000

a) Extraction Method: Principal Axis Factoring.

b) Rotation Method: Varimax with Kaiser Normalization.

c) Rotation converged in five iterations.

Perceived Impact of a Change Project and Perception of Organizational Learning

One item with a communality of less than 0.3 (item 16, with a communality of 0.165) was removed from this analysis. Upon the completion of the analysis, three factors were extracted (Table 2). Three items loaded cleanly on Factor 1, which denotes *perception of organizational learning* (Cronbach's alpha of 0.826). Three items represent Factor 2, which denotes the variable for *negative impact of change* (Cronbach's alpha of 0.818). Lastly, Factor 3 comprises two items denoting the variable for *positive impact of change* (Cronbach's alpha of 0.535). This factor reduction explains 55.997 percent of the variance.

Table 2 Factor Analysis of the Perceived Impacts of a Change Project and Perception of Organizational Learning

	Factor 1	Factor 2	Factor 3
21. Learning in my department is seen as a key commodity necessary for guaranteeing the efficiency of our work process	<u>.787</u>	-.120	.113
19. I basically agree that our ability to learn is the key to improving our work process	<u>.764</u>	-.192	.084
20. If we quit learning, we endanger our future	<u>.755</u>	-.103	.121

14. This change decreases my benefits from this organization	-.169	<u>.813</u>	-.220
15. This change contradicts my prior belief or past experience of work	-.121	<u>.719</u>	-.055
13. This change makes my future employment at this organization uncertain	-.131	<u>.714</u>	-.189

17. This change makes my future work easier and more convenient	.135	-.262	<u>.593</u>
18. I receive substantial support from my organization in terms of obtaining the necessary resources for this change implementation	.074	-.063	<u>.571</u>

Eigen Value	2.782	1.181	.517
Percentage of Variance	34.771	14.760	6.467

a) Extraction Method: Principal Axis Factoring.

b) Rotation Method: Varimax with Kaiser Normalization.

c) Rotation converged in four iterations.

5. Results

The mean scores, standard deviations, and correlation coefficients of each variable are displayed in Table 3. Negative impact of change is negatively and significantly correlated with perceived cognitive understanding of a change project ($r = -.483$, $p < .01$), perceived cognitive understanding of change implementation ($r = -.204$, $p < .01$), and perceived behavioral change ($r = -.402$, $p < .01$). The results are consistent with *Hypothesis 1*.

Similarly, positive impact of change is positively and significantly correlated with perceived cognitive understanding of a change project ($r = .514$, $p < .01$), perceived cognitive understanding of change implementation ($r = .409$, $p < .01$), and perceived behavioral change ($r = .529$, $p < .01$). The results are consistent with *Hypothesis 2*.

In addition, perception of organizational learning is positively correlated with perceived cognitive understanding of a change project ($r = .291$, $p < .01$), perceived cognitive understanding of change implementation ($r = .126$, $p < .01$), and perceived behavioral change ($r = .428$, $p < .01$). The results are consistent

Table 3 Factor Correlations, Means, and Standard Deviations for Cognitive and Behavioral Changes in Organizational Members, Perceived Impact of a Change Project, Perception of Organizational Learning, and Control Variables

Correlations	Mean	S. D.	1	2	3	4	5	6	7	8	9	10	11
1. Perceived cognitive understanding of a change project	5.68	1.23	1										
2. Perceived cognitive understanding of change implementation	4.29	1.42	.365**	1									
3. Perceived behavioral change	5.27	1.02	.595**	.405**	1								
4. Negative impact of change	3.09	1.48	-.483**	-.204**	-.402**	1							
5. Positive impact of change	4.72	1.26	.514**	.409**	.529**	-.317**	1						
6. Perception of organizational learning	6.25	.87	.291**	.126**	.428**	-.306**	.229**	1					
7. Age	34.18	8.14	.183**	.164**	.226**	-.125**	.219**	.135**	1				
8. Gender	.56	.50	-.155**	-.101*	-.171**	.077	-.131**	-.099*	-.187**	1			
9. Education	3.90	.81	-.066	-.124**	-.051	-.066	-.104*	.089	-.315**	.172**	1		
10. Years of tenure	3.82	1.61	.086	.157**	.188**	-.048	.139**	.097*	.798**	-.090	-.275**	1	
11. Ranking within the company	2.57	.77	.222**	.174**	.277**	-.232**	.217**	.232**	.584**	-.276**	-.059	-.475**	1

**Significant at the 0.01% level (two-tailed).

*Significant at the 0.05% level (two-tailed).

a) N = 447

with *Hypothesis 3*.

