Sustainable growth by design: The role of work engagement, organizational citizenship behavior, and next-gen offices in Malaysia

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Abstract

Designing effective office spaces goes beyond arranging desks. Modern layouts, paired with strategic talent management, can foster collaboration, enhance comfort, and boost productivity. Grounded in social exchange theory, this study examines how office design and work engagement influence the relationship between perceived organizational support (POS) and organizational citizenship behavior (OCB). We surveyed 255 expatriate English teaching professionals across 15 international schools in Kuala Lumpur, Malaysia, using a two-wave research approach. Data analysis involved confirmatory factor analysis, regression techniques, and bootstrapping to assess mediation effects. Findings reveal that POS significantly enhances work engagement, strengthening its impact on OCB. Notably, this relationship is stronger in cubicle-based offices than in open-plan designs. Expatriates showed a clear preference for cubicles, finding them more conducive to their work. As the first study of its kind in Malaysian international schools, this research offers valuable insights into how office design and supportive environments maximize employee potential.

Keywords: Office design and expatriates, Organizational citizenship behavior, Perceived organizational support, Work engagement.

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1. Introduction

There exists a large body of literature examining how the physical environment influences occupants' perceptions and behaviors in office buildings. As office layouts have transitioned in recent decades from conventional private (or cubicle) spatial configurations to modern open plans, the impacts on occupants and organizations have been extensively studied from a variety of perspectives in disciplines as diverse as architecture, engineering, health, and psychology [1]. In recent years, the impact of globalization on economic changes and continuous challenges in talent recruitment have posed significant risks to employees' well-being. The psychology of sustainability and sustainable development reinforces the primary prevention approach and fosters well-being in organizations at various levels, from the employees to the groups, to the organization, and to organizational and inter-organizational processes [2].

Work design is one of the most undervalued tools that can be used to help achieve goals. The power of space to influence employees' energy, interaction, health, and drive is tremendous. Support from management in organizations regarding the planning and design of office work has been critical in recent years to maximize the efficiency of the workforce. Designing the office in a way that facilitates better interactions to develop positive relationships between employees can enhance employee well-being and ultimately organizational sustainability [3]. Working in an open-plan or cubicle-style office environment is one salient factor leading to higher work efficiency, flexible managerial disposition, and boosting communication among employees. There is no doubt that the office environment, including its architectural features, is considered one of the most influential management tools facilitating higher work efficiency, a change in managerial behavior, and better interaction among employees [4]. One such architectural feature is the division of office space into different formats such as cubicles and open-plan offices. An open-plan office does not have interior walls, resulting in employees having greater opportunities to see another working and engaging in face-to-face interaction [5, 6]. In contrast, a cubicle office setting is designed so that employees have some privacy; possessing their own cubicle, employees do not have to share their space or interact with colleagues.

The challenges facing organizations to meet increasing requirements, and shortened lead times to market, have led to an increased emphasis on how organizations speed up their knowledge creation and transfer processes. In response to this trend office environments are now widely considered to be a key component in the facilitation of knowledge creation and knowledge transfer [7]. The concept of the open-plan office environment is often cited as the most conducive environment for knowledge creation as it allows its occupants to interact and collaborate in a spontaneous manner Samani, et al. [8] however there is growing research evidence to suggest that such environments are leading to increasing office occupiers' dissatisfaction [9-11]. The open-plan concept presented to organizations is that it will facilitate interactions and collaborations. However, this assumes two things: that collaborative work is more productive than individual-focused work and that office collaborations in an open-plan environment are what people do most of their time. The main benefits purported for an open-plan environment are financial benefits and organizational benefits [12]. The financial benefits are obtained through less space provided per person and the organizational benefits are obtained through greater knowledge sharing and teamwork [10, 13]. In addition, less space requirements may lead to less energy consumption. There appears to be a need for balance. Whilst open-plan environments may be suitable for certain work activities they are not suitable for all work activities. The fundamental flaw with the open-planned concept is to expect that all work could be undertaken in one office type. The impact of office settings on employee attitudes and behaviors, especially the effects of open-plan designs (i.e. offices that minimize physical barriers between employees) has generated a fair amount of attention [14, 15]. The effects of such designs have yielded mixed findings. Open-plan proponents assert that these designs increase employee communication and satisfaction with working conditions while decreasing operating costs and allowing for flexible use of space [16]. Other studies report that open-plan arrangements result in fewer opportunities to forge work friendships and less supervisory feedback, decreased team member relations, less satisfaction with the physical environment, and lower perceptions of unit efficiency [17-19].

Explicating how office design may affect employees is challenging for other reasons as well. First, the office landscape has changed considerably since the 1970s and 1980s when many prior studies were conducted, reducing confidence in extrapolating from prior work. Moreover, contemporary office redesign efforts are different from those of earlier efforts. Office redesign in the 1970s and 1980s typically involved a movement away from single private offices in favor of cubicles. Today, redesign efforts involve different practices such as lowering cubicle walls, creating more alternative workspaces (e.g., creativity rooms, gathering spaces, privacy rooms, etc.), and a greater concern for aesthetics and the environment (e.g., utilizing more natural lighting) [20]. In addition, technological advancements preclude direct comparisons; for example, with more information being transmitted electronically, there is less of a need for physical file storage space. Another issue complicating research on office design is that the age composition of people in today's offices is, on average, younger and more diverse, raising the question of the extent to which prior findings are applicable to younger and more varied generations of employees. Work experience expectations of younger employees (e.g., so-called 'Gen Xers' and 'Millennials') may be distinct from those of their older counterparts (e.g., 'Baby Boomers'), who spent most of their work careers in the private, single office environment [21].

