

# **FACILITATE AFFECTIVE COMMITMENT AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR OF THE TECHNOLOGY EMPLOYEES IN THE CHINESE IT COMPANIES**

**Shi Hu\***

*School of Economics and Management, Guangxi University of Science and Technology, China*

## **ABSTRACT**

This study aims to understand the antecedents of affective commitment and organizational citizenship behavior (OCBO) of technology employees in Chinese IT Companies. Job satisfaction, which is a positive job attitude is identified as the mediator for the relationships between family-supportive supervisor (FSS), challenge job demands, and affective commitment and organizational citizenship behavior (OCBO) of the technology employees in the Chinese IT Companies. IT industry is a promising industry in China. However, the Chinese IT companies have an overtime culture, which is highly related to the commitments of the technology employees. PLS-SEM (partial least squares structural equation modeling) by Smart PLS 3.2.9 version software is adopted for the data analysis, which includes the measurement model and structural model analysis. 304 technology employees from three Chinese IT companies participated in this research survey. After the data analysis, challenge job demands and FSS are positively related to job satisfaction while FSS is directly connected with affective commitment and OCBO of the technology employees in Chinese IT companies. Moreover, job satisfaction plays a positively mediating role between the exogenous variables and endogenous variables in this study. The current research provides useful insights into the strategies taken that could enhance affective commitment and OCBO of the technology employees in Chinese IT companies.

**Keywords:** Affective commitment, challenge job demands, job satisfaction, Family-supportive Supervisor (FSS), Organizational Citizenship Behavior (OCBO).

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## **1. INTRODUCTION**

In China, especially in IT (Information Technology) companies, working overtime is a common phenomenon with average overtime of 6.45 hours. The Chinese Internet companies have been highly connected with the traditional '996' culture, which refers that the working time is between 9 a.m. and 9 p.m. with the six working days a week (Kuo, 2019). There are four pillars in the Chinese IT industry: software development, cybersecurity, data, and infrastructure. With the high speed of the Chinese IT industry, the challenges of the increasing complexity and innovation of business systems require the technology employees to constantly gain new tech skills (CompTIA, 2019). Chinese IT companies have developed dramatically in recent years, which attracts a plentiful amount of young talents through the competitive salary offer. Although the salary is

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\* Corresponding author: School of Economics and Management, Guangxi University of Science and Technology, Guangxi province, China. Email: hushi@student.usm.my

attractive, the job expectations and stress are also increasing correspondingly as the contributions must be equal to the high salary offers. Strong evidence has been demonstrated that the long working hours would cause negative work outcomes (Burke & Fiksenbaum, 2009; Kunaviktikul et al., 2015). Under this environment, technology employees in the Chinese IT companies may decrease their organizational commitments, which has unfavorable effects on the organizational goal achievements (Wang & Hancock, 2019). IT companies gain competitive advantages by attracting, cultivating, and retaining talents, especially technology employees. Due to the rapid change, fierce competition, and globalization in the world, these activities for talents become extremely vital. Chinese IT companies faced a fast product life cycle, which requires high-speed innovation. Moreover, the work schedule in Chinese IT companies is based on the project, which needs to catch up with the deadline. In recent years, China goes through an economic transformation and relies on high-tech development (Wang & Hancock, 2019). It is difficult to change the overtime culture in this industry because of the developing requirements (Li & Huang, 2021). Therefore, the objective and motivation of the current study are to facilitate the organizational commitments of Chinese IT technology employees under the overtime organizational culture.

Chinese IT industry triggers huge demands for constant R & D (Research & Development) conduction. Therefore, the technology employees are essential. Technology employees in the Chinese IT companies are targeted in the present study. The conflicts between work and family hurt the employees' job performance and commitments (Aryee et al., 2013). Gladies and Kennedy (2011) stated that the stressful working environment could induce work-family conflicts, especially for the female employees in the IT industry. In this study, the family-supportive supervisor (FSS) is identified as one exogenous variable from the organizational perspective. Although challenge job demands belong to the job demands, sometimes challenge job demands in a proper range could prompt the employees' personal growth (Tadic et al., 2014). Hereby, challenge job demands are identified as another exogenous variable. This study aims to discover how the employee's job satisfaction could enhance the organizational commitments of the technology employees from both emotional perspective (affective commitment) and behavioral perspective (OCBO) in the Chinese IT companies.

