

# climate and customer knowledge

Mei-Ling Wang\*

*Department of Business Administration, Tamkang University, Tamsui District, New Taipei City, Taiwan*

**Abstract.** Based on the theory of organizational socialization, the present study evaluates the effect of learning climate on salespeople's adaptive selling behaviors by reviewing and incorporating their knowledge of customers. The study also explores the mediating role of customer knowledge for learning climate and adaptive selling behaviors. A total of 350 salespeople in 35 consumer electronics and appliances stores located in Taiwan were analyzed using hierarchical linear modeling (HLM), producing results that support the proposed model. More specifically, learning climate was positively related to customer knowledge and adaptive selling behaviors, and customer knowledge was directly related to adaptive selling behaviors. In addition, learning climate was associated with adaptive selling behaviors through customer knowledge. These findings highlight the importance of enhancing the learning climate and salespeople's customer knowledge to enable retailing organizations to improve salespeople's adaptive selling behaviors.

**Keywords:** Learning climate, customer knowledge, adaptive selling behaviors, hierarchical linear modeling



**Mei-Ling Wang** is currently an associate professor at Tamkang University in Taiwan. She earned her Ph.D. and M.S. degrees in business administration from National Taiwan University. Her research interests lie in organizational climate, service management, and customer relationship management. She has published in *The Service Industries Journal*, *Journal of Social Psychology*, *Total Quality Management & Business Excellence*, and *Managing Service Quality*.

## 1. Introduction

With the expanding use of knowledge management, gathering and disseminating market information along with the ability to develop, share, and utilize knowledge are viewed as the basis for designing internal processes that produce superior values to customers,

yielding in turn a competitive advantage [2]. Among the variety of knowledge-management enablers that have been addressed in the literature, employees have been shown to be at the heart of creating and applying knowledge to achieve organizational goals [11]. In addition, employee competency is often tacit and tends to be highly local or organizationally specific [6]. To successfully interact with different types of customers and enable them to help each other, employees should have rich knowledge about customer characteristics and various strategies for meeting the diverse needs of different customers [4, 35, 42]. Therefore, employees' knowledge about customers might also affect their performance by influencing their ability to serve customers.

As customer knowledge has become a key factor in serving customers well, service firms have come to face an ongoing need for employee learning and development so employees can gather information, translate information to knowledge, and apply this knowledge to improve their job performance. In general, employees may develop knowledge through a variety of learning activities within an organization, such as formal education, imitation, and self-directed learning [29, 45].

\*Corresponding author: Mei-Ling Wang, Associate Professor, Department of Business Administration, Tamkang University, No. 151, Yingzhuang Road, Tamsui District, New Taipei City 25137, Taiwan. Tel.: +886 2 26215656/Ext. 3375; E-mail: magwang@mail.tku.edu.tw.

Dasgupta and Gupta [10] suggest that learning climate encourages employees to question not only the information they process but also whether their approach to accomplish tasks is applicable. As such, the first objective of this current research is to examine the relationship between learning climate and salespeople's customer knowledge.

Despite that organizations need to develop and increase employees' knowledge to build long-term customer relationships [9], relatively few studies have been conducted in this area. In particular, the link between organizational-level learning climate and individual-level adaptive selling behaviors requires more research. This link is important because the learning climate has an influence on employees' motivation to develop and acquire customer knowledge, which leads to adaptive selling behaviors applying to different service encounters so as to develop quality and lasting relationships with customers [26]. The marketing literature emphasizes the importance of adapting sales practices to varying customer needs and confirms that adaptive selling leads to better sales performance [13]. Despite of prior research examining learning climate and adaptive selling behaviors in general [41], those findings have not addressed employees' knowledge about customers in specific. As the underlying processes through which the learning climate leads to adaptive selling behaviors remain largely unknown, this current study also attempts to evaluate the effect of learning climate on adaptive selling behaviors by incorporating salespeople's customer knowledge and examining the mediating role of customer knowledge to further explain the effect of learning climate on adaptive selling behaviors.

## 2. Literature review and hypothesis development

### 2.1. Learning climate

Climate represents the shared perceptions of the employees concerning the practices, procedures, and the kind of behaviors that get rewarded, supported, and expected in a setting [30]. More specifically, learning climate denotes the extent to which organizations design and implement learning-related practices to promote employees' adaptation or responsiveness to the external environment [12]. As multiple climates can exist simultaneously within a single organization, climate is best regarded as a construct for a specific referent, such as a service climate and a safety climate [31]. The use of a domain-specific climate survey as a

tool for understanding the influence of climate on outcomes or performance is also widely accepted [16]. As a result, the current study concentrates on the learning climate, which determines the extent to which employees make use of their skills and knowledge to improve the effectiveness of their organizations [43]. In the sales contexts, learning climate refers to employees' shared perceptions of formal and informal learning-related practices that encourage them to develop and acquire knowledge and skills about serving customers.