This study aims to analyze the gaps in the literature and assign models to investigate the growing trends in expatriate adjustments and retention in developing countries. We aim to focus our study on the Malaysian international schools employing expatriates. There is much information on expatriate employment in Europe and the United States of America, but it is still lacking in Southeast Asia. Our aim will be to identify the cultural adjustment of expatriates in Malaysia and attempt to study the gap to make the role of employing expatriates and cultural adjustments seamless. Thus, it needs to be further explored whether POS, work engagement, and OCB can impact the host country environment for expatriates in Malaysia. When expatriates find it difficult to adjust to the new surroundings, they often decide to leave the host country's

employment. We believe this study will be beneficial to academic institutions aiming to improve their retention levels and develop appropriate organizational support policies to better manage their retention, which in turn aims at reducing the turnover rate of expatriates in Malaysia. Moreover, the relationship between POS, work engagement, office design, and OCB among international schools in Malaysia has not been investigated empirically.

This article is structured as follows: we begin by outlining the key features of our model (see Figure 1). We first elaborate on the literature reviews and secondly, comment on hypotheses development derived from empirical research. Thirdly, the results of our analyses are provided and finally, we summarize the theoretical and managerial implications and note the limitations of the study.

2. Theories and Research Hypotheses

2.1. Perceived Organizational Support and Work Engagement

The social exchange theory posits that every behavior of human beings can be attributed to the exchange for rewards and compensation. Based on this concept, people's social behaviors can also be understood as a kind of exchange, as can social relationships [22]. To some extent, an individual's contribution to an organization is also for the exchange of support from that organization. This exchange can form a mutually beneficial relationship. This theory asserts that during the relationship between employees and organizations, the most important factor is that the perceived reward from the organization should equal the contribution employees make to the organization. If employees realize this, they will work hard and commit to the organization to gain support in terms of spiritual and material rewards Kurtessis, et al. [23].

Schwab, et al. [24] define social exchange into internal exchange and external exchange. In management practical, external exchange is a more beneficial exchange between individuals and organizations, such as salary and compensation. Internal exchange here is the emotional contract and commitment between the two [25]. Based on social exchange theory and compensation theory, Eisenberger, et al. [26] proposed the organizational support theory, which is about the physiological perception of employees for the support and help from their organizations. This mainly included whether the feedback on employees' contribution can be effectively informed and whether they perceived positive support during their work process. Besides, Zhang [27] adds that successful organizational support should also include instrumental support in terms of training and others, which can better help employees realize the positive support from organizations. As a conclusion, effective organizational support should include emotional organizational support and instrumental support. When employees have a positive POS, they will intend to know their contribution is accepted by organizations, which will enhance their commitment, citizenship behaviors, and performance.

Hur, et al. [28] define work engagement as organizational members controlling themselves to fit into the job roles. Based on this point, Settoon, et al. [29] further divided work engagement into three dimensions physical, cognitive, and emotional. These three dimensions are relatively independent, but the total work engagement will be higher if one dimension becomes higher. Besides, Taipale, et al. [30] research shows that as the opponent side of job burnout, the three dimensions of work engagement are energy, involvement, and efficacy, which are compared with job burnout' dimensions as exhaustion, cynicism, and lack of professional efficacy. Based on the triangular model of responsibility raised by Hakanen, et al. [31] and Jimenez and Dunkl [32] redefined work engagement as perceived responsibility, commitment, and perceived influence of job performance. For this definition, work engagement is about an individual's commitment and responsibility to their performance and the relative with themselves.

According to the above research and analysis, one important antecedent of employees' work engagement is POS. Scholars believe during practical management and empirical study, effective organizational support can positively affect work engagement in the following ways [33]. POS can enhance employees' commitment. Organizational commitment means the physiological contract made between employees and organizations. Higher commitment can obviously improve employees' work engagement [34]. POS can influence employees' job satisfaction, which will also affect their engagement with the work. Ott, et al. [35] realized POS will positively affect employees' job satisfaction, which will indirectly influence their work engagement. Employee work engagement is a property of the relationship between an organization and its employees. An "engaged employee" is defined as one who is fully absorbed by and enthusiastic about their work and so takes positive action to further the organization's reputation and interests.

