Information technology customer aggression: The importance of an organizational climate of support

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A R T I C L E   I N F O

A B S T R A C T

Information technology personnel are often ill prepared to react in a positive fashion to the aggressive communications from their customers, the users. Being able to regulate the emotions spiked by aggressive customer behavior is important to the long term health and retention of IT employees. Surface acting responses, the ability to display false emotions to mask strong emotions, is common, but not better for the long term health of the individual or organization. Deep acting responses, where emotional responses are modified to encourage expected behavior, are the better response and can be promoted with an organizational climate of support. A model derived from emotion response theory demonstrates these relationships hold for IT employees, who tend to be more introverted than most employees and often react differently to aggressive communication from customers. The model is verified with a sample of IT employees in Taiwan companies. Organizations should provide a climate of support for IT personnel and train them on how to respond appropriately to customer aggression through emotion regulation strategies in a direction that promotes better relationships.

1. Introduction

Facing rapid changes and advances in information technologies (IT), IT professionals are expected not only to have the technical skills, but also the customer service expertise in order to survive in the highly competitive industry [25,26]. Service providers in other industries such as flight attendants and front desk employees in hotels are usually well trained for their jobs in dealing with people and on better serving customers. However, IT professionals are usually better trained in dealing with computers instead of human beings. Studies show that exceptional IT student recruits are introverted, suggesting that these new IT professionals in the field tend to enjoy working alone and may get overwhelmed with too much social interaction [7,31]. In other words, they may not have

the desire to interact with customers, especially to deal with those frustrated and irritated [22].

In the era of emphasizing service quality and customer satisfaction, IT professionals, when viewed as service providers, are expected not only to have up-to-date technical skills and domain knowledge, but also provide quality service to satisfy their customers [29]. The need for frequent interaction with customers (both internal and external) requires these IT service providers display regulated emotions, especially facing impatient, angry and argumentative customers [10]. Researchers have called for studies in so-called high emotional labor jobs [8,21]. One recent study showed that 20% of work incidents specifically challenging to IT professionals were managing clients [19]. Thus, when interfacing with customers, emotion regulation strategies become essential in their daily work.

When IT professionals face negative emotional events, how do they respond to the situation emotionally? According to emotion regulation theory, when a person faces an emotional situation, different regulating strategies will be adopted with different responses and outcomes. In IT related jobs, there are expectations on what 'appropriate' observable emotions toward customers are, which is viewed as emotional labor [31]. Emotional labor may involve suppressing or faking emotions that bring stress and

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mental effort to the service providers. The traditional view of the workplace as a rational environment may not be the most productive: workplace emotions are good predictors of individual and organizational outcomes [2,11]. In addition, inappropriate emotional management leads to negative effects on psychological well-being, such as job satisfaction [33].

This study begins an examination of how IT professionals regulate their emotions when facing negative emotional situations and any effect on job performance. This issue is important because of a lack of studies focusing on the antecedents applying to the IT professional context [20]. Further, this study intends to understand what roles an organization plays in supporting valuable human resources in the face of angry customers. Specifically, the following three questions are considered: (1) what emotion regulation strategies are employed when IT professionals face verbal aggression from customers?; (2) How do different emotion regulation strategies affect the IT professionals' job satisfaction; and (3) Does an organizational climate of support play a role in helping IT professionals counter the stressful circumstances from aggressive customers? Being able to adopt the right emotion regulation strategy helps IT professionals better cope with highly stressful and demanding job aspects, and result in greater job satisfaction.

2. Background

According to emotion regulation theory, regulatory processes are defined as "the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" [12]. Fig. 1 shows the process model of emotion regulation. This input–output model illustrates that when a person faces a situation (emotional cues), he or she responds to the situation regulated by either the antecedent-focused emotion or the response-focused emotion. Antecedent-focused emotion regulation occurs before an emotion is generated, while response-focused emotion regulation occurs after the emotion is generated [12].