### 2.2. Customer knowledge

The world is longing for knowledge [49]. Although both knowledge and information are related to meaning, knowledge is in accordance with the specific situation and acquires associated attributes [48]. It is not the information that will differentiate individuals or organizations in their competitive strivings. Instead, it is the knowledge as purposeful coordination of action, the ability to translate information into actions [47]. In other words, knowledge is a concept about operations and it always exists for certain purposes [50]. Until now, knowledge has been reintegrated by increasing employees' responsibility, control and decision-making span over larger areas [45]. Employee and department autonomy, self-coordination, self-management and participative decision making are examples of the knowledge reintegration at local levels of operation. As such, knowledge is about human ability to make distinctions, choices and decisions [44].

In accordance with the notion of the customer-oriented Integrated Process Management (IPM), customers are the primary stakeholders of the organization, and their satisfaction must come first through continually improved product and service at continually declining prices [46]. Furthermore, customers are no longer an anonymous mass of statistically measurable entities with homogeneous desires, but are uniquely distinguishable individuals, whose needs and desires must be satisfied. It is therefore imperative that organizations embrace efficiency, effectiveness, low costs, and customization at the same time. In the circumstances, employees' knowledge about customers has become the most productive form of capital, and knowledge must be enhanced and integrated in employees themselves [47]. More specifically, customer knowledge refers to facts, principles, and procedures for effective action in situations that require dealing with customers, supporting and defending organizational objectives, and positively representing the organization to customers [28].

When responding to individual customer needs, employees need to know how clearly understand customer needs [14]. To simplify a complex stimulus environment (i.e., interactions with others), an individual forms specific knowledge structures to predict the behavior of others by assuming that the individual being “typed” will behave in a manner consistent with the behavior of typical members of that category [7]. These categorical knowledge structures give individuals valuable information about the most appropriate behavior to use for that situation. Then, individuals can translate the information into actions to deal with the complex environments [47]. This is also the case for salespeople who have to identify different types of customers so as to meet customer needs and cope with different situations [42].

Based on a research tradition in customer knowledge, customer knowledge includes the breadth of employee knowledge concerning the characteristics of different customer types and the breadth of employee knowledge concerning strategies for dealing with varying customer needs and situations [35]. Although Bettencourt et al. [4] provided empirical support for the positive effect of customer knowledge on service employees’ service-oriented organizational citizenship behaviors, it is worth exploring the effect of customer knowledge on adaptive selling behaviors in sales contexts.

### 2.3. *Adaptive selling behaviors*

Adaptive selling behaviors are the practices of changing the selling approach during the sales presentation to meet customers’ needs, addressing customers’ problems, overcoming objections and acting on new opportunities that may arise [33, 42]. Salespeople exhibit more adaptive selling behaviors when they use different sales presentations across sales encounters and when they adjust their approach during encounters [33]. As salespeople face unique opportunities to adapt to each customer and each sales situation, they must work smarter by choosing approaches that are appropriate for particular customers [34].

### 2.4. *Learning climate and customer knowledge*

Continuous knowledge expansion is often accomplished through education, training, job rotation and creative experimentation of all employees [46]. However, customer knowledge is hard to formalize and communicate in formal, systematic language, and organizational socialization processes are therefore often

employed to transit these values to employees [40]. During the process of organizational socialization, employees engage in sense-making activities in order to understand organizational norms, policies, and procedures; they have also been integrated into the organizational climate [18]. To meet the organization’s norms and values underlying the organizational climate, employees have to develop some strategies or modify their behaviors to get the work done. The existing literature offers support for the role of learning climate as being important to knowledge management practices [24]. A high learning climate, which provides strong norms for employees to develop and share customers’ information as well as strategies to serve customers can be one of the mechanisms for helping employees understand what the organization expects of them in their organizational roles and develop the necessary knowledge to achieve organizational goals. In this regard, when salespersons perceive a high learning climate, they sense the need to focus their time and energy on developing and acquiring sales-related skills and knowledge about the characteristics of different customer types and the strategies for dealing with varying customer needs and situations. Therefore, we propose that:

**Hypothesis 1:** A high learning climate is positively related to salespeople’s customer knowledge.

### 2.5. *Customer knowledge and adaptive selling behaviors*

Successful selling requires detailed knowledge about different types of sales situations and customers, and salespeople also need to have a repertoire of selling knowledge concerning which strategy is best suited for each specific sales situation [35]. A salesperson’s knowledge about customers’ expectations and needs should facilitate his or her willingness to serve the customers’ interest in the varying sales situations. In general, salespeople need to categorize their customers and proactively develop appropriate behaviors to serve each customer [37]. Salespeople who have a rich understanding of customer traits will become more effective at classifying customers into appropriate categories so that they can consolidate information about customer types into meaningful categories to help them display more adaptive selling behaviors to respond to customers’ needs. Salespeople who have higher levels of strategy richness can also better know what should be done and develop a rich repertoire of useful ways for interacting with specific customer types.