POS reflects the organization's overall expectations of its members and recognition of personal value and their contribution to it in a subjective way. "Social exchange theory" and "reciprocity principle" have always been the theoretical basis of research on organizational support and employee work engagement. The premise of the social exchange relationship is that if a person gives another person a favor, he believes that he will receive a corresponding return from the other person in the future [36]. Similarly, if organizational support is perceived by the employees, then they will believe that the organization will fulfill its obligations of exchange in the future and think that they are obligated to repay the organization, so they will work hard to obtain the material and spiritual rewards, thus realize social exchange. According to the principle of reciprocity, only when employees perceive support and caring from the organization will they give positive organizational commitment and contribution and make active attitude or behavior changes to make an effort to achieve organization goals. Related research shows that organizational support has a direct positive predictive effect on knowledge workers' job involvement [37]. The research on the negative behavior of job involvement conducted by Yang, et al. [38] found that POS can significantly inhibit the negative behavior of employees. Based on the above analysis, the following assumptions are put forward:

Hypothesis 1: Perceived organizational support is positively correlated with work engagement.

2.2. Work Engagement and Organizational Citizenship Behavior

Understanding employee behavior at work has taken center stage in contemporary research on human resources. The significance of emotions and cognition at work can be fathomed from the fact that many new concepts and frameworks have been developed in the last decade around this [39]. Work engagement is such a phenomenon that is a corollary to research on employee social behavior at work. It essentially defines in depth the workers' psychological involvement with their employer and work. It is a comparatively new concept in the field of Human Resource Management spanning more than two decades [40, 41]. Work engagement is, however, different from job involvement in that it relates to how the employee uses emotions and cognition that accompany both job satisfaction and commitment [42]. Based on extra-role behavior (discretionary effort) and commitment of an employee, engagement is a two-way reciprocal process between employee and enterprise [43].

Employee work engagement is more based on a give-and-take relationship, which is also referred to as "social exchange theory", thus employee engagement is measured based on the emotional, cognitive, and physical resources one is willing to devote based on the resources received from the organization [44]. There are different views about work engagement, some mentioning it as "state engagement", "trait engagement" or "behavior engagement". This was well brought out by Ng, et al. [45] where it was clearly mentioned how employee engagement is defined differently based on the three facets and as pointed out, that employee engagement is more like a state, and variables comprising of trait engagement are more like independent variables or antecedents of employee engagement, and the behavior engagement such as OCB, role expansion or being adaptive are the outcomes of state engagement.

OCB is one of the parts of pro-social behavior that provides benefits to the organization as well as employees [46, 47]. Organizational citizens have persistence, ability, and flexibility to cope with additional work efforts without any hope of reward in return [48-50]. In this case, employees' self-realization and motivation are clearly seen through their dedication and potential towards the organization. OCB is defined as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization [51]. There are also many studies-based OCB by different authors defining OCB as extra-role behavior or as an in-role behavior. However, the most widely used definition of OCB was by Organ, and the scale used for measuring OCB was by Podsakoff, et al. [52] as the constructs of the other scales seem to overlap with these constructs. OCB refers to employee behavior that goes beyond formal job requirements and employees can decide whether they want to perform OCB and to what degree. This definition is largely derived from the work of Organ [51]. Employees can demonstrate their citizenship behavior in five ways: (1) altruism, which refers to behaviors directed towards a specific person with an organizationally relevant problem, (2) conscientiousness, which refers to behavior that goes beyond the minimum required expectation, (3) sportsmanship, which refers to behavior such as tolerating inconvenient situations without complaints, (4) courtesy, which refers to behavior that helps to prevent problems in advance, and (5) civic virtue, which refers to behavior involving participation in overall organizational issues [51]. Previous studies have found desired outcomes from OCB, leading to continued interest in the OCB concept. While previous studies have reported a relationship between work engagement and OCB [53-55]. Little is known of this potential relationship in other more collectivist cultures. Also, given the rapidly changing employment relationship and work management practices in many international business settings, it is important to further confirm the linkages between employee work engagement and OCB. Thus, the second hypothesis of the study was:
Hypothesis 2: Work engagement is positively correlated with organizational citizenship behavior.

2.3. The Mediating Role of Work Engagement in the Relationship between POS and OCB

A theoretical explanation for the mediating role of engagement can be gleaned from Social Exchange Theory [56]. This theory asserts that when both the employer and employee abide by exchange rules, they will have a more trusting and loyal relationship. This is because "social exchange comprises actions contingent on the rewarding reactions of others, which over time provide for mutually and rewarding transactions and relationships" [57]. There is clear evidence to confirm that employees' POS both in terms of financial and non-financial support is a crucial factor that enhances extra-role behavior [58]. Thus, it is confirmed that there is a significant relationship between POS and OCB [59]. Yet over time, many researchers have focused on the mediating effect to explain how POS enhances OCB [60, 61]. The mediating variable in the social exchange perspective defined in this study is employee work engagement which refers to a positive, fulfilling, and work-related attitude of employees that is characterized by vigor, dedication, and absorption [62]. In other words, it can be explained that when employees perceive their contributions to be valued and their well-being is treated by the organization Hakanen, et al. [63] the positive attitudes toward the organization and their roles are enhanced, leading to OCB [64]. Thus, employee work engagement is in a proper position to mediate the relationship between POS and OCB since integrating psychological, emotional, and physical components is a key determinant of OCB [65]. Therefore, the following hypothesis is proposed:
Hypothesis 3. The relationship between POS and OCB is mediated by work engagement.