De Geus et al. (2020) conducted a review paper, which covers 129 papers on the area of organizational citizenship behavior (OCB), which concludes that the majority of the studies focus on the general OCB with 59 percent and only 13 percent of the papers concentrate on the specific dimensions of OCB such as OCBO (organizational level) and OCBI (individual level). Owing to the antecedents of this study include FSS and challenge job demands, which belong to the organizational perspective. Hereby, OCBO, which focused on employee organizational commitments is targeted. Previous studies connected the challenge job demands with work engagement such as Bakker and Sanz-Vergel (2013) and Breevaart and Bakker (2018). However, in the current study, the challenge job demands are linked with affective commitment and OCBO of the employees, which extends the current literature.

## 2. LITERATURE REVIEW

### 2.1. *Family-Supportive Supervisor (FSS)*

One important social resource to deal with organizational demands is supervisor support. Supervisor support is defined as the extent to which the well-being of the employees has been cared for and the contributions of the employees are valued by the supervisors (Haar et al., 2019). The supervisor supports belong to one of the major organizational job resources, which reflects the supervisors' support to help the employees reduce the role conflicts and achieve personal growth (Gu & Wang, 2021). Family-supportive supervisors (FSS) tend to show more sympathy and facilitate the employees to integrate work and life well (Thomas & Ganster, 1995). According to Aryee et al. (2013), there are formal and informal family-supportive practices. Formal family-supportive practices refer to the policies, programs, and benefits provided by the organizations while informal ones indicate the family-supportive work environment and supervisor. Recent scholars have shown more trends to study informal family-supportive practices such as Aryee et al. (2013) and Kossek et al. (2011). Based on Aryee et al. (2013), a family-supportive supervisor plays a vital role in the implementation and execution of the family-supportive practices and programs in the organization.

Aryee et al. (2013) argued that a family-supportive supervisor has a significant relationship with the employees' contextual performance. Allen (2001) discovered that a family-supportive supervisor mediates the relationship between FSOP (family-supportive organization perception) and work-family conflicts. Zhang and Tu (2018) stated that family-supportive supervisor behaviors (FSSB) reflect the attitudes of the supervisors toward the employees' family responsibilities by offering practical and emotional resources to help employees achieve work-life balance. It is argued that the supervisors in an organization play an important role in the employees' job satisfaction and organizational commitments due to direct interactions (Patrick & Sonia, 2012). Wang et al. (2013) found that the family-supportive supervisor (FSS) is positively related to job satisfaction and organizational citizenship behavior (OCB) of the employees. Kong (2013) and Mohamed and Ali (2016) discovered that a positive relationship exists between family-supportive supervisor (FSS) and employees' job satisfaction. In this study, family-supportive supervisors (FSS) is identified as the exogenous variable.

### 2.2. *Challenge Job Demands*

Job demands refer to the physical, social, and organizational job requirements, which need substantial physical and mental inputs by the employees (Urien et al., 2017). Job demands in the workplace are likely to cause two types of stressors, which are challenge stressors and hindrance stressors. Challenge stressors refer to the urgent time requirement, increasing job responsibilities, and job complexity. Challenge job demands imply an opportunity for personal growth such as personal competence promotion. However, hindrance stressors refer to ambiguous demands, role conflicts, and insecurity, which cannot lead to personal growth but rather more personal stress. Job demands usually could be divided into challenge and hindrance job demands. According to Tadic et al. (2014), challenge job demands in a suitable range could result in positive emotions and increasing work engagement while the hindrance job demands are more likely to lead to negative job attitudes and performance. Rodell and Judge (2009) stated that challenge job stressors have a positive relationship with the OCB of the employees mediated by attentiveness. Haar et al. (2019)

concluded that the hindrance job demands harm the work-life balance while the challenge job demands to some degree could facilitate personal growth. In this study, challenge job demands are identified as the second exogenous variable.

### **2.3. Job Satisfaction**

Job satisfaction is the employee's positive attitude that reflects the extent to which the employees feel satisfied with their current job in an organization. Job satisfaction is a pleased and positive emotional status based on the current job situation evaluation (Najafi et al., 2011). Job satisfaction can be categorized into intrinsic job satisfaction (extent of satisfaction in the current job position) and extrinsic job satisfaction (degree of satisfaction with the work conditions, policies, and so on). Li et al. (2010) stated that job satisfaction indicates how pleasant employees are with their current jobs. Employees are considered as the important resources and assets to the organizations, which take effect for the organizational performance success. Employees with a high level of job satisfaction tend to perform jobs more effectively with positive and favorable job attitudes (Stella & Oluwatosin, 2019). Previous scholars also link job satisfaction with the psychological well-being of the employees as Hu (2021). Job satisfaction is regarded as one of the most important antecedents of employees' organizational commitments (Patrick & Sonia, 2012). Along with job satisfaction, there are family satisfaction and life satisfaction as well. Family satisfaction means the degree to which employee is satisfied with their family and family relationships while life satisfaction refers to the cognitive assessment of their lives (Zhang & Tu, 2018). Gharibvand (2012) examined the job satisfaction of Malaysian employees in the semiconductor sector. Dipietro et al. (2020) discovered that job satisfaction plays a mediating role in the relationship between employee wellbeing and turnover intention. Previous scholars have linked job satisfaction with the affective commitment of the employee, for example, Mohamed and Ali (2016) and Patrick and Sonia (2012). Job satisfaction has also been found to be positively associated with organizational citizenship behavior (OCB) of the employees such as Foote and Tang (2008), Najafi et al. (2011), and Nadiri and Tanova (2010).