IT professionals are service providers who frequently interact with internal and/or external customers. When they are facing upset customers, they are usually trained to solve technically-focused problems. However, they may not know how to manage their internal emotions when this kind of unpleasant situation occurs from the customers and the consequences of regulating emotions differently. Emotion regulation processes consume great mental effort and possibly cause emotional dissonance in the form of emotional labor, a recognized state of tension [4]. Emotional labor is "the management of feeling to create a publicly observable facial and bodily display" while in the job role and responding to organizational demands [17]. Employees exerting high emotional labor are usually in jobs that require interpersonal contact. Emotion regulation theory suggests that individuals regulate emotions at different points in the emotion process. Because of their job requirements, companies expect employees to control their emotional responses, such as anger and sadness, and their

following behavior, such as complaining and crying. In this case, emotional labor is required to regulate an employee's emotions when their direct emotions toward a situation do not reach organizational expectations of job roles.

2.1. Customer aggression

When customers are upset with the services provided, dissatisfaction or anger may occur, often accompanied by aggressive words or behaviors to the service providers. In addition to solving the technical problems for the services provided, IT professionals need to manage and regulate their emotions in response to the customer's aggression according to the expectations of the job. Customer aggression can manifest through communications of anger that violate social norms [10]. Studies showed that customer aggression can be viewed as an essential cause of stress due to hassles of daily work [35]. While stress occurring in the work place will induce emotional arousal [32], employees need to regulate their emotions in order to decrease negative emotions and increase positive emotions [12]. Studies showed that frequent customer aggression also lead to burnout and emotional exhaustion by inducing stress [10].

2.2. Emotional labor

When IT service providers are facing stressful or unpleasant situations, they need to deal with the unpleasant feelings and react according to the expectation for emotional expression. When managing emotions as part of a paid position, this is termed *emotional labor* [17]. Emotional labor is the process of regulating both feelings and expressions for the organizational goals [9]. Two main ways for employees to manage emotions include (1) surface acting, where one changes behaviors by suppressing and managing observable expressions, and (2) deep acting, where one changes and manages internal feelings in order to express the desired emotion. These correspond to the two emotion regulation strategies from emotion regulation theory, namely antecedent-focused emotion regulation and response-focused emotion regulation respectively [4]. The wording 'acting' is used as one's job can be viewed from the dramaturgical perception of customer interactions, in which customers are the audiences, employees providing services (service providers) are the actors, and the work context is the stage.

Surface acting refers to employees responding to a situation by modifying and controlling their emotional expressions (managing observable expressions). Deep acting refers to employees responding to a situation with their feelings being managed consciously in order to express the desired emotion (managing feelings). Studies show that emotional labor may improve work outcomes (both individual and organizational outcomes) but be detrimental to employees and organizational longer term wellbeing [17].

2.3. Organizational climate of support

When employees face stressful or tough situations, one source of assistance is the organization. Organizational support impacts employees on how they face their daily work intellectually and emotionally. It plays a role in an employees' well-being, such as a workers' health and job satisfaction [26]. A supportive climate is considered as the subjective perception of support received from the organization where the employees work, focusing on the vertical and lateral support from supervisors and coworkers [24]. The organizational climate is a subjective perception of the support environment by the employees. How employees perceive the organization they work for supports their job will affect their work performance such as productivity and satisfaction.
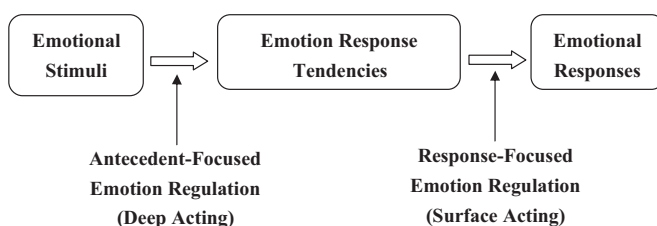

Fig. 1. A process model of emotion regulation. (Adapted from [12]).

A common concern is the role that organizations play in the support of employee safety. However, recent studies found that organizational support also plays a role in psychological injury, such as supporting the IT professionals in dealing with stress that arose from mistreatment or aggression due to performing the job [1]. Support from the social environment is especially important when individuals are exposed to stress where social support serves as a buffer. In return, the employees are better equipped emotionally and generate more positive feelings and behaviors toward their job [35].

2.4. Job satisfaction

One of the long-term consequences for IT professionals facing mental and emotional consuming situations is job satisfaction. Job satisfaction is defined as an employee's sentimental appraisal of the job [13]. Job satisfaction is related to turnover intention, which is one of the continual problems in the IT workforce and has created a 'turnover' culture in the IT field [18,28]. Given the high level of IS job stress in most organizations, IT professionals who are able to deal with stress are predicted to have higher job satisfaction [31].