2.4. The Mediating Role of Office Design (Cubicle vs. Open-Plan) in the Relationship between Work Engagement and OCB

A well-structured work design may be the most noticeable and positive feature of an organization; good and well-structured work may also drive a message of brand excellence, strength, authority, energy, and pleasure to all employees. Several studies show that employees who are satisfied with their work and departmental design have better results, outcomes, and productivity [66, 67]. Office design can be a source of satisfactionJaitli and Hua [68] Engagement Becker [69] Productivity Asmui, et al. [70] and Employee Health Stea, et al. [71] but how companies design an office to meet the needs of their organization and open question. In the past, this question has frequently been answered through corporate strategy and budget restrictions [72]. However, as organizations become more data-driven and office space costs increase, many

companies are beginning to consider other types of costs such as loss of productivity and decreased employee engagement [73]. These considerations have led to new questions regarding the impact of office design choices on employees. Several different office designs have been used over time to facilitate a wide range of work styles and goals. In this study, we examine two designs common to modern companies, here described as Cubicle and Open plan.

Cubicles are a way of breaking open office floors with partitions between desks, providing an enclosed desk space for each employee. The design was once the most common type of office design but has become less popular in recent years [74]. Some benefits of this type of office design, such as reduced visual distraction leading to increased perseverance have been identified, but these are now seen as being offset by negative cultural effects and reduced collaboration [75]. Most work on this design has focused on individual cubicles, with no known work on designs with a team of employees in a single large cubicle. There are several advantages to using cubicles as well. Employees and managers alike can have more privacy than they would in an open-planned concept office. Cubicles give everyone their own space, meaning that it may be easier for people to keep their things organized. With an open concept, it's easy for your stuff to creep over into your neighbor's workspace, whereas if you use cubicles, it's easier to keep your stuff in its own space. Cubicles also provide an environment more conducive to individual work [66]. If you need your employees to be focused on their own work most of the time, rather than collaborating with each other, cubicles may be a good choice for your business.

In contrast to cubicles, Open-plan offices are designed with minimal separation of spaces, such that the office floor is without internal walls or doors. They are currently very popular in large corporations, but they are associated with a range of issues including increased disturbances and lack of privacy [76, 77]. Open-plan environments have been shown to increase the opportunity for informal interactions among employees. These interactions and the flexibility in organizing workers found within these spaces feed into increased collaboration among employees within open environments. Open-plan offices can also lead to employees feeling more satisfied with their coworkers, as compared to more traditional office environments. These benefits have also been translated to higher levels of job satisfaction [78]. Open-plan environments can also be linked to improved perceptions of the work, with employees in one study reporting that their company was "more innovative (and) less formal". Past research has highlighted the tendency for open-plan office designs to drive negative behaviors and attitudes of employees through loss of space and increased contact with coworkers [73]. It has been established that environmental variables such as noise and visual disturbances, poor air quality, temperature, and lighting have an impact on satisfaction, engagement, and productivity in open-plan environments, suggesting that examining cubicle or open-plan office design in an experimental context adds value to the literature [79-81]. Employees feeling that their organization does not hide work activities from them may develop a positive effective behavior such as OCB. According to Eisenberger, et al. [26] employees who consider their work fair tend to be more satisfied and committed to the organization, leading to greater work engagement in OCB. Based on the aforementioned factors, we suggest that employees are more likely to engage in helping behavior when they are psychologically empowered, possess a positive attitude, are satisfied in the organization, and communicate effectively with their co-workers. Therefore, the following hypothesis proposes the moderating role of office design on the relationship between work engagement and OCB.

Hypothesis 4. Office Design moderates the relationship between Work Engagement and OCB such that the relationship is stronger when the office design is cubicle rather than open plan.

Therefore, this article constructed the conceptual model (Figure 1) according to the above hypotheses. In this model, POS and work engagement are regarded as independent variables and OCB is a dependent variable. In this study, we propose to test office design as a moderator in the relationship between work engagement and OCB.

Figure 1.
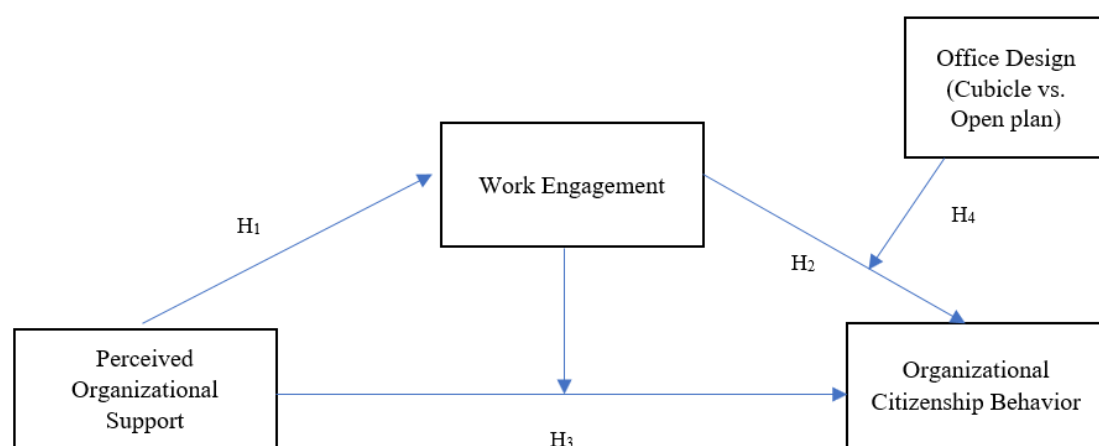Conceptual Frame of the Study.