To test all the hypotheses, regression analysis was performed with the dependent, independent, and control variables, using SPSS 15.0. Six models were created. Model 1-2 pertained to the respondents' perceived understanding of a change project; Model 3-4, to their perceived understanding of change implementation; and Model 5-6, to their perceived behavioral change. The results of the regression analysis are shown in Table 4.

Table 4 Results of Regression Analysis for Cognitive and Behavioral Changes in Organizational Members and the Influential Factors

Variables	Perceived cognitive understanding of				Perceived behavioral change	
	a change project	Model 2	change implementation	Model 4	Model 5	Model 6
Age	.201*	.114	-.034	-.081	.045	-.035
Gender	-.058	-.034	-.030	-.015	-.095	-.059
Education level	-.023	-.032	-.068	-.045	.023	-.003
Years of tenure	-.204**	-.139*	.076	.100	.073	.120
Ranking	.106	-.010	.069	.039	.165**	.035
Negative impact		-.302**		-.002		-.184**
Positive impact		.301**		.271**		.306**
Perception of OL		.086*		-.023		.311**
F	3.930**	17.886**	1.737	5.244**	7.438**	24.989**
F Change	3.930**	39.433**	1.737	10.895**	7.438**	50.102**
df	446	446	446	446	446	446
R	.207	.496	.139	.296	.279	.560
R ²	.043	.246	.019	.087	.078	.313
Adjusted R ²	.032	.232	.008	.071	.067	.301
R ² Change	.043	.204	.019	.068	.078	.236

*P < .05, **p < .01, N = 447

The findings suggest that there is an inverse relationship between negative impact of change and perceived cognitive understanding of a change project ($\beta = -.302$, $t = -7.016$, $p < .01$), and perceived behavioral change ($\beta = -.184$, $t = -4.469$, $p < .01$). However, no significant relationship is found between negative impact of change and perceived cognitive understanding of change implementation. This implies that the greater the negative impact of a change project as perceived by employees, the lower is their cognitive understanding of what the change initiative involves and the reasons why it is necessary. In addition, such employees indicated lower cooperative behavior during the change implementation. Thus, *Hypothesis 1* is partially confirmed.

Positive impact of change is found to have significant positive relationships with all the three dependent variables, namely, perceived cognitive understanding

of a change project ($\beta = .301$, $t = 6.917$, $p < .01$), perceived cognitive understanding of change implementation ($\beta = .271$, $t = 5.656$, $p < .01$), and perceived behavioral change ($\beta = .306$, $t = 7.362$, $p < .01$). In other words, as the perceived positive impact of a change project rises, employees show increased understanding of the change project, understanding of its implementation process, and participative action. Therefore, *Hypothesis 2* is supported.

The statistical results also reveal that changes in the perception of organizational learning can explain the change in the members' perceived cognitive understanding of a change project ($\beta = .086$, $t = 2.012$, $p < .05$) and perceived behavioral change ($\beta = .311$, $t = 7.641$, $p < .01$), both of which had positive correlations. But such perception of organizational learning necessity cannot sufficiently explain the change in the employees' perceived cognitive understanding of change implementation. Thus, *Hypothesis 3* is only partially supported.

In addition, the majority of the control variables—age, gender, education level, years of tenure, and ranking within the company—do not seem to have any significant statistical relationship with change at the individual level in terms of either cognition or behavior. The only exception is found with the relationship between years of tenure and perceived cognitive understanding of a change project: the statistical outcome reveals a negative relationship between the two variables ($\beta = -.139$, $t = -1.998$, $p < .05$).

