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Does Work Location Influence Determinants of Employee Retention? A Multi-Group Study in the Construction Sector

(Adakah Lokasi Kerja Memperngaruhi Penentu Pengekalan Pekerja? Kajian Berbilang Kumpulan di Sektor Pembinaan)

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ABSTRACT

This study examines the determinants of employee retention by comparing construction sector employees in two different work locations, namely, site- and office-based. The questionnaire approach was used to collect data from 269 employees working in the construction sector in Sarawak. The partial least square structural equation modelling (PLS-SEM) and multi-group analysis (PLS-MGA) were utilised to analyse the data. The results showed that all four constructs are positively related to employee retention in the complete sample set. Compensation and work environment factors significantly affected employee retention in construction site-based employees while only compensation was found to have an insignificant negative effect on office-based employee retention. The PLS-MGA further confirmed the significant effect of compensation on employee retention in the construction sector across different work locations. The findings suggest that effective human resource management strategies could be enhanced by designing different policies that target construction sector employees in different work locations.

Keywords: Employee retention; construction sector; work location; compensation; multi-group analysis

ABSTRAK

Kajian ini mengkaji penentu pengekalan pekerja dalam membandingkan pekerja sektor pembinaan di dua lokasi kerja yang berbeza iaitu tapak pembinaan dan pejabat. Kaedah pengumpulan data sebanyak 269 pekerja di sektor pembinaan di Sarawak telah dikumpul melalui pendekatan soal selidik. Pemodelan persamaan struktur separa terkecil (PLS-SEM) dan analisis berbilang kumpulan (PLS-MGA) digunakan untuk menganalisis data. Hasil kajian mendapati keempat-empat konstruk berkaitan secara positif dengan pengekalan pekerja dalam set sampel penuh. Faktor pampasan dan persekitaran kerja mempengaruhi pengekalan pekerja secara signifikan dalam kalangan pekerja di tapak pembinaan. Manakala hanya pampasan mempunyai kesan negatif yang tidak signifikan terhadap pengekalan pekerja di pejabat. Kajian lanjutan melalui PLS-MGA mengesahkan kesan pampasan yang signifikan terhadap pengekalan pekerja di pelbagai lokasi kerja dalam sektor pembinaan. Hasil kajian menunjukkan bahawa strategi pengurusan sumber manusia yang berkesan dapat dipertingkatkan dengan menghasilkan polisi yang berbeza dengan sasaran pekerja di lokasi kerja yang berbeza dalam sektor pembinaan.

Kata kunci: Pengekalan pekerja; sektor pembinaan; lokasi kerja; pampasan; analisis berbilang kumpulan

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INTRODUCTION

The construction sector contributes significantly to the economic growth of a country. For instance, in Malaysia, the construction sector contributed approximately RM53.4 billion of the total gross domestic product (GDP) of the country in 2020 (DoSM 2021a). Specifically in Sarawak, the construction sector accounted for about 3.3 percent (RM4.5 billion) of the total GDP of the state which was mainly derived from a few mega-projects (DoSM 2021b). Besides that, the construction sector also provides various job opportunities with the increase in construction projects. Statistics showed that a total of 12.76 million people (8.5 percent) were employed in the

construction sector in Malaysia in the year 2019 (DoSM 2021c) with about 1.39 million construction employees employed in Sarawak. Apart from contributing to the economy, more job opportunities are available in the construction sector. Therefore, the contribution of the construction sector in Malaysia and Sarawak's economy cannot be denied.

Empirically, an employee is the main asset of a company required to completing projects. Kurdi et al. (2020) reported that successfulness of a company highly depends on its ability to attract, retain and rewards the employees. Therefore, it is important to retain competent employees to continuously work with the company. Employee retention is one of the important strategies in Human Resource Management (HRM) to encourage employees to continue contributing to the organisation for a long period. Retaining talented and experienced employees is also a crucial advantage for the organisation (Kurdi et al. 2020). Mohanty and Mohanty (2014) stated that human capital is the key competitive advantage for a company. Replacement of human capital requires a longer time as new employees need to be recruited and trained. Safian et al. (2021) further supported that the construction companies have to invest additional time and money for training the newly recruited employees. Moreover, Samuel and Chipunza (2009) remarked that the productivity and profitability of a company could reduce if the company is unable to retain its competent employees. Therefore, retaining key employees is one of the crucial HRM activities for a company.