This repertoire should increase salespeople's adaptive-ness and responsiveness to meet customers' needs and interests. Therefore, we propose that:

**Hypothesis 2:** Salespeople's customer knowledge is positively related to the display of adaptive selling behaviors.

### 2.6. Learning climate and adaptive selling behaviors

Sales researchers have emphasized the importance of the organizational climate in supporting customer-focused or adaptive selling behaviors [25, 41] as this climate provides a means for informing employees about the activities and behaviors necessary for an effective service encounter during the process of organizational socialization [21]. Prior research has provided evidence that salespeople are motivated by organizational learning orientation to engage in smart behavior (i.e., adaptive selling behaviors) [36]. As such, when salespersons perceive a high learning climate, they are more willing to utilize what they learn about customer needs and expectations to display adaptive selling behaviors. Therefore, we propose that:

**Hypothesis 3:** A high learning climate is positively related to salespeople's adaptive selling behaviors.

### 2.7. The mediating role of customer knowledge

As customer knowledge can positively relate to salespeople's adaptive selling behaviors, it is of considerable interest to understand whether customer knowledge plays a key role as a mediating construct between organizational climate and employee behaviors. Within a high learning climate, salespeople would more clearly understand what is expected of them and get more accustomed to meeting the role requirements. In this regard, when salespeople perceive a high learning climate, they can better learn and utilize the necessary customer-related knowledge to serve customers' needs and interests. Therefore, we propose that:

**Hypothesis 4:** Salespeople's customer knowledge mediates the positive relationship between the learning climate and adaptive selling behaviors.

Figure 1 illustrates the relationships specified in the study hypotheses. The model demonstrates the relationships between the variables at two different levels: the store level (learning climate) and the salesperson level (customer knowledge and adaptive selling behaviors).

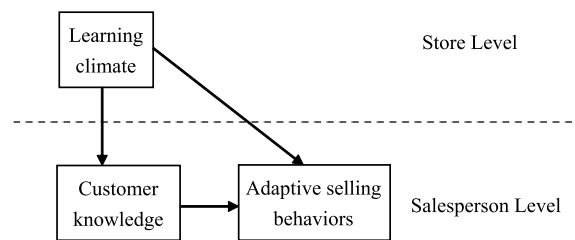


Fig. 1. Hypothesized Model.

## 3. Methods

### 3.1. Procedure

The hypothesized relationships depicted in Fig. 1 were tested using data collected from consumer electronics and appliances stores located in Taiwan. The management of 35 stores was asked to give permission for the research team to collect data from 420 salespeople working in the 35 stores.

After we visited the stores, we told salespeople that all the participation was voluntary, and they were assured of anonymity and confidentiality. The questionnaire contained items that assessed the salespeople's perception of learning climate, customer knowledge and their display of adaptive selling behaviors. If the salesperson agreed, he or she was given a questionnaire to fill out in a separate room in the store. We waited outside the room, collected the completed questionnaire, and gave gift certificates to the respondents.

### 3.2. Sample

Among the 420 salespeople, 378 salespeople agreed to participate in the study. We obtained usable data from 350 salespeople, corresponding to a response rate of 83 percent. This final sample of salespeople averaged 28.6 years in age ( $SD = 3.51$ ), and have been employed by the organization for an average of 3.97 years ( $SD = 2.17$ ). Males represented 66 percent of the employee sample, while 32 percent graduated from high school.

### 3.3. Measures

#### 3.3.1. Learning climate

Learning climate was measured using six items adapted from Cutcher-Gershenfeld's [8] learning climate scale. The salespeople were asked to apply a 7-point Likert scale (strongly disagree to strongly agree) to indicate their perceptions about the learning

climate in their stores. Aspects included such items as "Employees have the opportunity to learn new skills." Salespeople responded to the six items, with high scores representing a high learning climate (*Cronbach's*  $\alpha = 0.94$ ).