3. Research model and hypotheses

Fig. 2 shows the proposed research model of this study. This model is based on the emotion regulation model [9] in which the situational cues affect the emotion regulation process and generate long term consequences. In this model, the emotional negative event is customer aggression toward the IT professional, which affects two emotional regulating strategies (deep acting and surface acting). Different emotional regulating strategies will generate various effects on job satisfaction. Job satisfaction is also affected by organizational climate of support, which is proposed to moderate the relationship between the negative emotional event and emotional labor.

3.1. Customer aggression and emotional labor

Emotional labor theorists suggest that factors affecting emotional labor are generated from an interaction with people. One example is interacting with customers, including face-to-face interaction, voice contact, and written contact [9]. Since one of the job characteristics of IT professionals is providing IT services to their customers, whether internally or externally, interactions with customers are frequent. Complaints, negative comments, customer dissatisfaction and verbal aggression from customers can affect the emotional state of IT employees significantly. In order to maintain the expected 'professional' appearance and responses at work, emotional events at work may lead to more emotional labor toward customers [3]. Deep and surface acting represent the two

Fig. 2. Proposed research model.

emotion regulating strategies requiring emotional labor. Both deep acting and surface acting are the attempts to display certain accepted or expected emotions or behaviors required by the job [9].

When IT service providers experience verbal aggression from customers creating stressful or unpleasant situations, they need to deal with the unpleasant feelings and react according to the expectation for emotional expression. Thus, in order to react to the angry customers according to the display rules, IT service providers will need to adjust their emotional status (stressful or unpleasant feelings caused by the customer verbal aggression) and perform emotional labor (deep acting or surface acting) toward the angry or complaining customers appropriately. When the IT service provider tries to view the situation from the perspective of his/her customer in order to reduce feeling of frustration toward that person's complaint, he/she is adopting the deep acting strategy, which is the antecedent-focused regulation. Deep acting modifies his/her own perception before displaying more genuine emotion toward customers. When the IT service provider pretends to be enthusiastic about the customer complaint but disagrees with the customer, the provider is adopting a surface acting strategy. Surface acting suppresses or fakes the emotion in order to display the accepted behavior required by the job [9].

Whether the service provider chooses deep acting or surface acting strategies depends on the perceived interpersonal injustice from the customers and the cognitive skill to understand other points of view [30]. But no matter what, more emotional labor will be required when IT employees face stressful and mentally demanding situations due to customer aggression. Thus, we propose:

H1a. The levels of customer aggression experienced by the individual IT professional will positively affect the levels of deep acting adopted by the IT professional.

H1b. The levels of customer aggression experienced by the individual IT professional will positively affect the levels of surface acting adopted by the IT professional.

3.2. Emotional labor and job satisfaction

When facing customer aggression, different emotion regulation strategies (deep acting and surface acting) adopted by service providers also have different effects on the service providers. When an IT service provider adopts a deep acting strategy, he/she tries to understand from the perspective of the customers so as to change his/her own perception before the emotion is displayed outwardly. Deep acting helps the IT service provider buffer against the negative mood and stress generated from customer aggression. Thus, the emotion displayed tends to be more sincere, which increases the chance of job satisfaction. This will not only preserve the sense of authenticity of the IT service providers but also increase the sense of accomplishment by satisfying customers' needs. Studies showed that employees adopting deep acting as their emotion regulation strategy by expressing their true feeling when facing interpersonal conflicts or verbal aggression lead to an increase in job satisfaction [22].

In contrast, when an IT service provider adopts surface acting, they suppress a negative emotion and fake a smile while facing a difficult customer or verbal aggression [9]. Extra stress results to the service provider because of the intense emotional effort and increase in cognitive costs when adopting surface acting [12,22]. The stress is higher for surface actors than deep actors as surface actors are less authentic in their affective delivery of service [30]. The lack of authenticity (fake mood projected by the service provider) creates a conflict between personal emotional need
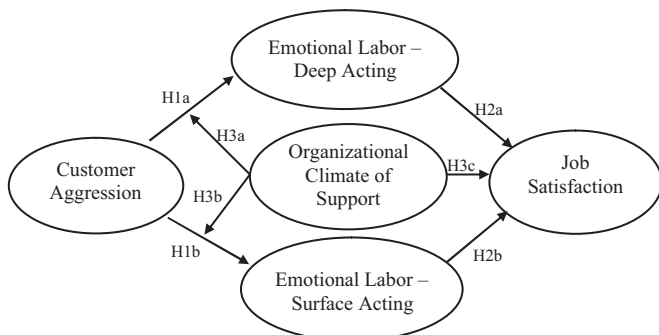
(the need to be reflective of true emotions) and the job demanded expectations. This ultimately negatively affects the job satisfaction of surface actors [9]. Studies empirically verify that the increase in the emotion regulation process of surface acting generates emotional dissonance, which decreases job satisfaction [31]. Therefore, we propose:

H2a. Deep acting positively impacts job satisfaction.