Malaysia recorded a 9.50 percent of voluntary staff turnover rate and is ranked as the top three in Southeast Asia in the year 2015 (Jayaram 2015). The high staff turnover issue is also noted in the construction sector due to poor retention strategies. As remarked by Moshood et al. (2021), high turnover was the main issue for Malaysian construction companies, which in turned caused a serious employees shortage issue. For instance, the Premier of Sarawak, Datuk Patinggi Abang Johari Tun Openg stressed that the Movement Control Order has caused a 5,000 employees' shortage in the Sarawak construction sector (Edgar 2020). Most of the job roles in the construction sector require skilled and experienced employees to ensure the project completion within some constraints. Therefore, construction companies should practise a good retention scheme to maintain their employees for a longer period.

To date, numerous studies were conducted to evaluate the determinants of employee retention in different contexts; however, the findings are inconclusive. The determinants of employee retention in the construction sector have also been reported (Al-Sadi & Khan 2018; Habizah et al. 2019; Kasmuri et al. 2020). Nevertheless, the potential influence of different work locations (site & office) on construction sector employee retention is still limited. Alkhaddar et al. (2012), and Lingard and Francis (2004) recognised on the unique research setting possessed by the construction sector, on the significant differences between two work locations (site & office). Practically, the employees on construction sites focused on the technical roles, while office-based employees predominant on the supporting roles (Alkhaddar et al. 2012). Due to limited information on the influence of different work locations on employee retention, this study aims to discover the possible effects of work locations in the construction sector using the constructs from Herzberg's theory and comparison between the construction site-based and office-based employees were investigated.

This study shall contribute to the literature as it provides evidence of the influence of work locations (i.e. site-based and office-based) on employee retention. Besides, the findings also offer some crucial practical implications towards the construction sector. Although the results from the complete sample show that all four constructs significantly determined employee retention in the construction sector, the results of multi-group analysis (PLS-MGA) prove on a discrepancy between employees in different work locations. Specifically, construction companies shall offer better compensation schemes and provide a safe and healthy work environment to retain the site-based employees, while office-based employees are more concerned on a favourable office environment, clear and encouraging career development schemes and appreciation for completing work excellently.

This paper continues with the literature review followed-by the methodology. The results and discussions on the findings are then presented. The paper ends with a conclusion section that consists of both theoretical and practical implications, limitations and suggestions for future research.

LITERATURE REVIEW

HERZBERG'S TWO-FACTOR THEORY

Herzberg's two-factor theory of motivation is used to determine the influence of work location on employee retention. The Herzberg theory is widely used as a motivation tool to explore satisfaction levels among employees (Lundberg et al. 2009; Tan et al. 2014). Two different sets of human needs, namely motivators and hygiene factors were proposed in this theory (Grigaliunas & Herzberg 1971). The theory suggests that motivators lead to job satisfaction. Employees will retain in a company if they are satisfied with motivators such as achievement, work recognition, advancement growth and the nature of work itself. Meanwhile, hygiene factors are related to job

dissatisfaction but not directly associated with the nature of the job, with more concern on the surrounding performance of a profession. Hygiene factors such as company policy, work condition, remuneration, salary and security are some of the factors that could initiate dissatisfaction and results in employees leaving the company (Grigaliunas & Herzberg 1971). In the present study, two motivators (recognition & career development) and two hygiene factors (compensation & work environment) are utilised to understand employee retention. The proposed research model is as illustrated in Figure 1.