It is said that when the job resources are offered by the organization at the workplace, job satisfaction tends to come out (Tims et al., 2013). Job resources provided by the organization such as family-supportive supervisor (FSS) and suitable challenge job demands could bring more positive emotions, attitudes, and cognitions such as job satisfaction. Therefore, the reasonable logic exists that job satisfaction is identified as a mediator to predict OCBO and affective commitment of Chinese IT technology employees.

### **2.4. Affective Commitment**

According to Meyer and Allen (1991), there are three widely recognized commitments: affective commitment, normative commitment, and continuance commitment. Some employees choose to remain in the organization just because of the obligation and financial needs, which harm their commitments and passion to the organization such as normative commitment and continuance commitment (Malik et al., 2010). It is stated that affective commitment tends to be the strongest factor due to the positive emotional attachment to the organization with the organizational goals identifications as it reflects the desire of the employees to remain in the organization (Pentareddy & Suganthi, 2015). The employees' affective commitment is highly related to the job attitude of the employees (Mercurio, 2015). If the employees have a high level of affective commitment, the

possibility of turnover and withdrawal intention would be low. Affective commitment is regarded as a positive work outcome, which originates from the employees' job satisfaction. Moreover, affective commitment gives the employees a sense of belonging, stability, and security in the organization, which could lead to positive organizational outcomes such as excellent organizational targets achievements (Galletta et al., 2019). Based on Mohamed and Ali (2016), job satisfaction and affective commitment of the individual employees are positively correlated in the organization. Moreover, Shi (2020) found that perceived organization support (POS) is positively related to the employees' affective commitment.

Budihardjo (2013) found that job satisfaction is positively associated with the managers' affective commitment at a significant level of 0.01, which in turn enhances corporate performance. In addition, Patrick and Sonia (2012) concluded that there is a positive relationship between job satisfaction and affective commitment among Indian IT employees. Malik et al. (2010) and Kuo (2015) discovered the same finding. Hence, this study identifies affective commitment as the endogenous variable.

### **2.5. Organizational Citizenship Behavior (OCBO)**

Organizational citizenship behavior (OCB) is defined as the individual behavior that is discretionary and not directly or explicitly recognized in the formal organizational reward system (Organ, 1990). Moreover, Organ (1990) categorized OCB into five dimensions, which are consciousness, altruism, civic virtue, sponsorship, and courtesy. OCB consists of two aspects, one directs at the organizational level while the other directs at the individual level. The dimensions of OCB, which directs at the organizational level are called OCBO. Lee and Allen (2002) categorize the OCB into two dimensions, which are OCBO (organizational level) and OCBI (person-to-person level). OCBO covers three dimensions, which are consciousness, civic virtue, and sportsmanship while OCBI contains altruism and courtesy. Now in the current study, the OCBO from the organizational level is focused, which gives a priority to the extra behavior of the individual employees at the organizational level. It is said that the employees' OCB belongs to the contextual performance, which could facilitate more extra organizational performance (Foote & Tang, 2008). OCB has been identified as one of the most important factors for excellent organizational outcomes (Li et al., 2010). OCB offers insights into the boundary between the in-role and extra-role behaviors, which is a matter of individual voluntary actions (Zeinabadi, 2010). Najafi et al. (2011) argued that OCB is a kind of employee extra behavior, which indicates that employees are willing to put extra efforts into organizational productivity and goal achievement. Hereby, it is essential to cultivate the willingness of OCB conduction of individual employees by the organizations. Employees with a high level of job satisfaction are more likely to conduct extra-role behavior such as OCB (Nadiri & Tanova, 2010). Further, Zeinabadi (2010) discovered that there is a significantly direct relationship between job satisfaction and positive work behavior of the individual employees (OCBO) in the organization. It is argued that satisfied employees are more likely to get involved in extra work behavior (Zeinabadi, 2010). In the current study, OCBO refers to all the voluntary and extra commitments by the technology employees at the organizational level in the Chinese IT companies.