H2b. Surface acting negatively impacts job satisfaction.

3.3. Organizational climate of support as moderator

In response to the unpleasant situations caused by customer aggression, IT professionals need to deal with undesirable feelings and express the required emotional role to customers. If the organization has a strong climate of support, that is, has an atmosphere of positive and healthy relationships among managers, subordinates, and coworkers, IT professionals are able to turn to their coworkers or managers to seek assistance when facing difficult situations at work. The assistance can be attained through conversation with coworkers, getting insights and background knowledge about customers, or simply gaining sympathy from superiors when mistakes are made by the IT professionals. By doing so, IT professionals better understand the perspective of customers. This in turn encourages the IT professionals to adopt a deep acting strategy, that is, to sincerely modify how they perceive the unpleasant situation in order to adjust their emotional response to the angry customers.

Further, it is expected that a higher organizational climate of support will discourage the adoption of surface acting facing customer aggression. That is, when IT professionals face customer aggression, a high organizational climate support will allow IT professionals to be able to trust their colleagues or managers to help them, make an effort to talk to them, and express how they think about the situations so that they do not need to fake their emotions in order to deal with customers in an appropriate way [17]. In this fashion, a climate of support within an organization will alter the acting responses to aggression. Therefore, we propose:

H3a. A higher organizational climate of support will encourage a deep acting strategy when facing customer aggression.

H3b. A higher organizational climate of support will discourage a surface acting strategy when facing customer aggression.

Due to the job characteristics of IT professionals, they usually have to cope with long working hours, unexpected user demands, unmet deadlines, and emotional demands [31], which makes IT a very stressful profession [28]. Under this kind of stressful environment, IT professionals also need to work in teams and with staff from various departments. A supportive atmosphere generates resources in dealing with stress and unpleasant situations [16]. For IT professionals, the organizational climate of support will provide resources to increase the IT professionals' emotional strength to face the complexity of interpersonal relationships as well as stressful job environments and characteristics. Thus, when the organizations have a supportive climate in managerial–subordinate relationships as well as coworker relationships, IT professionals will gain resources from the caring, advice, and feeling of value. In return, they will be better equipped and emotionally stronger to face unpleasant situations such as customer aggression. In this case, IT jobs become more feasible, pleasant, and rewarding. Therefore, when the organization promotes a supportive climate for IT employees, job satisfaction will be increased [23], or more formally:

H3c. An organizational climate of support positively affects job satisfaction.

4. Research methods

4.1. Sample

For assessing the IT professionals' emotion regulation strategies toward customer aggression, the target sample in this study is IT professionals who directly participate in information systems work in the organizations to design, develop, implement, and support IT for internal or external customers. The job titles include programmers, MIS engineers, software engineers, system developers, system analysts, system designers, and data processing professionals. Our target sample is the members of IT departments drawn from the list of top 1000 manufacturing companies in Taiwan. IT department heads were randomly contacted from the list until one hundred companies expressed a willingness to participate in this study and provide up to five IT professionals to complete the questionnaire. Participants were asked to respond to the questions relating to their current work and were assured confidentiality. Questions asked about behaviors toward customer aggression but not the motivation behind them. Five hundred packages were sent out and a total of 118 completed survey instruments were returned. To check for non-response bias, early versus late responder data was compared for each subgroup and no significant differences are found between the summated scales for the two groups. Demographic features of the final sample population are shown in Table 1.

4.2. Constructs measurement

The original questionnaire was developed from measures identified in the literature (described below) and translated into Chinese. Back translation of the survey was conducted by two professionals with Master's degrees in English to compare with the original English questionnaire. The wordings of the Chinese items in this study were then purified based on any differences. A pre-test was conducted for validation of the instruments. Ten IT professionals each with more than five years information systems related work experience examined the survey instrument. They

Table 1
Demographic characteristic of the respondents.