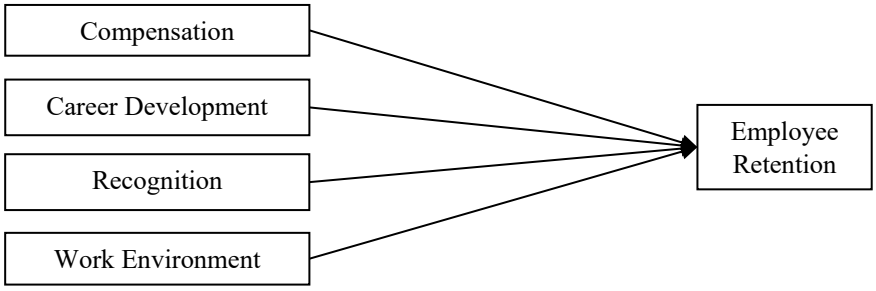

FIGURE 1. Research framework

EMPLOYEE RETENTION

Employee retention refers to the ability of an organisation to retain its employees (Kakar et al. 2017). Retaining a competent, skilful and knowledgeable employee in an organisation is crucial and challenging as it requires the company to introduce policies that could meet the needs of employees, enhance their job satisfaction, encourage and motivate them (Mngomezulu et al. 2015). Therefore, employee retention is a continuous practice. Motivational factors such as financial rewards, career development, job characteristics, recognition and work-life balance are crucial in retaining the employees (Aguenza & Som 2012). Failure to meet employees' perception towards factors such as salary and reward, compensation, stress at workplace, working with co-workers, career opportunity, and professional and non-professional tussles may contribute to high employee turnover (Mohanty & Mohanty 2014). A study by Liu et al. (2007) supported that poor employee retention has resulted in a high employee turnover in the construction industry.

COMPENSATION

In HRM, one of the major strategies is compensation which refers to rewards that are provided to the employees for their service to the company. Compensation can be defined as a salary or wages and also other benefits such as pensions, insurances and allowances. The reason for employees to work is to obtain compensation which has a crucial impact on employee's retention (Kasmuri et al. 2020). Several studies have revealed a positive relationship between compensation and employee retention (Bibi et al. 2018; Fahim 2018; Rombaut & Guerry 2020). Bibi et al. (2017) mentioned that compensation is important to retain an employee for a longer time. Adzei and Atinga (2012) also proposed that employee retention could be achieved by financial incentives such as compensation. Compensation has also been reported as the main factor that causes a high turnover of employees (Habizah et al. 2019; Heady et al. 2020; Islam et al. 2020). Hence, compensation has a great influence on employee retention. This study evaluates the following hypotheses:

H_{1a} There is a positive relationship between compensation and employee retention in the complete sample set;
H_{2a} There is a positive relationship between compensation and employee retention in the construction site-based sample;
H_{3a} There is a positive relationship between compensation and employee retention in the office-based sample.

CAREER DEVELOPMENT

Career development refers to the company's initiatives in developing employees' competencies and self-efficacy (Pittino et al. 2016). The internal career development programs may influence employees' intention to stay in the company provided there are proper programmes that could offer a great prospect in the future career. Internal training and career development were shown to have a significant positive effect on employee retention (Bibi et al. 2018; Fahim 2018; Pittino et al. 2016). Mukherjee et al. (2020) found that career growth is one of the persuasive predictors of talent retention. Internal promotion, advancement plans and accurate career previews at the time of hire are some of the strategies. Adzei and Atinga (2012) stated that non-financial incentives such as opportunities for continuing professional development are also predictors of motivation and retention. Consequently, Islam et

al. (2020), Rahman et al. (2020), and Zafar and Siddiqui (2019) reported that lack of a good career path a predominant factor that influences employee turnover in construction companies. Therefore, the following hypotheses were proposed for evaluation in this study.

H_{1b} There is a positive relationship between career development and employee retention in the complete sample set;
H_{2b} There is a positive relationship between career development and employee retention in the construction site-based sample;
H_{3b} There is a positive relationship between career development and employee retention in the office-based sample.

RECOGNITION

Recognition is defined as the appreciation for the tasks completed by the employees. A company should appreciate and recognise the effort rendered and the successful completion of tasks by the employees. Recognition includes verbal praise, certificate presentation or small non-cash rewards that can motivate and increase the morale of the employees. When employees feel they are appreciated, they tend to stay longer (Rahman et al. 2020). Mngomezulu et al. (2015) also reported that recognition ensures employees understand that their work is appreciated which consequently raise employee's morale and improves their loyalty to the company. Employee recognition is not compulsory to come from the higher management, but can also be initiated by colleagues or customers (Rahman et al. 2020). The positive effect of recognition has been reported in numerous studies. For instance, Lantz and Runefors (2020) reported that the perception of recognition could increase satisfaction and the intention to remain in the company. Rombaut and Guerry (2020) also found that recognition has a significant effect on the retention strategy. Meanwhile, Turnea and Prodan (2020) discovered that recognition is positively significant to human resource retention. Based on the previous findings, the following hypotheses were generated:

H_{1c} There is a positive relationship between recognition and employee retention in the complete sample set.
H_{2c} There is a positive relationship between recognition and employee retention in a construction site-based sample.
H_{3c} There is a positive relationship between recognition and employee retention in the office-based sample.