## **2.6. Theoretical Background**

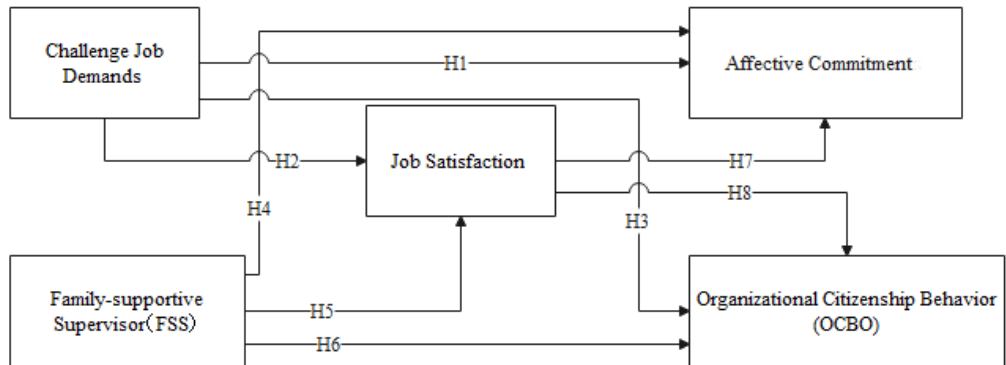
There are two theories adopted in the current study, which are Social Exchange Theory (SET) and JD-R (Job Demands-Resources) theory. SET was proposed by Blau (1964), which involves two parties in an exchange relationship. Under the SET, if one party provides benefits or favorable treatments to another party, reciprocity would occur from the benefited party to the original party. Moreover, once positive reciprocity in the exchange relationship exists, the self-reinforcing cycle is enhanced by each party, and a stable level of mutual commitments and emotional investment is maintained (Ng et al., 2014). This study identifies SET as one of the theoretical backgrounds to offer empirical evidence that the support from the organization such as family-supportive supervisor (FSS) and challenge job demands could increase the employees' job satisfaction levels, which in turn facilitates employees to put more extra efforts into the organizational goal achievement. There is reciprocity between the employees with a high level of job satisfaction and employee commitments to the organization from both the behavioral and emotional perspectives. Moreover, employees who are satisfied with their current job tend to contribute more positive work behavior such as OCBO and affective commitment as reciprocity. Through the positive exchange between organizational support and employee organizational commitment (OCBO and affective commitment), reciprocity comes out (Li et al., 2010).

The JD-R model was proposed by Demerouti et al. (2001) and developed by Bakker et al. (2003), which is based on the conservation of resources (COR) theory. It is stated that all job characteristics can be divided into two categories, which are job demands and job resources (Bakker et al., 2014). Job resources covered material, organizational, social, and psychological aspects offered by organizations or supervisors to assist employees to achieve effective job performance and personal growth (Yang et al., 2018). It is argued that job resource plays a buffering effect on the cost of job demands with the motivating and boosting functions (Tadic et al., 2014). The interplay between job demands and job resources plays a vital role in employee organizational perceptions (Haar et al., 2019). Previous scholars adopted JD-R model to predict work engagement and burnout of the employees. The conclusion is that compared to the hindrance job demands, challenge job demands and job resources are likely to bring motivation (Adil & Kamal, 2019). Bakker et al. (2014) concluded that by integrating JD-R theory, there is a strong relationship between the employees' motivation and work engagement. Fernet et al. (2012) examined the causal relationships between job resources and occupational commitments of the employees, which gained employee commitments are triggered by the job resources under the JD-R model. Gordon et al. (2015) demonstrated that a certain level of work pressure such as challenge job demands could enhance the nurse's task and contextual performance. Based on the JD-R theory, challenge job demands and family-supportive supervisors are identified as the job demands and job resources, which aims to predict the commitments and work engagement of the Chinese IT technology employees.