Characteristics	#	%	Characteristics	#	%
Gender			*Age*		
Male	87	73.7%	≤29	36	30.5%
Female	31	26.3%	30–39	71	60.2%
			40–49	10	8.5%
			≥50	1	0.8%
Job position			*Education level*		
Programmer	30	25.4%	High school	1	0.8%
System analyst	10	8.5%	College	19	16.1%
Project manager	9	7.6%	University	48	40.7%
R&D	8	6.8%	Graduate	50	42.4%
Engineer	42	35.6%			
Data processing	3				
Network administration	8 3				
Line manager	5				
CIO					
		2.5%	*Work experience*		
		6.8%	<1	2	1.7%
		2.5%	1–3	21	17.8%
		4.3%	4–6	32	27.1%
			7–9	30	25.4%
			≥10	33	28.0%
Total sample size: 118					

Table 2
Factor loadings and correlations.

Constructs	Items	Factor loading	t-Statistic	ICC[a]
Customer aggression	Encounter internal customers who are verbally aggressive to me orally.	0.84	19.19	0.82
	Encounter internal customers who are verbally aggressive to me in writing.	0.87	33.73	0.86
	Encounter external customers who are verbally aggressive to me orally.	0.86	18.43	0.87
	Encounter external customers who are verbally aggressive to me in writing.	0.85	20.53	0.86
Emotional labor (deep acting)	I work hard to feel the emotions that I need to show to others.	0.67	7.17	0.75
	I make an effort to actually feel the emotions that I need to display toward others.	0.88	29.67	0.84
	I try to actually experience the emotions that I must show.	0.84	25.60	0.82
Emotional labor (surface acting)	Just pretend to have the emotions I need to display for my job.	0.68	7.38	0.73
	Fake a good mood.	0.77	10.18	0.79
	Put on a "show" or "performance."	0.88	20.03	0.88
	Put on an act in order to deal with customers in an appropriate way.	0.81	18.13	0.80
	Put on a "mask" in order to express the right emotions for the job.	0.82	27.34	0.80
Organizational climate of support	The philosophy of our management emphasizes the human factor, how people feel, etc.	0.75	7.62	0.78
	Management makes an effort to talk with you about your career aspirations within the organization.	0.74	8.39	0.75
	When I am on a difficult assignment I can usually count on getting assistance from my boss and coworkers.	0.82	19.15	0.74
	People in this organization do not really trust each other enough.	0.71	6.10	0.75
	You do not get much sympathy from higher-ups in this organization if you make a mistake	0.69	6.01	0.72
Job satisfaction	Generally speaking, I am very satisfied with my job.	0.86	30.50	0.84
	I frequently think of changing my job.	0.76	10.15	0.77
	I am generally satisfied with the kind of work I do	0.83	13.05	0.84

[a] Item-construct correlation.

were asked to comment on the clarity of each item. Their suggestions were incorporated into the final version of the questionnaire. Five constructs were collected for this study using multiple-item scales drawn from previously validated measures in organizational behavior, management and psychology research.

Survey items are presented in Table 2. All variables in the survey were measured with a seven-point type scale, ranging from strongly disagree (1) to strongly agree (7). Customer aggression was measured with 4 items from Spector et al. [34] and were conceptualized as a reflective construct of this study [6,27]. Emotional Labor was measured with items from Brotheridge and Grandey [4] and Grandey [9]. Deep acting was measured using 3 items and surface acting using 5 items. Job satisfaction was measured with 3 items from the Job Diagnostic Survey [13]. Organizational climate of support was measured with 5 items from Litwin and Stringer [24].

4.3. Measurement model

Structured equation modeling (SEM) with partial least squares (PLS) analysis allows empirical assessment of the measurement model [14]. In this study, PLS-Graph Version 3.01 is used to verify the measurement model and test the hypotheses in two steps.

Individual item reliability is examined by observing the factor loading of each item. A high loading implies that the shared variance between constructs and its measurement is higher than the error variance [14]. In Table 2, the loadings of all indicators are sufficiently high. To assess the internal consistency of the constructs in the model, we examine construct reliability with Cronbach's alpha and composite reliability measures. Both reliability coefficients shown in Table 3 are above the accepted level of 0.7 [14].