Understanding of the importance of organizational learning has by far the largest impact on organizational members' perceived behavioral change, while the perceived negative impact of change seems to inhibit their cognitive understanding of a change project to the greatest degree. At the same time, the perceived positive impact of change has a positive effect of nearly the same degree on all the three types of changes within organizational members. In addition, the change in employees' cognitive understanding of change implementation can be explained only to a limited extent by their perceived impact of a change project and general understanding of organizational learning.

6. Summary and Discussion

The objective of this research is to determine the factors that influence the cognitive understanding and behavioral change of organizational members during a change project. This study, which is based on organizational change management, investigates the perceived direct effects of a change initiative on organizational members as potential factors that influence their learning in terms of cognition and behavior.

The results of this empirical study, which focuses on learning at the individual level, have important implications for organizational learning. Generally speaking, the results are consistent with the fact that people have a natural preference for self-perceived positive influences and tend to resist negative ones [19].

People often contemplate how change initiatives may affect them personally.

The perception that a change could hamper job security, decrease the benefits they ought to receive, or contradict former beliefs may hinder their acceptance of and participation in the change project. This is consistent with the empirical study by Dechawatanapaisal and Siengthai [17] on cognitive dissonance and learning. In general, people are unwilling to step out of their comfort zone. Therefore, if they feel uncomfortable learning the new knowledge they are given, they are unlikely to commit to learning the knowledge or to respond by exhibiting cooperative behavior [17].

First, in terms of the cognitive aspect of learning by organizational members, the negative impact perceived by individuals seems to be able to explain the likelihood of individuals understanding a change project (the *What* of change), but cannot significantly explain their understanding of the implementation process (the *How* of change). To lead to any kind of change, it is essential to gain a shared vision of the desired future as well as a high level of understanding of and commitment to the new direction [34]. However, this is not easy to accomplish. Human nature leads people to protest to or complain about a task they do not like and did not choose when they find the task to be problematic [31]. This negative attitude obstructs the required initial acceptance of the change movement. It is crucial for those involved in a change project to ensure that the change initiative has the lowest possible impact on organizational members in order to gain their initial cognitive buy-in. In fact, in the current business environment, successful organizational adaptation is increasingly dependent on building employee support and enthusiasm for proposed change plans [43].

On a different note, if changes are perceived to have good and positive impacts by the employees, they tend to buy in to the concept of the change project, agree to the change implementation plan, and act in its interest. Thus, the primary requirement for an organization when attempting to accomplish a change project is to provide employees with clear and accurate information on job expectations to help them perform well. This will create reciprocal obligations and mutual commitment among the employees and organization [48]. In addition, the knowledge that the organization is supporting employees in implementing the change task—that is, investing efforts into creating a positive impression [35]—influences employees' perception and reaction to the initiative and its implementation. In sum, when considering the implementation of a change project, it is necessary for organizations to attempt to increase its positive impact and reduce its negative consequences on employees.

This study also offers additional analysis on the effect of employees' perception of organizational learning on their cognitive and behavioral learning. The statistical results show that a higher level of understanding of the necessity of organizational learning can explain positive changes in cooperative behavior and cognitive understanding of the *what* of change among organizational members.

In addition, recognition of the fact that the organization needs to learn continuously in order to survive may make employees realize the need for them to be supportive and cooperative during change movements. Occasionally, when the

course of the change implementation is not clear and even the implementers are doubtful, maintaining focus on the goal of becoming a learning organization may be a good motivator for employees, inducing them to direct their efforts toward organizational learning and change [39]. However, it should be noted that excessive emphasis on the importance of organizational learning should be avoided, since it may lead employees to overlook prudently of a particular change initiative. That is, the notion that change is always in the interest of the organization may lead employees to blindly believe that all change initiatives are beneficial without carefully considering the characteristics of the particular change project or questioning the implementation process. Thus, without true understanding of a change movement, employees may feel pressured into working toward bringing about the change because they might be on the losing end if they do not.