Climate is formed via a bottom-up emergence process [20]. It has theorized and tested in the literature at the work-unit level of analysis [30]. This study thus aggregated learning climate perceptions of individual salespersons at the store level to form a measure of the learning climate. Following recommendations regarding multilevel research [27], we investigated the degree to which these perceptions were shared within each of the six items. Investigating within-group agreement ( $r_{wg}$ ) with a uniform distribution revealed acceptable levels of agreement (average  $r_{wg} = 0.93$ ). In addition, interclass correlations (ICCs) appear as follows: ICC (1) was 0.17, ICC (2) was 0.75, and there was significance between-group variance in the learning climate ( $F = 4.96$ ,  $p < 0.01$ ). Thus, there were acceptable levels of within-group agreement ( $r_{wg}$ ) and ICC (1), as well as a reliable mean score (i.e., ICC [2]). Given these findings, this study could aggregate the salesperson responses to form a single leaning climate score for each store.

### 3.3.2. Customer knowledge

We used the five items developed by Bettencourt et al. [4] to measure salespeople's customer knowledge. All items were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores denoting a higher level of customer knowledge (*Cronbach's*  $\alpha = 0.84$ ).

### 3.3.3. Adaptive selling behavior

The measures of adaptive selling behavior were adapted from the scale of service-offering adaptive behavior [14]. The salespeople were asked to report their exhibition of adaptive selling behavior using 7-point Likert scale (strongly disagree to strongly agree), with higher scores denoting more display of adaptive selling behaviors (*Cronbach's*  $\alpha = 0.89$ ).

### 3.3.4. Control variables

Several control variables were included in this statistical analysis to reduce the possibility of spurious relationships based on unmeasured variables. Employee gender and level of education are commonly specified control variables in studies of work-related behaviors [16, 39]. In this current study, participating salespeople reported on gender (0 = female, 1 = male)

and level of education (0 = high school, 1 = college or above). The study also used the years since the store was founded as one control variable for the store-level because employees' perceptions of learning climate may vary with time.

## 3.4. Validity and reliability

Construct reliabilities of the scales used in this study were tested using Cronbach's  $\alpha$ , and the coefficients of all measures were higher than 0.75, which indicated acceptable reliability. Based on these results, we concluded that these measures were unidimensional and reliable.

To examine the convergent validity, a three-construct measurement model that consisted of a six-item learning climate factor, a five-item customer knowledge factor, and a three-item adaptive-selling-behavior factor. The results of confirmatory factor analysis (CFA) provided a reasonable fit to the data ( $\chi^2 = 425.34$ ,  $p < 0.01$ ; CFI = 0.97, NNFI = 0.98, RMSEA = 0.04). All the standardized factor loadings exceeded 0.67 and were significant ( $p < 0.01$ ), providing clear evidence of convergent validity.

## 4. Analysis and discussion

### 4.1. Descriptive statistics and correlation analysis

Table 1 presents descriptive statistics, internal consistency reliabilities, and inter-correlations of all the study variables. All measures show high internal reliabilities, with coefficient alphas ranging from 0.84 to 0.94. The pattern of correlations was consistent with the hypothesized relationships. That is, learning climate had a significant positive relationship statistically with the potential mediator, customer knowledge ( $r = 0.352$ ,  $p < 0.01$ ), and with adaptive selling behaviors ( $r = 0.169$ ,  $p < 0.05$ ). Also, customer knowledge

Table 1  
Means, Standard Deviations, and Intercorrelations

| Variable                      | Mean  | S.D.  | 1       | 2       | 3      |
|-------------------------------|-------|-------|---------|---------|--------|
| 1. Learning climate           | 4.936 | 1.032 | (0.94)  |         |        |
| 2. Customer knowledge         | 5.442 | 0.829 | 0.352** | (0.84)  |        |
| 3. Adaptive selling behaviors | 5.156 | 1.119 | 0.169*  | 0.231** | (0.89) |

Note.  $N = 350$ . Alpha reliabilities are reported on the diagonal. \* $p < 0.05$ ; \*\* $p < 0.01$ .

Table 2  
Results of HLM Analysis

| Dependent variable          | Hypothesis 1                | Hypothesis 2                | Hypothesis 3                | Hypothesis 4                |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                             | Customer knowledge          | Adaptive selling behaviors  | Adaptive selling behaviors  | Adaptive selling behaviors  |
|                             | $\gamma$ coefficient (S.E.) | $\gamma$ coefficient (S.E.) | $\gamma$ coefficient (S.E.) | $\gamma$ coefficient (S.E.) |
| <i>Salesperson-level</i>    |                             |                             |                             |                             |
| Customer knowledge          |                             | 0.178** (0.025)             |                             | 0.168** (0.024)             |
| Salesperson gender          | 0.073 (0.098)               | -0.021 (0.054)              | 0.066 (0.102)               | -0.017 (0.055)              |
| Salesperson education level | -0.227* (0.077)             | -0.088 (0.046)              | -0.249* (0.080)             | -0.074 (0.045)              |
| <i>Store-level</i>          |                             |                             |                             |                             |
| Learning climate            | 0.268** (0.053)             |                             | 0.203** (0.054)             | 0.074* (0.023)              |
| Years since establishment   | 0.001 (0.001)               | 0.001 (0.001)               | 0.001 (0.001)               | 0.001 (0.001)               |

Note.  $N=35$  for store-level,  $N=350$  for salesperson-level \* $p < 0.01$ ; \*\* $p < 0.001$ .

had a statistically significant positive relationship with adaptive selling behaviors ( $r=0.231$ ,  $p < 0.01$ ).