WORK ENVIRONMENT

The work environment can be defined as the place where one works, which refers to the settings around a person. It is the social and professional environment in which a person supposed to interact with some people. The work environment includes processes, systems, structures, tools or conditions in a workplace that impact favourably or unfavourably an individual's performance. Rahman et al. (2020) found that employees can perform better by creating a physically comfortable and socially enhancing atmosphere which can indirectly increase employee retention. Besides, Arvanitis (2005) stated that the implementation of scheduling and flexible working hours allows firms to compete in getting the best worker and hence can increase employee retention. Recent studies revealed that high employee turnover was associated with a work environment that does not meet employees' preference. Employees require freedom to work, speak and act, and clear company policies and guidelines (Al-Sadi & Khan 2018; Heady et al. 2020). Based on the related previous studies, the following hypotheses were developed:

H_{1d} There is a positive relationship between work environment and employee retention in the complete sample set.
H_{2d} There is a positive relationship between work environment and employee retention in the construction site-based sample.
H_{3d} There is a positive relationship between work environment and employee retention in the office-based sample.

WORK LOCATIONS

In the construction sector, the employees can be distinguished according to their work location, either construction site or office. The construction site-based employees include those who are involved in technical functions such as site managers, contract managers, window fitters, electricians, bricklayers, roof fitters and scaffold fitters (Alkhaddar et al. 2012). Meanwhile, employees who are based in the office support functional roles such as administration, finance and accounting, purchasing, and human resource. Although both groups of employees are employed under the construction sector, there are differences in many aspects such as roles, benefits and work

environment. Lingard and Francis (2004) mentioned that female employees tend to work in office supporting functional jobs, while male employees predominantly work in the construction site. Besides gender, the hazards in the construction site are higher compared to the office. Lingard and Francis (2004) also further remarked on the significant differences in the work-life experience between the office and site-based employees. Alkhaddar et al. (2012) also revealed that there is a significant difference in the understanding and embracing of sustainable policy between office-based and site-based employees. Based on the previous findings, the following hypotheses were proposed:

H_{4a} There is a significant difference in the relationship between compensation and employee retention for construction site-based and office-based employees.
H_{4b} There is a significant difference in the relationship between career development and employee retention for construction site-based and office-based employees.
H_{4c} There is a significant difference in the relationship between recognition and employee retention for construction site-based and office-based employees.
H_{4d} There is a significant difference in the relationship between work environment and employee retention for construction site-based and office-based employees.

METHODOLOGY

A quantitative research approach was adopted in this study where responses were collected using the questionnaire approach from the employees in the construction sector in Sarawak. The snowball sampling method was used as the questionnaires were distributed to the representatives of the human resource department of the five large construction companies in Sarawak. The questionnaires were then distributed to the employees and the completed questionnaires were returned to the researchers. The G*Power analytic software was used to determine the minimum number of respondents required for this research. A minimum of 85 samples was calculated with four predictors at the effect size of 0.15 and 80 percent of power level. The 269 responses collected in this study met the minimum sample size required.

The questionnaire consists of two sections which are the demographic profile of respondents and construct related items which are all structured questions. This study adapted three items of compensation from Fahim (2018), four items of career development from Pittino et al. (2016), two items of recognition from Mukherjee et al. (2020) and eight items for the work environment were retrieved from Heady et al. (2020). Meanwhile, the measurement of employee retention was adapted from Mngomezulu et al. (2015). In total, there were 21 measurement items for five constructs. The five-point Likert scale from strongly disagree (1) to strongly agree (5) was used to define the level of agreement and disagreement. The questionnaire that was originally prepared in English was translated into Bahasa Malaysia to ensure respondents understand the measurement items.