To a certain extent, the perceived personal impact of change and overall understanding of the importance of organizational learning seem to be able to explain organizational members' changes in cognitive understanding of the *What* of change and behavioral responses to change projects. However, these factors do not seem to sufficiently explain the changes in organizational members' understanding of how to carry out the changes. This may imply that cognitive understanding of the *How* of change is a more complicated matter that could potentially involve other factors aside from those mentioned in this study.

7. Conclusion

This study suggests an additional dimension with respect to individual learning in organizations. Separate approaches to the behavioral and cognitive aspects of learning were adopted because they represent two different phenomena, neither of which is adequate by itself, although in reality, the distinction is rather abstract [46]. To analyze in greater detail the characteristics of cognitive learning by organizational members, this study decomposes cognitive learning into the understanding of the general characteristics of a change project (the *What* of change) and the change implementation (the *How* of change). Since individual learning is deemed crucial to organizational learning, it is necessary to gain a deeper understanding of the factors that influence the above two dimensions of learning.

This study further establishes a measurement instrument to capture organizational members' cognitive and behavioral learning during a change project. According to the survey results, organizational members' understanding of the need for organizations to learn and change continually for survival has a significant impact in inducing cooperative behavior as well as their cognitive buy-in to the change project. However, these two aspects of organizational member learning, particularly the latter one, are constrained by the effect of the perceived negative impact of the change project. On the other hand, a perceived positive impact of a change project seems to have a positive influence on all the aspects of individual

learning within the organization. This suggests that organizations involved in organizational change movements should invest efforts in educating their employees to increase their awareness of the importance of organizational learning. They should also attempt to increase the direct positive impact and decrease the direct negative impact that employees perceive with respect to any change movement. Through these measures, organizations will be able to increase employees' cognitive understanding of the change project and promote cooperative behavior.

It should be noted that this research is not without limitations. Firstly, the results should be interpreted cautiously. Since the study is based solely on the self-assessments of questionnaire respondents, the results may be biased. Secondly, the selection of participants for the empirical study was based on the convenient sampling method. A study with greater random sampling to include more diverse organization types will provide a more general finding. Moreover, while the study attempts to explain the influential factors in each dimension of individual learning in organizations, the results have only partially explained cognitive learning with respect to the *How* of change. Further study of this aspect is encouraged to gain a more complete understanding of all the dimensions of individual learning by organizational members.

BIBLIOGRAPHY

- [1] Al-Hindawe, J. (1996). "Considerations when Constructing a Semantic Differential Scale," *La Trobe Papers in Linguistics*, available from <http://www.latrobe.edu.au/linguistics/LaTrobePapersinLinguistics/Vol%2009/03AlHindawe.pdf>. Last Updated: December 5, 2006 (accessed November 1, 2007).
- [2] Antonacopoulou, E. P. (2006). "The Relationship between Individual and Organizational Learning: New Evidence from Managerial Learning Practices," *Management Learning*. 37(4): pp. 455-473.
- [3] Argyris, C. and D. A. Schön. (1974). "Theory in Practice," Jossey-Bass. San Francisco, CA.
- [4] Argyris, C. and D. A. Schön. (1978). "Organizational Learning: A Theory of Action Perspective," Addison-Wesley. Reading, MA.
- [5] Atkinson, P. (2005). "Managing Resistance to Change," *Management Services*. 49(1): pp. 14-19.
- [6] Bapuji, H. and M. Crossan. (2004). "From Questions to Answers: Reviewing Organizational Learning Research," *Management Learning*. 35(4): pp. 397-417.
- [7] Barr, P. S., J. L. Stimpert and A. S. Huff. (1992). "Cognitive Change, Strategic Action, and Organizational Renewal," *Strategic Management Journal*. 13: pp. 15-36.
- [8] Bontis, N., M. M. Crossan and J. Hulland. (2002). "Managing an Organizational Learning System By Aligning Stocks and Flows," *Journal of Management*