#### 4.2. HLM analysis

The data in the present study are multilevel in nature for learning climate at the store level of analysis and salespeople's customer knowledge and adaptive selling behaviors at the individual level. The most appropriate analytical method then is the one that takes into account a multilevel data structure. Thus, the primary analytical technique is hierarchical linear modelling (HLM) [5], which allows the integration of hypothesized influences of one level of organizational hierarchy with another level (learning climate on customer knowledge) with influences within a given level of organizational hierarchy (customer knowledge on adaptive selling behaviors). HLM also allows for the simultaneous processing of data from the two levels without losing important information.

Table 2 shows the HLM models used to test our predictions. Expanding on the work of Hofmann et al. [16], here we report on a series of models that represent the steps necessary to test cross-level mediation [3]. According to Hypotheses 1, we expected a positive relationship between learning climate and salespeople's customer knowledge. The HLM results showed that learning climate had a significant positive relationship with customer knowledge ( $\gamma=0.268$ ,  $p < 0.001$ ), thereby supporting Hypothesis 1.

Hypothesis 2 predicted that customer knowledge would be positively related to adaptive selling behaviors. Consistent with this prediction, the data indicated that customer knowledge had a significant positive

relationship with adaptive selling behaviors ( $\gamma=0.178$ ,  $p < 0.001$ ). Thus, Hypothesis 2 was supported.

Hypothesis 3 predicted the positive relationship between learning climate and adaptive selling behaviors; as the results of the HLM analysis showed that the learning climate was positively associated with adaptive selling behaviors ( $\gamma=0.203$ ,  $p < 0.001$ ). Thus, Hypothesis 3 was supported.

Hypotheses 4 predicted that customer knowledge would mediate the relationship between the learning climate and adaptive selling behaviors. Given the results of the tests of Hypotheses 1 through 3, the preconditions for mediation were supported [3]. In the final step, if the initially significant relationship we found between learning climate and adaptive selling behaviors diminished after customer knowledge was added to the equation, it would provide support for mediation. Therefore, we added customer knowledge to the model in which learning climate predicted adaptive selling behaviors. The results showed that the initially significant effect of learning climate on adaptive selling behaviors was reduced after adding customer knowledge; in addition, this effect still reached statistical significance ( $\gamma=0.074$ ,  $p < 0.01$ ). These findings indicate that the inclusion of customer knowledge in the final equation reduced the effect of learning climate on adaptive selling behaviors, thereby supporting Hypotheses 4.

#### 4.3. Sobel's test

Sobel's test was conducted to approximate the significance of the indirect effect. Krull and MacKinnon [23] demonstrated that the test can be used to test

mediation in multilevel models. Following Sobel's [32] suggestions, we calculated the ratio of the indirect effect to the direct effect. These results indicated that the indirect effect of learning climate on adaptive selling behaviors was approximately 3.20 times the size of the direct effect when customer knowledge was controlled ( $z = 3.20, p < 0.01$ ). Hence, customer knowledge partially mediated the relationship between learning climate and adaptive selling behaviors.

## 5. Conclusions and suggestions

### 5.1. Conclusions

The foundation of organizational socialization theory provides theoretical explanations for the important effect that learning climate can have on salespeople's display of adaptive selling in sales contexts. The current study empirically tested and found support for the relationship between learning climate and salespeople's customer knowledge. These findings confirm the importance of the learning climate as the basis of the knowledge management perspective [17]. One possibility is that the existence of certain work environment characteristics might facilitate and encourage knowledge generation, knowledge sharing, and knowledge application [1]. For the service organization to benefit most from employees' knowledge about customers, customer knowledge must be developed via educational activities that promote widespread learning while minimizing the likelihood of wasting resources to solve the same problem over and over [15]. Hence, learning climate can be viewed as an important organizational attribute that will encourage the development of customer-related job knowledge.