Through the literature review and theoretical identification, a research framework is proposed for the current study. As can be seen in figure 1, there are two exogenous variables (FSS and challenge job demands), one mediator (job satisfaction), and two endogenous variables (OCBO and affective commitment). The purpose of this study is to understand how affective commitment and OCBO of the technology employees could be activated in the Chinese IT companies. Hypotheses are proposed as below:

- H1: Challenge job demands are positively related to affective commitment.*  
*H2: Challenge job demands are positively related to job satisfaction.*  
*H3: Challenge job demands are positively related to organizational citizenship behavior (OCBO).*  
*H4: Family-supportive supervisor (FSS) is positively related to affective commitment.*  
*H5: Family-supportive supervisor (FSS) is positively related to job satisfaction.*  
*H6: Family-supportive supervisor (FSS) is positively related to organizational citizenship behavior (OCBO).*  
*H7: Job satisfaction is positively related to affective commitment.*  
*H8: Job satisfaction is positively related to organizational citizenship behavior (OCBO).*  
*H9: Job satisfaction positively mediates the relationships between the two exogenous variables (challenge job demands and family-supportive supervisor (FSS)) and two endogenous variables (affective commitment and organizational citizenship behavior (OCBO) respectively).*

**Figure 1: A Research Framework**



### 3. METHODOLOGY

#### 3.1. Data Collection Method

The self-administered questionnaire is distributed for the survey conduction. The targeted respondents in this study are technology employees from Chinese IT companies. Before several Chinese IT companies in Beijing have been contacted, however, only three IT companies permitted the researcher to conduct the questionnaire survey at their workplaces. These three companies are all located in Beijing (the Chinese capital) with the business areas of mobile apps and the internet. To protect the confidentiality of these three companies, the company names would not be revealed. Although only three companies are targeted, it is a general phenomenon that the technology employees in the Chinese IT companies are exposed to long working hours due to the nature of the IT industry as stated in the Introduction section. Owing to the Chinese IT industry '996 culture, the actual working hours of Chinese technology employees are around 72 hours per week (Li & Huang, 2021).

The current study regarded the Chinese technology employees as the respondents, such as software programmer, technology developer, and analyst. The original questionnaire is in the English version therefore back-to-back translation method is adopted. Two independent expert translators were invited to make sure there is no ambiguity between the original questionnaires and the translated ones. Online questionnaire linkage was then sent to the HR (Human Resource) representatives in these three IT Companies through e-mail first. Later a cover letter, which specifies the purpose of this study and anonymous information of the respondents was sent to each respondent before the formal questionnaire distribution. A pre-test was conducted before the formal questionnaire distribution among ten respondents, which aims to examine if the questionnaire structure is clear. In this study, judgment sampling, which contains non-probability sampling and purposive sampling is adopted. The reason why adopt the judgment sampling is that only the technology employees are focused as they are more likely to expose to the long working hours environment and play a vital role in the IT company development.

### **3.2. Sample Size**

Firstly, G\*power 3.1 software was applied to calculate the minimum sample size with the statistical power of 0.80 level. The minimum sample size calculated by the G\*power 3.1 software is 85. Therefore, 350 questionnaires were distributed to these three IT companies, and 307 questionnaires were returned with a response rate of 87.7 %. Among the returned 307 questionnaires, 3 questionnaires are not available. Therefore, the final sample size is 304.

### **3.3. Measurement of Variables**

Family-supportive supervisor (FSS) consists of three items adopted from Hammer et al. (2006). The sample item of FSS is like 'My supervisor listens when I talk about my family.' Moreover, challenge job demands comprise of four items adopted from Rodell and Judge (2009) with the sample item as 'My job has required me to use several complex or high-level skills.'

Job satisfaction consists of three items adopted from Bowling (2015). The sample item under the job satisfaction is 'In general, I like working here.' Affective commitment consists of six items adopted from Rhoades et al. (2001) with the value of Cronbach Alpha (0.83). For example 'I feel a strong sense of belonging to my organization'. Organizational citizenship behavior (OCB) includes 16 items adopted from Lee and Allen (2002). In this study, among the five dimensions of OCB, only consciousness, civic virtue, and sportsmanship are covered as these three dimensions belong to the OCBO at the organizational level. 8 items are measuring OCBO in the present study. The sample item of the organizational citizenship behavior (OCBO) is like 'Take action to protect the organization from potential problems.' Respondents are invited to rate all the questions through the 5-point Likert scale from 1=strongly disagree to 5=strongly agree.

### **3.4. Data Analysis**

In this study, partial least squares structural equation modeling (PLS-SEM) is adopted to estimate the complex cause-effect relationships model with the latent variables. The measurement model and structural model assessments by the Smart PLS 3.2.9 version software are conducted. In this study, due to the complexity of the research framework (two exogenous variables, one mediator,



and two endogenous variables), PLS-SEM for data analysis in the current study is suitable (Hair et al., 2014).