- Studies*. 39(4): pp. 437-469.
- [9] Bood, R. P. (1998). "Charting Organizational Learning: A Comparison of Multiple Mapping Techniques," in C. Eden and J. -C. Spender (eds.) *Managerial and Organizational Cognition: Theory, Methods and Research*. SAGE Publications. London.
- [10] Burke, W. W. (2002). "Organization Change: Theory and Practice (Foundations for Organizational Science)," SAGE Publications. Thousand Oaks, CA.
- [11] Chiva, R., J. Alegre and R. Lapidra. (2007). "Measuring Organizational Learning Capability among the Workforce," *International Journal of Manpower*. 28(3/4): pp. 224-242.
- [12] Chreim, S. (2006). "Postscript to Change: Survivors' Retrospective Views of Organizational Changes," *Personnel Review*. 35(3): pp. 315-335.
- [13] Clegg, C. and S. Walsh. (2004). "Change Management: Time for a Change!" *European Journal of Work & Organizational Psychology*. 13(2): pp. 217-239.
- [14] Crossan, M. M., H. W. Lane and R. E. White. (1999). "An Organizational Learning Framework: From Intuition to Institution," *The Academy of Management Review*. 24(3): pp. 522-537.
- [15] Crossan, M. M., H. W. Lane, R. E. White and L. Djurfeldt. (1995). "Organizational Learning: Dimensions for a Theory," *International Journal of Organizational Analysis*. 3(4): p. 337.
- [16] Davenport, T. H. and L. Prusak. (1998). *Working Knowledge: How Organizations Manage What They Know*, Harvard Business School Press. Cambridge, MA.
- [17] Dechawatanapaisal, D. and S. Siengthai. (2006). "The Impact of Cognitive Dissonance on Learning Work Behavior," *Journal of Workplace Learning*. 18(1): pp. 42-54.
- [18] Dent, E. B. and S. G. Goldberg. (1999). "Challenging 'Resistance to Change,'" *The Journal of Applied Behavioral Science*. 35(1): pp. 25-41.
- [19] Deutschman, A. (2005). "Change or Die," *Fast Company*. May 2005. 94: pp. 52-59.
- [20] Eden, C. (1988). "Cognitive Mapping," *European Journal of Operational Research*. 36(1): pp. 1-13.
- [21] Epple, D., L. Argote and R. Devadas. (1991). "Organizational Learning Curves: A Method for Investigating Intra-Plant Transfer of Knowledge Acquired Through Learning by Doing," *Organization Science*. 2(1): pp. 58-70.
- [22] Fiol, C. M. (2002). "Intraorganizational Cognition and Interpretation," in J. A. C. Baum (eds.) *The Blackwell Companion to Organizations*. Blackwell Publishers. Oxford, UK.
- [23] Fiol, C. M. and M. A. Lyles. (1985). "Organizational Learning," *The Academy of Management Review*. 10(4): pp. 803-813.
- [24] Fraser, K. and J. Novak. (1998). "Managing the Empowerment of Employees to Address Issues of Inter-Employee Co-operation, Communication and Work Redesign," *The Learning Organization*. 5(3): pp. 109-120.
- [25] Gardner, H. (2004). *Changing Minds: The Art and Science of Changing Our Own*