In addition, the importance of salespeople's customer knowledge was confirmed in this study in terms of its effect on adaptive selling behaviors. From the perspective of knowledge management, salespeople utilize their knowledge to decrease their cognitive effort and uncertainty about which sales strategy to use [42]. Consistent with previous research [4], our findings indicate that customer knowledge is a key predictor of service employees' work behaviors. In the current study, salespeople recommend electronics and appliances products to customers and help customers solve problems. The wide variety of customer situations and services offered by these consumer electronics and appliances stores might increase the importance of customer knowledge when recommending electronics products and provid-

ing related service as well as when identifying solutions to deal with customers' needs. Thus, a rich understanding of customer types and interaction strategies appears to provide salespeople a useful way to help customers deal with problems by exhibiting adaptive selling behaviors.

In addition to providing empirical support to the argument that learning climate directly influences adaptive selling behaviors, our findings provide another avenue for the relationship between learning climate and adaptive selling behaviors. We found that customer knowledge played a mediating role in the relationship between learning climate and adaptive selling behaviors. Moreover, the size of the indirect effect was larger than that for the direct effect. As a result, adaptive selling behaviors cannot be directly attributed to learning climate only. Instead, the learning climate generates greater effects on adaptive selling behaviors via salespeople's development and integration of customer knowledge during the actual service process. The possible reasoning behind the relationship between learning climate and adaptive selling behaviors is that the meaning service employees attach to the learning climate in which they work serves as implicit input to employees concerning the importance of learning about tasks as something requiring their attention. Having a workforce with a high level of adaptiveness and responsiveness is especially important for a firm in the sales context [22]. During the socialization process, a high learning climate emphasizing adaptiveness and responsiveness can help ensure that salespeople learn about customers and develop customer-related job knowledge in order to be able to perform the adaptive selling behaviors expected by the organization.

### 5.2. Practical suggestions

Our research has several practical suggestions related to the management of salespeople. First, our research demonstrates the relevance of the learning climate in ensuring that salespeople display adaptive selling behaviors, and the results suggest the need to establish a high learning climate to help salespeople realize the importance of adaptive selling behaviors. By conveying organizational values through the organizational socialization process, employees understand what is important to the organization; as a result, consistent and appropriate perceptions of the climate will occur among employees. Therefore, organizations should make extensive efforts to provide role-modeling behaviors and practices related to learning as well as design

and provide opportunities and incentives to encourage salespeople to learn skills and increase their knowledge about customers. In addition, managers hoping to enhance salespeople's adaptive selling behaviors should make salespeople aware of the benefits of adaptive selling behaviors in improving the comparative ease of selling and develop training programs in order to socialize their salespeople toward the values of adaptive-to-customer needs.

Second, this current study demonstrates the relevance of customer knowledge to adaptive selling behaviors. Due to the variety and diversity of customers' preferences, customers' needs and wants are not only defined by second-hand information gathered from managers with limited knowledge about customers. Instead, organizations should encourage salespeople to actively endeavor to collect, analyze, disseminate, and act on information about customers' needs and wants. In addition, managers should take definitive actions to design on-the-job training practices to encourage communication and knowledge transfer among salespeople. In particular, apprenticeship programs that stress situated learning can have experienced salespeople instruct less experienced salespeople on how to recognize customer traits and which service behaviors and interactions are most appropriate for specific customer categories.

### 5.3. Limitations

This study faced several limitations. First, there exists some possibility of response biases occurring, such as social desirability, acquiescence, and leniency effect. Taiwanese are more likely to have collectivistic cultural values than individuals from western countries, which may produce some systematic biases in responses to measures. Second, the study took only a snapshot of salespeople and was unable to follow these individuals over a longer period of time. Considering that employees' perceptions of the learning climate are not static, a cross-sectional research design does not offer nearly the same insights into the dynamics of interactions between salespeople and customers as a longitudinal design would. As such, a longitudinal design would offer greater insights into this issue in the future.

### 5.4. Research contributions

This study makes two primary contributions to the field of literature. First, while several studies have examined the benefits of organizational learning at the organization level [19, 38], we focus on aggregated indi-

vidual's perception of the learning climate and conduct cross-level analysis in order to suggest how the learning climate at the organization level affects adaptive selling behaviors at the individual level. Our results also point to the indirect but significant relationship between the learning climate and adaptive selling behaviors, giving credence to the notion that the learning climate creates business value through the socialization process and providing a more complete view of the intangible benefits that can be won from a high learning climate.

A second contribution is that our study points to salespeople's customer knowledge as one of the mediating mechanisms that explains the association between learning climate and adaptive selling behaviors. Although researchers have argued that there is a mediator between learning climate and adaptive selling behavior [41], our results provided another avenue to explain how learning climate influences salespeople's display of adaptive selling behaviors via customer knowledge.

### Acknowledgments

This research was funded by National Science Council in Taiwan with Project ID: NSC- 98-2410-H-023-049-.