3. Method

This section describes the measures, details on the sample, and data analysis techniques.

3.1. Measures

This study relied on previously developed and validated scales. Prior to data collection, a pilot test was conducted with a convenience sample of 30 expatriate (English teaching professionals) employees from three international schools in Kuala

Lumpur. The results of the pilot test confirmed the appropriateness of the instrument and data collection procedures. These respondents were excluded from the two-wave actual data collection study. In the following sections, the measurement instrument for each variable is described in detail.

3.1.1. Perceived Organizational Support

Perceived organizational support refers to employees' perception concerning the extent to which the organization values their contributions and cares about their well-being. POS has been found to have important consequences for employee performance and well-being. Research on perceived organizational support began with the observation that if managers are concerned with their employees' commitment to the organization, employees are focused on the organization's commitment to them [52]. The POS variable was measured with 9 items, such as "My working conditions support the results I am expected to achieve," "This company has a culture that allows me to develop my professional skills," and "When I first started working here, this company provided the necessary onboarding information and training." The response format for the survey items consisted of a 5-point Likert scale of agreement (1 = strongly disagree, 5 = strongly agree). Employee responses were averaged to create an overall POS score ranging between 1 and 5. Higher scores indicate that respondents perceived their organization to be more supportive. Cronbach's α was .86, indicating high reliability of the scale.

3.1.2. Organizational Citizenship Behavior

The 24 item-scale developed by Schaufeli, et al. [82] was used to measure OCB. The developers of this scale reported reliability at 0.96, whereas in the current study, the reliability was 0.87 (civic virtue, a ¼ 0.73; altruism and sportsmanship, a ¼ 0.78; courtesy and conscientiousness, a ¼ 0.65). It is important to note that in this study, an employee self-rating approach was used rather than supervisory ratings as in the original version. All items were reworded to reflect this change in focus.

3.1.3. Employee Engagement

We measured employee engagement with the 9-item version of the Utrecht Work Engagement Scale [83]. The measure of engagement used in the present study has been shown to exhibit high internal consistency and test-retest reliability as well as discriminant, convergent, and construct validity [84, 85]. Each facet of engagement, namely absorption (e.g. 'I am immersed in my work'), dedication (e.g. 'I am enthusiastic about my job'), and vigor (e.g. 'At work, I feel full of energy') was assessed with three items. We used a seven-point frequency rating scale from 1 (never) to 7 (always) for all subscales. Overall consistency for the composite engagement scale was 0.86.

3.2. Sample and Data Collection

The population for this study consisted of expatriate employees from twelve international schools situated in Kuala Lumpur, Malaysia. Although these firms were chosen based on personal contacts, they were representative of many well-established large private international schools in Malaysia [86]. Each participating international school was contacted using google forms for the survey. The sample was drawn from expatriate employees teaching English subjects at each of the 15 international schools. Out of 434 responses, 179 were excluded because of incomplete data, and the remaining 255 valid responses were used for the final analysis.

Table 1.
Sample demographic variables.

Variables	Values	Frequency	Percentage
Gender	Female	85	33.3
	Male	170	66.7
Age	24-29	96	37.6
	30-39	79	30.9
	40-49	63	24.7
	≥ 50 years	17	6.66
Education	Higher Diploma	9	3.53
	Undergraduate degree	154	60.4
	Postgraduate degree	85	33.3
	Ph.D. degree	7	2.75
Experience at this institution	≥ 1 *but less than 3 years*	69	27.1
	≥ 3 *but less than 5 years*	72	28.2
	≥ 5 *but less than 10 years*	68	26.6
	≥ 10 *years*	46	18.0
Positions	Educator	44	17.3
	Senior Educator	116	45.5
	Academic Manager	81	31.7
	Academic Director	14	5.5

The overall response rate was 59 percent. Of the 255 respondents, 170 were males (67%) and 85 were females (33%). The majority were aged between 30–39 (39.8%). The average time employed at the current institution was 8.76 years (SD ¼ 7.14). Most respondents reported completion of a four-year undergraduate degree (52.5%). Regarding education level, 52.5 percent of participants had a bachelor's degree and 41.3 percent had a master's degree; the proportion of PhDs was the lowest, at 4.6 percent. The current positions of the respondents varied from educators to academic directors. Approximately 64% of the employees who participated in our survey worked in cubicle offices. Table 1 presents the demographic characteristics of the 196 respondents.

3.3. Control Variables

We included age, gender, education, and tenure as control variables, because each of these demographic characteristics may have an impact on employee attitudes toward an organization [87]. Additionally, Podsakoff, et al. [88] found that organizational tenure, schooling years and gender are significantly correlated with OCB dimensions. Socio-demographic variables were measured as follows. First, we asked participants to indicate their age and organizational tenure in years. Sex was coded as 0 for males and 1 for females. Regarding office setting, we coded cubicles as 1 and open-plan as 2. Finally, regarding educational level, participants chose from the following options: higher diploma, 4-year bachelor's degree, master's degree, or PhD.