Convergent and discriminant validity indicate that measures of the constructs are distinct and that indicators load on the appropriate construct [14]. Convergent validity should be assured through average variance extracted by constructs (AVE). To use a construct, AVE should be 0.5 or greater than 0.5. As Table 3 shows, each construct exceeds this requirement, indicating high convergent validity.

To evaluate discriminant validity, two criteria should be satisfied: (1) the square root of AVE for a construct should be larger than the correlation with any other construct, and (2) each indicator should load higher on the construct of interest than on any other latent variable. Table 4 shows that the square root of the AVE is greater than all of the inter-construct correlations. In the cross loadings shown in Table 5, all item loadings are higher on their assigned construct than other constructs, and the cross-loading differences are higher than the suggested threshold of 0.1 [14]. The results suggest that the measurement model possesses sufficient discriminant validity.

4.4. Structural model

Prior to estimating the structural models, we estimate interaction terms for customer aggression and organizational climate of support. First, to reduce inflation in path coefficients, we standardize and center the indicators of each construct. Then, we multiply indicators of customer aggression by indicators of

Table 3
Reliabilities and variance extracted.

Variables	Composite reliability	Cronbach's alpha	AVE
Customer aggression	0.92	0.88	0.73
Emotional labor (deep acting)	0.84	0.72	0.64
Emotional labor (surface acting)	0.89	0.84	0.61
Organizational climate of support	0.86	0.80	0.55
Job satisfaction	0.86	0.76	0.67

Table 4
Properties of variables and correlation matrix.

Construct	Mean	Std	M3	M4	(1)	(2)	(3)	(4)	(5)
(1) Customer aggression	3.99	0.93	0.72	1.01	1.00 (**0.85**)				
(2) Emotional labor (deep acting)	4.54	0.81	0.46	−0.18	0.34	1.00 (**0.80**)			
(3) Emotional labor (surface acting)	4.41	0.87	0.46	−0.19	0.41	0.61	−0.12 (**0.78**)		
(4) Organizational climate of support	4.32	0.66	−0.02	1.09	0.15	0.25	0.19	1.00 (**0.74**)	
(5) Job satisfaction	4.34	0.88	−0.89	1.54	−0.13	0.17	−0.13	0.20	1.00 (**0.82**)

Bold: the diagonal line of correlation matrix is the square root of AVE; M3 – skewness; M4 – kurtosis.

Table 5
Cross factor loading.

	Customer aggression (CA)	Emotional labor (deep acting) (ELD)	Emotional labor (surface acting) (ELS)	Organizational climate of support (OCS)	Job satisfaction (JS)
(CA1)	**0.84**	0.38	0.38	−0.19	0.16
(CA2)	**0.87**	0.35	0.37	−0.11	0.13
(CA3)	**0.86**	0.25	0.30	−0.05	0.08
(CA4)	**0.85**	0.26	0.37	−0.04	0.17
(ELD1)	0.27	**0.67**	0.48	0.08	0.15
(ELD2)	0.29	**0.88**	0.50	0.26	0.24
(ELD3)	0.29	**0.84**	0.48	0.11	0.27
(ELS1)	0.33	0.56	**0.68**	0.02	0.23
(ELS2)	0.29	0.44	0.77	−0.17	0.21
(ELS3)	0.36	0.45	**0.88**	−0.16	0.20
(ELS4)	0.36	0.51	**0.81**	−0.06	0.12
(ELS5)	0.45	0.49	**0.82**	−0.10	0.13
(OS1)	0.12	0.12	0.08	**0.75**	0.11
(OS2)	0.11	0.14	0.09	**0.74**	0.19
(OS3)	0.09	0.27	0.21	**0.82**	0.31
(OS4)	0.03	0.10	0.08	**0.71**	0.21
(OS5)	0.24	0.21	0.25	**0.69**	−0.04
(JOBS1)	−0.03	0.17	−0.08	0.33	**0.86**
(JOBS2)	−0.23	0.02	−0.15	0.03	**0.76**
(JOBS3)	−0.09	0.18	−0.09	0.14	**0.83**

Bold items represent item loadings on their respective constructs.

organizational climate of support. Finally, the products are used to estimate the interaction of organizational climate of support with customer aggression in the structural model [5]. To control for the influence of demographic variables, we incorporate gender, age, education level, work experience, and job position in our data analysis. These control variables are entered as predictors of job satisfaction. Among the control variables, we find education level significantly influences job satisfaction ($\beta = 0.20$, $p < 0.05$). Gender, age, work experience, and job position have no significant effects.