- and Other People's Minds*, Harvard Business School Press. Boston, MA.
- [26] Goh, S. and G. Richards. (1997). "Benchmarking the Learning Capability of Organizations," *European Management Journal*. 15. 5: pp. 575-583.
- [27] Hay, P. and C. E. J. Härtel. (2001). "Toward Improving the Success of Change Management Efforts: Modeling the Factors Contributing to Employee Resistance During Change Implementation." *Management Development Forum* 3(1), available from http://www.esc.edu/ESConline/across_esc/forumjournal.nsf/0/CB95A52D62A37E6E852569E5000AE89D?opendocument. Last Updated: February 19, 2001 (accessed July 1, 2005).
- [28] Heise, D. R. (1970). "The Semantic Differential and Attitude Research," in G. F. Summers (eds.) *Attitude Measurement*. Rand McNally. Chicago, IL.
- [29] Hiatt, J. M. (2006). "ADKAR: A Model for Change in Business, Government and our Community," Prosci Research. Loveland, CO.
- [30] Huff, A. S., J. O. Huff and P. S. Barr. (2000). "When Firms Change Direction," Oxford University Press. New York.
- [31] Jellison, J. M. (2006). "Managing the Dynamics of Change: The Fastest Path to Creating an Engaged and Productive Workforce," McGraw-Hill. New York.
- [32] Kim, D. H. (1993). "The Link between Individual and Organizational Learning," *Sloan Management Review*. 35(1): p. 37.
- [33] Kotter, J. P. (1995). "Leading Change: Why Transformation Efforts Fail," *Harvard Business Review*. 73(2): pp. 59-68.
- [34] Kotter, J. P. (1996). *Leading Change*, Harvard Business School Press. Boston, MA.
- [35] Lambert, S. J. (2000). "Added Benefits: The Link between Work-Life Benefits and Organizational Citizenship Behavior," *The Academy of Management Journal*. 43(5): pp. 801-815.
- [36] Laukkanen, M. (1994). "Comparative Cause Mapping of Organizational Cognitions," *Organization Science*. 5(3): pp. 322-343.
- [37] Leslie, M. and C. A. Holloway. (2006). "The Sales Learning Curve," *Harvard Business Review*. 84(7/8): pp. 115-123.
- [38] Lyles, M. A. and M. Easterby-Smith. (2003). "Organizational Learning and Knowledge Management: Agendas for Future Research," in M. Easterby-Smith and M. A. Lyles (eds.) *The Blackwell Handbook of Organizational Learning and Knowledge Management*. Blackwell Publishers. Malden, MA.
- [39] Marsick, V. J. and K. E. Watkins. (1999). "Looking again at Learning in the Learning Organization: A Tool that can Turn into a Weapon!" *The Learning Organization*. 6(5): pp. 207-211.
- [40] Morrison, J. B. (2008). "Putting the Learning Curve in Context," *Journal of Business Research*. 61(11): pp. 1182-1190.
- [41] Örtenblad, A. (2002). "A Typology of the Idea of Learning Organization," *Management Learning*. 33(2): pp. 213-230.
- [42] Pettigrew, A. M., R. W. Woodman and K. S. Cameron. (2001). "Studying Organizational Change and Development: Challenges for Future Research," *Academy of Management Journal*. 44(4): pp. 697-713.

- [43] Piderit, S. K. (2000). "Rethinking Resistance And Recognizing Ambivalence: A Multidimensional View Of Attitudes Toward An Organizational Change," *Academy of Management Review*. 25(4): pp. 783-794.
- [44] Pruksapong, M. (2006). "Cognitive Learning of Employees as a Key for Organizational Change: An Empirical Study of Hospital Accreditation Program in Thailand." The 5th Asia Academy of Management Conference Proceeding, December 19-21, 2006 at Waseda University.
- [45] Schultz, M. (2002). "Organizational Learning," in J. A. C. Baum (eds.) *The Blackwell Companion to Organizations*. Blackwell Publishers. Oxford, UK.
- [46] Starbuck, W. H. and B. Hedberg. (2001). "How Organizations Learn from Success and Failure," in M. Dierkes, A. B. Antal, J. Child and I. Nonaka (eds.) *Handbook of Organizational Learning and Knowledge*. Oxford University Press. New York.
- [47] Stata, R. (1989). "Organizational Learning-The Key To Management Innovation," *Sloan Management Review*. 30(3): p. 63.
- [48] Strebel, P. (1996). "Why Do Employees Resist Change?" *Harvard Business Review*. 74(3): pp. 86-92.
- [49] Ulrich, D., M. A. Von Glinow and T. Jick. (1993). "High-Impact Learning: Building and Diffusing Learning Capability," *Organizational Dynamics*. 22(2): pp. 52-66.
- [50] Watkins, K. E. and V. J. Marsick. (1993). "Sculpting the Learning Organization," Jossey-Bass. San Francisco, CA.
- [51] Yeo, R. (2002). "Learning within Organizations: Linking the Theoretical and Empirical Perspectives," *Journal of Workplace Learning*. 14(3): pp. 109-122.