3.4. Common Method Bias and Non-Response Bias

Fuller, et al. [89] stated that the associations between constructs can be increased or decreased by common method bias when data are collected from a single source. Thus, to minimize common method bias, we used Fuller, et al. [89] instructions. To reduce any potential evaluation anxiety, on the cover letter of our online questionnaire, we ensured the confidentiality and anonymity of participants' responses and emphasized that there were no true or false answers. We assessed the effects of common method bias by conducting Harman's single-factor test [90]. As reported by the principles of Harman's one-factor test, if a considerable amount of common method bias exists, either a single factor will describe most of the covariance or a general factor will describe most of the covariance. Common method bias can be a critical issue if a first factor accounts for more than 50 percent of the variance among variables [90, 91]. In the results of the test, no single factor appeared, and there was no general factor that described much of the variance. An unrotated factor analysis picked four distinct factors, and the largest factor indicated 32.662 percent of the variance. Therefore, the results indicated that common method bias was not a serious issue in this study because no single factor appeared in the results and because there was no general factor that described most of the variance.

3.5. Data Analysis

All statistical analyses were performed using the SMART-PLS software program. Before testing the hypotheses, we conducted a series of confirmatory factor analyses (CFA) to examine the construct validity of the variables. Various fit indices (CFI, TLI, and RMSEA) were utilized to evaluate the model fit for our hypothesized model. According to previous studies Hua, et al. [92] to consider a certain model adequate, the model's CFI and TLI should be greater than 0.90 and the RMSEA value less than 0.06. Ordinary least square regression-based analysis was used to examine the direct and interaction effects. To examine the moderating effect, we mean-centered the values for the independent variable and moderator, then created interaction term using the centered variables. We also calculated variance inflation factor (VIF) scores; VIF scores of variables were below 10 [87]. Additionally, bootstrapping analysis with 10,000 resamples was conducted to confirm the statistical significance of the indirect effect predicted by Hypothesis 3.

4. Results

4.1. Descriptive Statistics

The means, standard deviation, and correlations of the variables are summarized in Table 2. A significant correlation between office setting, age, and gender emerged. Tenure and work engagement had a significant correlation with POS. Work engagement was also positively correlated with OCB.

Table 2.
Means, standard deviations and correlations between variables.

Variable	Mean	S.D.	1	2	3	4	5	6	7	8
1. Age	41.8	8.50	1.00							
2. Gender	0.87	0.67	0.03	1.00						
3. Tenure	6.23	7.43	0.61**	0.22*	1.00					
4. Education	4.12	0.88	0.33**	-0.01	0.28	1.00				
5. Office design	0.89	0.47	-0.36**	0.30**	0.18	0.14	1.00			
6. POS	4.19	0.59	-0.07**	0.05	0.32**	-0.07	0.02	1.00		
7. WE	4.95	0.43	0.00	-0.01	-0.04	0.03	0.01	0.43**	1.00	
8. OCB	4.77	0.69	-0.06	0.18*	0.03	0.17*	0.08	0.41**	0.38**	1.00

Note: N=196, **p<0.05, *p<0.01. 1= age, 2= gender, 3= tenure, 4= education, 5= office design, 6= POS, 7= work engagement, 8= OCB.

4.2. Measurement Model

Table 3 presents the measurement model fit indices for the study variables. We conducted CFA using SMART-PLS to examine the construct validity of the variables. As shown in Table 3, the fit indices support that the hypothesized four-factor model of POS, work engagement, office design and OCB ($\chi2$ = 362.01; df = 187; RMSEA = 0.05; CFI = 0.88 and TLI = 0.91) yielded a better fit to the data than the three-, two- and one-factor models. These CFA results confirm the distinctiveness of the four study variables for subsequent analyses (Table 3).

Table 3.
Chi-square difference tests among alternative measurement models.

Model	$\chi2$	df	CFI	TLI	RMSEA	Δdf	$\Delta \chi2$
4-Factor model (hypothesized model)	362.01***	187	0.88	0.91	0.05	-	-
3-Factor model (POS & WE merged)	479.39***	202	0.82	0.88	0.11	3	207.37***
2-Factor model (POS, WE & office design merged)	681.06***	204	0.74	0.56	0.14	5	482.91***

Note: N=255, ***p<0.001, POS= perceived organizational support, WE= work engagement, CFI= comparative fit index, TLI= Turkey-Lewis Index, RMSEA= root mean square error of approximation.

4.3. Hypotheses Testing

Hypothesis 1 proposed that POS would be positively related to work engagement. As shown in Table 4, we found that POS was significantly and positively related to employees' work engagement (β = 0.57, p < 0.001, Model 2). Therefore, hypothesis 1 is confirmed. Hypothesis 2 posited that employees' work engagement would be positively related to OCB. Regression test results support this prediction (β = 0.34, p < 0.05, Model 4).

Table 4.
Hierarchical multiple regression analyses.