To evaluate the predictive power of the structural models, we calculate an R^2 value for each endogenous construct. The model demonstrates adequate predictive power for deep acting ($R^2 = 0.22$), surface acting ($R^2 = 0.22$), and job satisfaction ($R^2 = 0.24$). Using a bootstrapping technique, path estimates and t-statistics are calculated for hypothesized relationships. In this study, resample of 500 is chosen. The statistical power of each test was above the recommended value of 0.80. PLS results for the structural model are summarized in Fig. 3.

Overall, we find support for the hypothesized main effect relationships. Customer aggression demonstrates a strong direct effect on deep acting ($\beta = 0.26$, $p < 0.01$) and surface acting ($\beta = 0.34$, $p < 0.01$), showing support for H1a and H1b. Deep acting demonstrates a positive effect on job satisfaction ($\beta = 0.37$, $p < 0.01$) while surface acting has a negative impact on job satisfaction ($\beta = -0.39$, $p < 0.01$), supporting H2a and H2b. The

results show that organizational climate of support significantly strengthens the positive relationship between customer aggression and deep acting ($\beta = 0.22$, $p < 0.05$), supporting H3a. However, organizational climate of support does not significantly lessen the relationship between customer aggression and surface acting ($\beta = 0.19$, $p > 0.05$). Thus, H3b is not supported. Organizational climate of support also positively influences job satisfaction ($\beta = 0.25$, $p < 0.01$) and thus supports H3c.
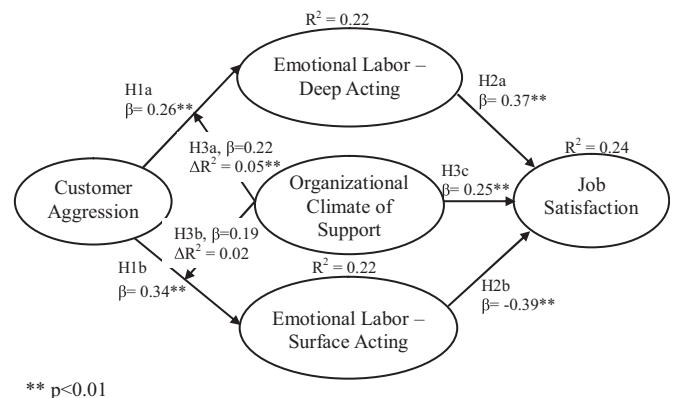

Fig. 3. Structural model.

Table 6
Alternative model results.

	Emotional labor (deep acting)			Emotional labor (surface acting)		
	Model 0	Model 1	Model 2	Model 0	Model 1	Model 2
Customer aggression (CA)	0.35[**]	0.32[**]	0.26[**]	0.42[**]	0.40[**]	0.33[**]
Organizational climate of support (OCS)		0.23[**]	0.19[*]		0.14	0.09
CA × OCS			0.22[*]			0.19
R^2	0.12	0.17	0.22	0.18	0.20	0.22
ΔR^2			0.05			0.02
Test of ΔR^2			7.12[**]			2.85

[*] $p < 0.05$.
[**] $p < 0.01$.

To assess the moderating effects of organizational climate of support on emotional labor, we estimate the model in two steps to judge the incremental variance explained by adding the moderating effect [5]. The test for the moderated relationship is conducted by using ΔR^2 to draw conclusions about the moderator effect size since "the use of the path coefficient of an interaction term will lead to spurious conclusions" [5].

Although the standardized path estimate from the product construct (customer aggression × organizational climate of support) to deep acting is significant, we need to compare the R^2 for the interaction model with the R^2 for the main effects model (excludes the interaction construct) to assure the strength of the moderating effects. The true effect of the interaction term can be calculated through the effect size

$$f^2 = \frac{(R^2(\text{included}) - R^2(\text{excluded}))}{(1 - R^2(\text{excluded}))}$$

where 0.02, 0.15, and 0.35 have been suggested as small, moderate, and large effects, respectively [5]. The f^2 statistic, based on the differences in R^2 between the two models (i.e., model 1 and model 2 in Table 6), is determined and used to compute the pseudo-F-statistic [5]. The interaction effect produces a small to medium effect size ($f^2 = 0.06$) on deep acting. The pseudo F-value with $F_{1, n-k-1}$ is statistically significant ($p < 0.01$), thereby further supporting the proposed moderating effect on deep acting. Table 6 provides a summary of the moderating analysis result.