## 4. RESULTS AND DISCUSSION

### 4.1. Demographic Profile of the Respondents

In this study, as can be seen from Table 1, 65.8 % of the respondents are male while 34.2 % of the respondents are female. The majority of the respondents belong to 30 years old and below and the 31-40 years old age group, which accounts for 67.2% in total. 43.4 percent of the respondents have 4 years and below working experience and 27.6 percent of the respondents have 5-9 years of job experience. For the educational level, 156 respondents have a degree educational level (51.3 percent), which accounts for the largest proportion. From the demographic profile, the conclusion is gained that most of the respondents are male technology employees under 40 years old, which reflects the youthful trend of the Chinese IT industry. According to the statement of Li and Huang (2021), although the long working hours' culture exists in the Chinese IT industry, the young technology employees are willing to stay in the booming and sunrise industry to earn a large amount of salary and play the self-worth.

**Table 1: Demographic Profile of Respondents**

<b>Demographic Data</b>	<b>Frequency N=304</b>	<b>Percentage (%)</b>
<b>Gender:</b>		
Male	200	65.8
Female	104	34.2
<b>Age:</b>		
30 years old and below	102	33.6
31-40 years old	102	33.6
41-50 years old	76	25.0
51 years old and above	24	7.8
<b>Job experience:</b>		
4 years and below	132	43.4
5-9 years	84	27.6
10-14 years	64	21.1
15 years and above	24	7.9
<b>Educational level</b>		
Diploma	23	7.6
Degree	156	51.3
Master	104	34.2
PhD	21	6.9

### 4.2. Common Method Variance

Harman's Single Factor test was conducted to examine if the common method bias exists. Exploratory factor analysis was conducted by entering all the measurement items to check the common method bias. Factor analysis results show that the five factors are exacted and the largest

variance explained by an individual factor is 41.848 %, which is less than 50% of the total variance explained. That means neither a single factor nor a general factor occupies the majority of the variance in the measures. Therefore, there is no common method bias in this study.

### 4.3. Measurement Model Analysis

Measurement model analysis includes the assessments of the factor loading, reliability, convergent validity, and discriminate validity before the hypotheses testing (Hair et al., 2014). If the values of item factor loading are more than 0.50, the items should be considered acceptable (Memon & Rahman, 2014). Among all these items in the present study, two items under affective commitment (AC3 and AC5) and one item under the OCBO (OCBO4) were deleted due to the poor factor loadings and the achievement of average variance extracted (AVE). In addition, to test the internal consistency reliability, composite reliability (CR) is assessed, which is more accurate than the values of Cronbach's Alpha. It is said that if the values of CR are between 0.70 and 0.90, it is considered satisfactory to good (Hair et al., 2019). Convergent validity is the degree to which the construct converges to explain the variance of its items. The AVE is adopted for the convergent validity analysis, which is suggested to be more than 0.50. As shown in Table 2, the results of the factor loading, composite reliability, and convergent validity are all satisfied in the current study.

Discriminant validity is routinely evaluated by Fornell-Larcker's criterion. Fornell-Larcker's criterion (1981) is the criterion proposed by Fornell and Larcker (1981), which states that the AVE under each construct should be made a comparison with the squared inter-construct correlation. As can be seen in Table 3, the discriminate validity exists in the present study.

**Table 2:** Measurement Model: Factor Loadings, Construct Reliability, and Convergent Validity

Constructs	Items	Loadings	CR <sup>a</sup>	AVE <sup>b</sup>
Affective Commitment	AC1	0.760	0.820	0.534
	AC2	0.745		
	AC4	0.667		
	AC6	0.747		
Challenge Job Demands	CJD1	0.835	0.892	0.676
	CJD2	0.828		
	CJD3	0.744		
	CJD4	0.875		
	FSS1	0.825		
Family-supportive Supervisor (FSS)	FSS2	0.729	0.806	0.581
	FSS3	0.728		
	JS1	0.824		
Job Satisfaction	JS2	0.821	0.870	0.691
	JS3	0.848		
	Organizational Citizenship Behavior (OCBO)	OCBO1		
OCBO2		0.646		
OCBO3		0.758		
OCBO5		0.789		
OCBO6		0.717		
OCBO7		0.748		
OCBO8		0.646		

Notes: <sup>a</sup> Composite Reliability, <sup>b</sup> Average Variance Extracted (AVE).

**Table 3:** Measurement Model: Discriminant Validity (Fornell and Larcker Criteria)

AC	CJD	FSS	JS	OCBO	
AC	<b>0.731</b>				
CJD	0.596	<b>0.822</b>			
FSS	0.613	0.615	<b>0.762</b>		
JS	0.715	0.639	0.535	<b>0.831</b>	
OCBO	0.711	0.602	0.687	0.656	<b>0.716</b>

*Notes:* FSS=family-supportive supervisor, CJD= challenge job demands, JS=job satisfaction, AC= affective commitment, OCBO= organizational citizenship behavior (organizational perspective).