The SPSS software was first used to analyse the demographic profile of respondents. To examine the path relationship of the framework, structural equation modelling (SEM) was used coupled with the partial least square approach (PLS-SEM). The validity and reliability of the measurement items and constructs were first assessed, followed by the path coefficient analysis using the bootstrapping procedure. The measurement invariance assessment (MICOM) was also conducted before the significant differences test of PLS-MGA to ensure similar attributes are used to measure different groups (Henseler et al. 2016). The three steps of MICOM assessment introduced by Henseler et al. (2016) were strictly followed in this study. The analysis was further proceeded with the PLS-MGA to examine the significant differences between the path coefficients for different work locations in the construction sector.

RESULTS

Table 1 presents the demographic profile of the respondents. The respondents comprised 65 percent of site-based and 35 percent of office-based employees. The results showed that 90 percent of site-based employees are male while female employees dominated office-based work location by 63 percent. There was a slight difference in the age classification as 42 percent of site-based employees were in the age range of 26 – 35 years old while 37 percent of office-based employees were below 25 years old. However, the majority of the respondents in both groups were Chinese, followed by the Dayak and Malay employees. For monthly income, most of the site-based respondents earned RM 1201 – RM 2000 (25 percent) and RM 2001 – RM 3000 (25 percent), while most of the respondents (36 percent) from office-based earned RM 2001 – RM 3000. It was also found that most of the respondents working in construction-site (43 percent) and office-based (35 percent) were working with the current company for at least 3 to 5 years.

TABLE 1. Respondent profile

	Complete Sample		Site-based		Office-based	
Demographic	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gender						
Male	192	71.40	157	90.23	35	36.84
Female	77	28.60	17	9.77	60	63.16
Age						
Below 25	73	27.10	38	21.84	35	36.84
26-35	100	37.20	73	41.95	27	28.42
36-45	67	24.90	48	27.59	19	20.00
46 and above	29	10.80	15	8.62	14	14.74
Race						
Malay	38	14.10	16	9.20	22	23.16
Chinese	136	50.60	83	47.70	53	55.79
India	5	1.90	4	2.30	1	1.05
Dayak	80	29.70	62	35.63	18	18.95
Others	10	3.70	9	5.17	1	1.05
Monthly Income						
Less than RM1200	29	10.80	25	14.37	4	4.21
RM1201 – RM2000	72	26.80	43	24.71	29	30.52
RM2001 – RM3000	77	28.60	43	24.71	34	35.79
RM3001 – RM4000	46	17.10	32	18.39	14	14.74
RM4001 – RM5000	24	8.90	18	10.35	6	6.32
More than RM5001	21	7.80	13	7.47	8	8.42
Years of Service with current company						
Less than 2 years	63	23.40	42	24.14	21	22.11
3 – 5 years	107	39.80	74	42.53	33	34.74
6 – 8 years	54	20.10	36	20.69	18	18.95
9- 11 years	18	6.70	12	6.90	6	6.31
More than 12 years	27	10.00	10	5.74	17	17.89

Before assessing the PLS model, a multivariate normality test was performed using Mardia's coefficient procedure. The results indicated not normally distributed data as the kurtosis coefficient for the complete sample set ($\beta = 38.6685$) and two sub-samples, construction site-based ($\beta = 35.9892$) and office-based ($\beta = 41.5417$) were greater than the benchmark value of 20 (Byrne 2013; Kline 2011). Since the data were not normally distributed, the PLS-SEM approach is suitable (Hair et al. 2019). Standardized Root Means Square Residual (SRMR) results as shown in Table 2 were used to evaluate the goodness of fit (GoF) of data. It was found that all three data sets exhibited a good fit as the values of the samples were below the threshold of 0.08 (Hu & Bentler 1999).

TABLE 2. Goodness-of-Fit

Data Set	Mardia's multivariate Kurtosis	SRMR Result
Complete Sample	38.6685	0.059
Site-based	35.9892	0.066
Office-based	41.5417	0.074

Several model measurement analyses were conducted to assess the reliability and validity of the constructs and the results are provided in Table 3. For convergent validity, the outer loading showed that all the measurement items after deletion (7 items were deleted) have higher loading values than the threshold value of 0.708 (Hair et al. 2017). Meanwhile, the Average Variance Extracted (AVE) values were also higher than the satisfactory level of 0.50 (Bagozzi & Yi 1988). The findings implied the establishment of convergent validity for all three samples. The composite reliability (CR) values were higher than 0.70 for all constructs which indicated the establishment of high internal consistency (Gefen et al. 2000).