### References

- [1] I.A. Al-Alawi, Y.N. Al-Marzooqi and F.Y. Mohammed, Organizational culture and knowledge sharing: Critical success factors, *Journal of Knowledge Management* **11**(2) (2007), 22–42.
- [2] J.M. Baker and W.E. Sinkula, The synergetic effect of market orientation and learning orientation on organizational performance, *Journal of the Academy of Marketing Science* **27**(1) (1999), 411–427.
- [3] R.M. Baron and D.A. Kenny, The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology* **51**(6) (1986), 1173–1182.
- [4] L.A. Bettencourt, K.P. Gwinner and M.L. Meuter, A comparison of attitude, personality, and knowledge predictors of service-oriented organizational citizenship behaviors, *Journal of Applied Psychology* **86**(1) (2001), 29–41.
- [5] A.S. Bryk and S.W. Raudenbush, *Hierarchical linear models*, Sage, Newbury Park, 1992.
- [6] B. Choi and H. Lee, Knowledge management strategy and its link to knowledge creation process, *Expert Systems with Applications* **23**(3) (2002), 173–187.
- [7] J.B. Cohen and K. Basu, Alternative models of categorization: Toward a contingent processing framework, *Journal of Consumer Research* **13**(4) (1987), 455–472.



- [8] J. Cutcher-Gershenfeld, *Lean Transformation in the U.S. Aerospace Industry: Appreciating Interdependent Social and Technical Systems*, Center for Technology, Policy and Industrial Development, MIT, Cambridge 2003.
- [9] J. Darroch and R. McNaughton, Beyond market orientation: Knowledge management and the innovativeness of New Zealand firms, *European Journal of Marketing* **37**(3/4) (2003), 572–593.
- [10] M. Dasgupta and R.K. Gupta, Innovation in organizations—A review of the role of organizational learning and knowledge management, *Global Business Review* **10**(2) (2009), 203–224.
- [11] T.H. Davenport, D. Long and M.C. Beers, Successful knowledge management projects, *Sloan Management Review* **39**(2) (1998), 43–57.
- [12] A.C. Edmondson and B. Moingeon, From organizational learning to the learning organization, *Management Learning* **29**(1) (1998), 5–20.
- [13] G.R. Franke and J.E. Park, Salesperson adaptive selling behavior and customer orientation: A meta-analysis, *Journal of Marketing Research* **43**(3) (2006), 693–702.
- [14] K.P. Gwinner, M.J. Bitner, S.W. Brown and A. Kumar, Service customization through employee adaptiveness, *Journal of Service Research* **8**(2) (2005), 131–148.
- [15] P. Hendriks, Why share knowledge? The influence of ICT on the motivation for knowledge sharing, *Knowledge and Process Management* **6**(2) (1999), 91–100.
- [16] D.A. Hofmann, F.P. Morgeson and S.J. Gerras, Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate and exemplar, *Journal of Applied Psychology* **88**(1) (2003), 170–178.
- [17] G.P. Huber, Organizational learning: The contributing process and literature, in: *Organization Learning*, Cohen, M.D. and Sproull, L.S. Eds., Sage, Newbury Park, 1991, pp. 124–153.
- [18] F.M. Jablin, Organizational communication: An assimilation approach, in: *Organizational Communication: An Assimilation Approach*, Roloff, M.E. and Berger, C.R. Eds., Sage, Newbury Park, 1982, pp. 255–286.
- [19] D. Jiménez-Jimenez, R.S. Valle and M. Hernandez-Espallardo, Fostering innovation: The role of market orientation and organizational learning, *European Journal of Innovation Management* **11**(3) (2008), 389–412.
- [20] S.W.J. Kozlowski and K.J. Klein, A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes, in: *Multilevel Theory, Research, and Methods in Organizations*, Klein, K.J. and Kozlowski, S.W.J. Eds., Jossey-Bass, San Francisco, 2000, pp. 3–90.
- [21] S.W. Kelley, S.J. Skinner and J.H. Donnelly, Organization socialization of customers, *Journal of Business Research* **25**(3) (1992), 197–214.
- [22] A.K. Kohli and B.J. Jaworski, Market orientation: The construct, research propositions, and managerial implications, *Journal of Marketing* **54**(2) (1990), 1–18.
- [23] J.L. Krull and D.P. MacKinnon, Multilevel modeling of individual and group level mediated effects, *Multivariate Behavioral Research* **32**(2) (2001), 249–277.
- [24] H. Lee and B. Choi, Knowledge management enablers, process, and organizational performance: An integrative view and empirical examination, *Journal of Management Information Systems* **20**(1) (2003), 179–228.