Variables	Work Engagement		Organizational Citizenship Behavior		
	M1	M2	M3	M4	M5
POS		0.57***		0.07	0.04
WE				0.34*	0.08
OD				0.06	0.06
WE x OD					0.26*
R^2	0.00	0.16	0.07	0.13	0.17
F	0.12	7.95***	3.60**	3.41**	3.59***
ΔR^2		0.15		0.02	0.03
ΔF		39.22***		3.01*	4.44*

Note: N=255, * p <0.05, ** p <0.01, *** p <0.001. POS = perceived organizational support, WE = work engagement, OD = office design.

Hypothesis 3 proposed that the relationship between POS and OCB is mediated by work engagement. To test the mediating variable, we used a bootstrap mediation method with 10,000 samples having replacement and percentile bootstrap confidence intervals. The indirect effect of POS on OCB through work engagement was significant (b = 0.08, 95% CI: 0.01, 0.16), as indicated by the confidence interval excluding zero (see Table 5). Accordingly, hypothesis 3 is also supported.

Table 5.
Mediating Effect of Work Engagement.

Indirect Effect	Estimate	SE	95% CI
POS→WE→OCB	0.08	0.04	[0.01, 0.16]

Note: N=255, POS = perceived organizational support, WE = work engagement, OCB = organizational citizenship behavior, SE = standard error, CI = confidence interval.

Finally, we tested whether the office design mediates the positive relationship between work engagement and OCB. As noted, work engagement and office design were transformed into mean-centered variables, which we then used to create interaction terms. Additionally, we calculated VIF values to test whether there was a multicollinearity bias between work engagement and office design using SMART-PLS. The VIF values for work engagement and office design were 1.76 and 1.24, respectively. Therefore, we can conclude that the two variables (work engagement and office design) were relatively unaffected by the issue of multicollinearity. Table 4 (Model 5) demonstrates that there is a significant interaction between office design and work engagement (β = 0.26, p < 0.05), proving our hypothesis that the positive relationship between work engagement and OCB is stronger when the office design is cubicle rather than open plan. Therefore, hypothesis 4 is confirmed (Table 4, Model 5). We also conducted a simple slope test analysis for the significant interaction effect (reference). As predicted, the significant indices for the cubicle office setting (β = 0.21, p < 0.001) confirm hypothesis 4.

5. Discussion

This study highlights the significance of perceived organizational support (POS) in fostering employee engagement and organizational citizenship behavior (OCB). POS is valued by employees as it fulfills their needs for approval, esteem, and

affiliation while offering comfort during stressful times. Favorable supervision and HR practices that enhance POS lead to greater job satisfaction, stronger organizational loyalty, and alignment of personal and organizational goals. These findings align with previous research that links organizational support with enhanced employee engagement [93]. Engaged employees exhibit higher levels of OCB, contributing to a positive social context that promotes teamwork, feedback, and other discretionary behaviors essential for organizational effectiveness [89]. This study underscores the importance of employee engagement as a global construct and desired work attitude, with POS being a critical factor in fostering the civic virtue component of OCB. Employees who perceive genuine interest from their organization in their well-being and development are more likely to participate in non-mandatory activities, reinforcing the reciprocal nature of POS and OCB [94]. The results demonstrate that as POS increases, so does OCB, emphasizing the importance of an organization's support in enhancing employee morale and comfort.

The study also examines the moderating role of office design in the relationship between work engagement and OCB [52]. Employees working in cubicles, as opposed to open-plan offices, report higher levels of engagement and positive behaviors. Cubicles provide privacy, reduce noise distractions, and create a sense of security, allowing employees to manage their workload and time more effectively. This privacy fosters a sense of trust and responsibility among employees, enhancing their morale and focus. In contrast, open-plan offices, once thought to enhance communication and creativity, are associated with higher noise levels, stress, and reduced productivity [95]. Overall, this study extends existing research by emphasizing the crucial role of POS in improving employee engagement and OCB, while also challenging traditional assumptions about office design. It highlights that a supportive organizational environment, combined with thoughtfully designed workspaces, significantly enhances employee well-being, engagement, and overall organizational effectiveness.

5.1. Theoretical Contributions

This study bridges gaps in research on office design and perceived organizational support (POS) by exploring how office layout moderates the relationship between work engagement and organizational citizenship behavior (OCB). Unlike previous studies that primarily examined the direct influence of office design on productivity, this research investigates the role of cubicle versus open-plan layouts in shaping employee behavior. It also introduces an integrated approach by examining how emotional, cognitive, and physical empowerment interact with office design to influence helping behaviors, offering a fresh perspective on office environments.

The study uncovers the mediating role of work engagement in the POS-OCB relationship, revealing another "black box" mechanism. Work engagement not only strengthens the positive relationship between POS and OCB but also benefits both organizations and employees. By collecting data from international schools in Malaysia, the study extends the generalizability of these findings to a new cultural context. Open-plan offices have traditionally been favored for their perceived benefits, including fostering sociability, teamwork, and idea sharing. Such layouts are believed to create relaxed environments that encourage informal interactions and productivity, particularly when teams work together. Employees in open-plan offices often enjoy greater integration into teams and benefit from enhanced communication opportunities [95].