#### 4.4. Structural Model Analysis

The second stage is the structural model analysis after the measurement model assessment is satisfied. Firstly, a collinearity problem should not exist, which is indicated by the value of VIF (Variance Inflation Factor) and the ideal value should be less than three (Hair et al., 2019). In this study, the inner VIF values of five constructs are all less than 3, which indicates that no collinearity issue exists.

Without the collinearity issue in this study,  $R^2$  is assessed further to measure the explanatory power in the current research. It is said that the values of  $R^2$  with 0.75, 0.50, and 0.25 represent substantial, moderate, and weak explanatory power respectively (Hair et al., 2014). As shown in Table 4, job satisfaction could be explained by 44 % of the exogenous variables while affective commitment could be explained by 59.1 % of the exogenous variables. Moreover, OCBO could be explained by 59.5 % of the exogenous variables. There is a moderate explanatory power for affective commitment and OCBO. The moderate explanatory power in this study could be justified that in some areas, there exists an inherently larger amount of unexplainable variations. This does not indicate the lack of goodness-of-fit in this research model. As the significant relationships between the variables exist, the research model is acceptable.

**Table 4:** Structural Model:  $R^2$ 

Construct	R Square
affective commitment	0.591
job satisfaction	0.440
organizational citizenship behavior (OCBO)	0.595

Further, hypotheses testing was conducted by running the PLS Bootstrapping procedure with a subsample of 5000. Henseler et al. (2016) argued that the values of path coefficients are equal to the  $\beta$  weight, which are the standardized regression coefficients for a significant evaluation. Based on the results of  $\beta$  in Table 5, compared to FSS, challenge job demands have more impact on the job satisfaction of the technology employees in the Chinese IT industry. Moreover, FSS has more impact on OCBO than affective commitment. Finally, job satisfaction is more related to affective commitment compared to OCBO. From Table 6, the mediating roles of job satisfaction between the exogenous variables and endogenous variables are proved. In total, seven hypotheses are supported in this research framework.

**Table 5: Structural Model Results for Direct Relationships**

Hypotheses	$\beta$	Std.error	T -value	P Values	Decisions
Challenge Job Demands -> Affective Commitment	0.106	0.057	1.880	0.060	Rejected
Challenge Job Demands -> Job Satisfaction	0.497	0.059	8.398***	0.000	<b>Supported</b>
Challenge Job Demands -> OCBO	0.111	0.057	1.935	0.053	Rejected
FSS->Affective Commitment	0.282	0.052	5.372***	0.000	<b>Supported</b>
FSS->Job Satisfaction	0.229	0.069	3.338***	0.001	<b>Supported</b>
FSS->OCBO	0.429	0.050	8.604***	0.000	<b>Supported</b>
Job Satisfaction-> Affective Commitment	0.496	0.046	10.790***	0.000	<b>Supported</b>
Job Satisfaction -> OCBO	0.356	0.056	6.407***	0.000	<b>Supported</b>

Notes: FSS=family-supportive supervisor, OCBO= organizational citizenship behavior (organizational perspective). \*\*\*p<0.01 \*\*p<0.05.

**Table 6: Structural Model Results for Indirect Relationships**

Hypothesis 9	$\beta$	Std.error	T -value	P Values	Decisions
challenge job demands -> job satisfaction-> affective commitment	0.247	0.040	6.176***	0.000	<b>Supported</b>
challenge job demands -> job satisfaction -> OCBO	0.177	0.038	4.690***	0.000	
FSS ->job satisfaction-> affective commitment	0.114	0.035	3.251***	0.001	
FSS -> job satisfaction -> OCBO	0.082	0.029	2.827***	0.002	

Notes: FSS=family-supportive supervisor, OCBO= organizational citizenship behavior (organizational perspective). \*\*\*p < 0.01 \*\*p <0.05.

At last,  $Q^2$ , which represents the predictive relevance is estimated through the blindfolding procedure. Hair et al. (2019) stated that the values of  $Q^2$  were estimated when the single points in the data matrix are removed by imputing the removed points with the mean and estimating the model parameters. When there is a small difference between the predicted and original values, there would be a higher  $Q^2$  value with higher predictive accuracy. If the values of  $Q^2$  are more than 0 for a specific endogenous construct, the predictive accuracy of the structural model exists (Hair et al., 2019). The values of  $Q^2$  with 0, 0.25, and 0.5 stand for small, medium, and large predictive relevance. As shown in Table 7, there is a medium predictive relevance in this study.