- [25] C.A. Martin and A.J. Bush, The potential influence of organizational and personal variables on customer-oriented selling, *Journal of Business & Industrial Marketing* **18**(2) (2003), 114–132.
- [26] V.J. Marsick and K.E. Watkins, Demonstrating the value of an organization's learning culture: The dimensions of the learning organization questionnaire, *Advances in Developing Human Resources* **5**(2) (2003), 132–151.
- [27] F.P. Morgeson and D.A. Hofmann, The structure and function of collective constructs: Implications for multilevel research and theory development, *Academy of Management Review* **24**(2) (1999), 249–265.
- [28] S.J. Motowidlo, W.C. Borman and M.J. Schmit, A theory of individual differences in task and contextual performance, *Human Performance* **10**(2) (1997), 71–73.
- [29] S. Popadiuk and C.W. Choo, Innovation and knowledge creation: How are these concepts related? *International Journal of Information Management* **26**(4) (2006), 302–312.
- [30] B. Schneider, The climate for service: An application of the climate construct, in *Organizational Climate and Culture*, B. Schneider Ed., Jossey-Bass, San Francisco, 1990, pp. 383–412.
- [31] B. Schneider, S.S. White and M.C. Paul, Linking service climate and customer perceptions of service quality: Test of a causal model, *Journal of Applied Psychology* **83**(2) (1998), 150–163.
- [32] M.E. Sobel, Asymptotic confidence intervals for indirect effects in structural equation models, in *Sociological Methodology*, S. Leinhardt Ed., American Sociological Association, Washington, 1982, pp. 290–312.
- [33] R.S. Spiro and B.A. Weitz, Adaptive selling: Conceptualization, measurement, and nomological validity, *Journal of Marketing Research* **27**(1) (1990), 61–69.
- [34] H. Sujan, Smarter versus harder: An exploratory attributional analysis of salespeople's motivation, *Journal of Marketing Research* **23**(1) (1986), 41–49.
- [35] H. Sujan, M. Sujan and J.R. Bettman, Knowledge structure differences between more effective and less effective salespeople, *Journal of Marketing Research* **25**(1) (1988), 81–86.
- [36] H. Sujan, B. Weitz and N. Kumar, Learning orientation, working smart, and effective selling, *Journal of Marketing* **58**(3) (1994), 39–52.
- [37] D.M. Szymanski, Determinants of selling effectiveness: The importance of declarative knowledge to personal selling concept, *Journal of Marketing* **52**(1) (1988), 64–77.
- [38] M.J. Tippins and R.S. Sohi, IT competency and firm performance: Is organizational learning a missing link, *Strategic Management Journal* **24**(8) (2003), 745–761.
- [39] N. Turner, N. Chmiel and M. Walls, Job demands, job control, and safety OCB role definition, *Journal of Occupational Health Psychology* **10**(4) (2005), 504–512.
- [40] D.L. Turnipseed and P.H. Turnipseed, Assessing organizational climate: Exploratory results with a new diagnostic model, *Leadership & Organization Development Journal* **13**(5) (1992), 7–14.
- [41] M. Wang, How does the learning climate affect customer satisfaction? *The Service Industries Journal* **32**(8) (2012), 1283–1303.
- [42] B.A. Weitz, H. Sujan and M. Sujan, Knowledge, motivation, and adaptive behavior: A framework for improving selling effectiveness, *Journal of Marketing* **50**(4) (1986), 174–191.

- [43] M. West and M. Wallace, Innovation in health care teams, *European Journal of Social Psychology* **21**(4) (1991), 303–315.
- [44] M. Zeleny, Management support systems: Towards integrated knowledge management, *Human Systems Management* **7**(1) (1987), 59–70.
- [45] M. Zeleny, Knowledge as a new form of capital, Part 1: Division and reintegration of knowledge, *Human Systems Management* **8**(1) (1989), 45–58.
- [46] M. Zeleny, Knowledge as a new form of capital, Part 2: Knowledge-based management systems, *Human Systems Management* **8**(2) (1989), 129–143.
- [47] M. Zeleny, Customer-specific value chain: Beyond mass customization? *Human Systems Management* **15**(2) (1996), 93–97.
- [48] M. Zeleny, *Human Systems Management: Integrating Knowledge, Management and Systems*, World Scientific, Hackensack, 2005.
- [49] M. Zeleny, From knowledge to wisdom: On being informed and knowledgeable, becoming wise and ethical, *International Journal of Information Technology & Decision Making* **4**(5) (2006), 751–762.
- [50] L. Zhang, J. Li, Y. Shi and X. Liu, Foundations of intelligent knowledge management, *Human Systems Management* **28**(4) (2009), 145–161.