However, this study highlights that cubicle office designs are more effective and preferred among employees in the international schools in Kuala Lumpur. Cubicles provide privacy, a sense of ownership, and dedicated storage for personal and professional items, enhancing employees' comfort and security. Standardized workspaces in cubicles promote fairness and boost employee morale, contributing to a more productive and focused work environment [96]. In summary, the study contributes to office design research by demonstrating that while open-plan offices encourage collaboration, cubicles are more effective in fostering individual focus and well-being. This nuanced understanding of office layouts, combined with insights into the mediating role of work engagement, underscores the importance of creating workspaces that balance privacy, fairness, and collaboration to maximize employee engagement and OCB.

5.2. Managerial Implications

This study provides valuable insights for human resource managers and department heads in international schools employing expatriate academics. It highlights the importance of perceived organizational support (POS) and work engagement in fostering organizational citizenship behavior (OCB) among expatriate employees. Expatriates often work in culturally diverse environments, where a sense of reciprocity in workplace relationships holds more significance than organizational support alone. HR practitioners must strike a balance between these factors, creating environments that enable expatriates to thrive.

Organizations that invest in employee engagement strategies see tangible benefits, including lower absenteeism, higher productivity, and improved performance. Engagement can be enhanced by clearly defining roles, providing necessary tools, and offering opportunities for continuous growth. Employees who feel emotionally invested in their work perform better. Building closer connections among colleagues and fostering healthy relationships are essential, particularly in team-oriented workplaces. Recognizing and rewarding employees frequently and meaningfully also boosts morale and engagement [97]. HR managers and school leaders must actively create a culture where employees feel valued and aligned with the organization's mission. However, surface-level HR policies and practices are insufficient. Employees must perceive these initiatives as sincere, reinforcing the organization's commitment to their well-being. Personalizing HR practices can strengthen expatriates' perceptions of support and engagement. While customization may raise concerns about fairness, international schools should adopt flexible yet inclusive HR policies [98, 99]. For example, offering tailored insurance packages and subsidized accommodation can demonstrate genuine care for expatriate employees, improving retention and productivity. Personalized policies show that organizations prioritize employee contributions and well-being, rather than focusing solely on financial outcomes.

Office design also plays a critical role in employee engagement. The study found that expatriates prefer cubicle-based designs over open-plan layouts. Cubicles provide privacy, reduce distractions, and allow for a focused work environment, promoting higher engagement and morale. HR professionals should prioritize flexible office designs that cater to diverse employee needs, offering spaces for privacy, collaboration, and focused work. Tailored office environments ensure employees can work effectively without constant interruptions. The study underscores the detrimental impact of open-plan offices on productivity and well-being, advocating for office designs that balance collaboration and privacy. HR professionals must address these issues to attract and retain top talent. A well-designed office creates a positive impression on potential employees and supports long-term staff satisfaction and productivity. By prioritizing engagement, personalized support, and thoughtful office design, HR managers can enhance employee performance and foster a thriving organizational culture.

5.3. Limitations and Future Research Directions

This study acknowledges several limitations that must be addressed. First, while expatriate academic employees from various countries participated, the findings are specific to Malaysia and may not generalize to other nations or types of expatriates, such as professionals. Additionally, the selected framework, though suitable for studying employee engagement and behavior, could benefit from the inclusion of additional variables. Expanding the study to other organizations, countries, and a cross-country context could enhance generalizability and provide new insights. The study relied on single-point data collection and convenience sampling, which may not accurately represent all international school employees. Future research should explore the impact of perceived organizational support (POS) on organizational citizenship behavior (OCB) among a broader population, including professional and local employees, using random sampling for improved validity. Replicating this study in different contexts, such as other international schools or higher education sectors, is essential for broader applicability.

The study offers tentative support for the moderating role of office design but suggests larger sample sizes for future research to confirm these findings. Limitations of self-assessment methods, though previously tested, are noted. Efforts were made to mitigate common method variance through robust statistical techniques like CFA tests and Harman's single-factor tests, which confirmed that method variance did not significantly affect results. Finally, future studies should consider longitudinal designs to explore causal relationships among variables and better align findings with existing literature. Addressing these limitations will strengthen the reliability and applicability of future research.

6. Conclusions

The global workforce is aging, and future positions will demand higher skill levels, creating a widespread shortage of skilled workers across industries, including education. Addressing work engagement in higher education is critical, as it significantly impacts organizational success and contributes to institutional and community benefits. Given the substantial investment in faculty and staff, institutions must optimize their workforce's potential to drive long-term economic advantages. A robust talent strategy that fosters an engaged workforce can create lasting positive effects for institutions and the broader economy. As highlighted in this study, the design of workspaces plays a pivotal role in enhancing employee engagement. Specifically, cubicle office designs can intensify employees' willingness to engage in extra-role behaviors, such as organizational citizenship behavior, which is crucial for institutional effectiveness [18, 100].

Human resource managers and department heads must prioritize transparent communication when implementing new policies and procedures. Emphasizing the organization's benevolent motives and ethical intentions can foster trust and alignment with employees, further enhancing engagement and productivity [101]. By adopting thoughtful workspace designs and maintaining open communication, institutions can create environments that encourage workforce engagement and maximize employee contributions. These strategies not only improve organizational outcomes but also prepare institutions to adapt to the evolving demands of a global and skilled workforce.

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