**Table 7: Blindfolding Result**

Construct	$Q^2$
Affective Commitment	0.290
Job Satisfaction	0.283
Organizational Citizenship Behavior (OCBO)	0.277

## 5. CONCLUSION

In this study, seven hypotheses are supported. Challenge job demands are proved to be positively related to job satisfaction at a significant level of 0.01, which is consistent with the previous study by Tadic et al. (2014). However, challenge job demands have no directly positive relationship with affective commitment and OCBO of Chinese IT technology employees in the current study. Moreover, the family-supportive supervisor is positively correlated with job satisfaction at a significant level of 0.01, which is consistent with the previous study by Patrick and Sonia (2012). Challenge job demands have more impact on the job satisfaction of the Chinese IT technology employees due to the higher path coefficient compared to FSS. Further, job satisfaction is found to be positively related to the affective commitment and OCBO of the Chinese IT technology employees, which is consistent with the previous studies by Foote and Tang (2008) and Patrick and Sonia (2012). In addition, job satisfaction plays a mediating role between the exogenous variables and endogenous variables in the current research framework. Then, FSS is discovered to be directly associated with the affective commitment and OCBO of the Chinese IT technology employees. In this study, the interesting conclusion is gained that FSS is positively and directly related to the affective commitment and OCBO of the Chinese IT technology employees.

### 5.1. *Theoretical Implications*

This study has some theoretical implications. Firstly, by integrating SET and JD-R theories, strong empirical evidence is offered to gain an understanding that FSS and challenge job demands could result in employees' job satisfaction. This gives insights that the challenge job demands in a suitable range and supports from the supervisors are positively related to employees' positive job attitudes. Therefore, suitable challenge job demands play a positive role in employee work engagement and commitment. Podsakoff et al. (2007) found that the challenge job stressors are positively related to employees' job satisfaction while Van den Broeck et al. (2010) discovered that challenge job demands are positively related to the vigor of employees. Therefore, challenge job demands should be differentiated from hindrance job demands by the organizations. Furthermore, most of the studies tend to conduct only affective commitment or OCB. However, in the present study, the organizational commitments of technology employees from both behavioral and emotional perspectives in the Chinese IT companies are analyzed.

Moreover, a family-supportive supervisor is found to be directly related to affective commitment and OCBO of Chinese IT technology employees, which indicates the important roles of supervisors' support and a family-friendly working environment in an organization. This study expands the existing literature review by giving more attention to FSS and challenge job demands from the organizational levels to enhance the IT technology employees' commitments. Job satisfaction is also found to play the mediating roles for affective commitment and OCBO. The current study predicts OCBO and affective commitment of the technology employees from both behavioral and emotional perspectives, which provides a comprehensive picture for promoting technology employees' organizational commitments in the Chinese IT companies.

### 5.2. *Practical Implications*

This study discovers that both challenge job demands and family-supportive supervisors are supported to be the important antecedents for affective commitment and OCBO of the technology

employees in the Chinese IT companies. Moreover, FSS, which is regarded as the support from the supervisors has a direct impact on affective commitment and OCBO. These findings give the practical implications that a family-supportive supervisor plays an extraordinary role in facilitating the Chinese IT technology employees to put extra and voluntary efforts toward the organizational targets. In addition, proper challenge job demands within a suitable range could be offered by the Chinese IT companies to facilitate the employee's personal growth. Based on the findings of this paper, job satisfaction could be enhanced by FSS and challenge job demands, which could further trigger more organizational commitments. Further, the organizations should also offer more family-friendly programs and policies to help the technology employees to relieve their stress. The most important point of FSS is that supervisors choose to carry out family-friendly policies and show consideration to the employees on the family-related issues.

On the other hand, employees could also adjust to this intense lifestyle through a healthy lifestyle and psychology. From the organizational perspective, family-supportive supervisors and challenge job demands within a suitable range could be adopted. In the future, 5G, the internet of things, 3D printing, AI, edge computing, and biometrics would be the trend of the IT industry, which needs organizations to be competitive in attracting and retaining more talents. Technology employees, who gain a sense of job satisfaction tend to put extra effort into organizational target achievements. Moreover, rewards should also be considered by Chinese IT companies for excellent technology employees to increase job satisfaction and emotional attachment (Padma et al., 2015). It is suggested that Chinese IT companies should take certain strategies to cultivate a family-friendly working environment (Dipietro et al., 2020).

### **5.3. Limitation and Future Research**

This study inevitably has some limitations. First of all, this study is conducted cross-sectional. Therefore longitudinal study should be considered in future research. Secondly, the generalization of the present study is another problem, which only concentrates on the technology employees in the Chinese IT companies. Future researchers may consider extending this model to another industry and target diverse groups.

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