5. Conclusions

5.1. Summary

The emotion regulation model serves as a basis to study IT professional responses to customer aggression and incorporates the moderator of organizational climate of support to study antecedents and consequences of emotional labor for IT professionals. The result of the study supports the findings from other studies on the negative effect of surface acting and positive effect of using deep acting strategies to deal with the negative emotional events of customer aggression [3,22]. Prior studies have not found significant organizational factors (such as supervisor and coworker support) moderating the process of emotion regulation for employees. This study investigated the effect of organizational climate of support on the relationship between customer aggression and emotional labor and its effect on job satisfaction. Results suggest the important role played by organizational climate of support in assisting IT professionals to manage their emotions.

This study considered the effect of customer aggression on emotional labor, in which a customer's aggression toward IT professionals creates extra emotional effort for IT personnel, who are often fully occupied with their work load. When IT professionals experience emotions and express them to others, deep acting occurs, positively impacting job satisfaction. However, when IT professionals adopt the strategy of pretending or faking their feelings in their job, this surface acting will negatively affect job satisfaction. When organizations emphasize the human factor and how their employees feel, by developing a supporting, caring and trusting environment, such organizational climate of support moderates the relationship between customer aggression and deep acting. That is, when organizational climate of support is higher, IT professionals facing customer aggression are more likely to adopt deep acting to regulate their emotions. Further, organizational climate of support directly increases job satisfaction of IT professionals.

5.2. Discussion

This study calls for attention from IT practitioners on realizing the impact of what customers communicate to their IT professionals, who usually have lower social needs and less skill in verbal communication compared to other professions [7]. When trying to satisfy the concerns of a customer in the face of verbal aggression, IT professionals should get special attention from IT managers and organizations [8]. Whether customer aggression will bring a positive or negative impact on job satisfaction depends on how the IT professionals react emotionally.

Customer aggression in the IT context may have a longer effect on both service providers and customers than in other fields since the customers usually cannot immediately change their service providers, either the customers are the users of the systems without authority to change service providers or the customers' organizations are implementing a system over a long period of time. In this case, if IT professionals do not handle the customer aggression correctly, it will also affect the rest of the service quality being provided by these professionals. When IT professionals handle customer aggression using surface acting strategy, job satisfaction is decreased. Studies showed that a decrease in job satisfaction will also decrease working performance [15]. This is a lose–lose situation for service providers as well as for customers.

Emotional labor consumes a great deal of mental effort, just as physical labor spends energy and strength. The specific form of acting makes a significant difference in the final outcome. When emotions are falsely presented to others, more stress is induced and interpersonal problems may occur which will lower job satisfaction. An organizational climate of support plays a major role in helping IT professionals regulate their emotions in a positive way to decrease the emotional stress and present what they truly feel without jeopardizing a level of appropriateness. Whether this kind of support is formal or informal, managers and subordinates should help spend less emotional effort on dealing with the demanding and stressful situations by listening.

Training programs may help IT professionals handle customer aggression. Since IT professionals are not necessarily extroverted, in fact, studies show the opposite [7], interpersonal skills training should assist IT professionals in putting on the "customers' shoes" to understand the customers' perspective and make a positive impact on the interaction. Through training, IT professionals can also learn how to perceive customer requests as challenges rather than threats [22]. The ultimate goal is to assist IT professionals in facing these negative emotional events in a positive fashion directed at satisfying customer needs and not disguising poor performance. Once IT professionals value both the positive and negative response from customers, they are in a better shape to identify customer needs and suggest improvements in services.

A mentoring system could be developed for IT professionals to have someone to officially talk to, consult with, and receive effective feedback when they face a stressful situation which may affect their psychological health and job performance [31]. Informal practices, such as sharing of experiences by colleagues and supervisors could also be valuable for new IT professionals to relieve the psychological pressures from work so as to increase job satisfaction.

IT professionals are viewed as valuable assets to a firm. Whether organizations retain core human capital is critical to effectively achieve strategic business goals [28]. Therefore, it is worthwhile for companies to build and maintain long-term relationships in order to retain these professionals for their specific knowledge and competencies. This will also allow firms to lower expenses on recruiting for replacing departing employees due to low job satisfaction.

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