TABLE 3. Construct reliability and convergent validity

		Complete Sample			Site-based			Office-based		
Constructs	Indicator	Loading	AVE	CR	Loading	AVE	CR	Loading	AVE	CR
Compensation	CO1	0.858	0.749	0.899	0.849	0.717	0.884	0.875	0.811	0.928
	CO2	0.908			0.882			0.953		
	CO3	0.829			0.807			0.870		
Career Development	CD1	0.893	0.771	0.910	0.884	0.772	0.910	0.904	0.766	0.907
	CD2	0.864			0.870			0.850		
	CD3	0.876			0.882			0.870		
Recognition	RE1	0.911	0.853	0.921	0.908	0.858	0.924	0.914	0.841	0.914
	RE2	0.937			0.945			0.921		
Work Environment	WE7	0.889	0.802	0.890	0.898	0.807	0.893	0.873	0.791	0.883
	WE8	0.902			0.899			0.905		
Employee Retention	ER1	0.787	0.635	0.875	0.768	0.611	0.863	0.828	0.691	0.899
	ER2	0.797			0.769			0.862		
	ER3	0.796			0.772			0.846		

ER4	0.808	0.817	0.788

The Heterotrait-Monotrait (HTMT) ratio of correlation was also employed to assess the discriminant validity. As shown in Table 4, all the discriminant values of the constructs were lower than the most conservative threshold value of 0.85 (Kline 2011). However, four discriminant values in the office-based sample were higher than 0.85 but still below the most liberal criterion of 0.90 (Gold et al. 2001). The HTMT results indicated the establishment of all discriminant validity.

TABLE 4. Discriminant validity using HTMT

Constructs	1	2	3	4	5
Complete Sample					
1. Compensation					
2. Career Development	0.799				
3. Recognition	0.681	0.839			
4. Work Environment	0.619	0.677	0.686		
5. Employee Retention	0.776	0.729	0.691	0.757	
Site-based					
1. Compensation					
2. Career Development	0.761				
3. Recognition	0.587	0.836			
4. Work Environment	0.553	0.645	0.67		
5. Employee Retention	0.826	0.697	0.632	0.694	
Office-based					
1. Compensation					
2. Career Development	0.877				
3. Recognition	0.870	0.851			
4. Work Environment	0.760	0.763	0.722		
5. Employee Retention	0.708	0.803	0.811	0.871	

Table 5 shows the variance inflation factor (VIF) values of each independent constructs. The results showed that all VIF values were lower than the benchmark value of 3.3 which indicated that there is no collinearity issue in the model (Diamantopoulos & Siguaw 2006). Besides determining the presence of collinearity issue, the VIF can also be used to detect if the model is affected by common method bias. As proposed by Kock (2015), if the value of VIF for all constructs in the model is equal to or less than 3.3, then the model has no common method bias.

TABLE 5. Collinearity using VIF

Constructs	Complete Sample	Site-based	Office-based
Compensation	1.944	1.709	3.119
Career Development	2.622	2.619	2.812
Recognition	2.173	2.159	2.497
Work Environment	1.575	1.525	1.769

The significances of the proposed hypotheses were evaluated using the bootstrap for the complete sample set and two sub-samples, construction site-based and office-based employees and the results are presented in Table 6. As shown in Table 6, all four independent constructs significantly influenced employee retention in the complete sample set. The effect of compensation ($\beta = 0.330$) was the highest on the employee retention, followed by the work environment ($\beta = 0.282$), career development ($\beta = 0.140$), and recognition ($\beta = 0.131$). However, different findings were observed for the two sub-samples, where only compensation and work environment significantly affected the employee retention in construction site-based employees. Meanwhile, all independent constructs significantly affected the office-based employees, except for negatively insignificant compensation. Overall, the path-coefficient results supported all four hypotheses for the complete sample set, but only two and three hypotheses developed for construction site-based and office-based samples, respectively were supported. All four predictors positively influenced employee retention in the construction sector but the effects were different for the construction site-based and office-based employees.

TABLE 6. Path-coefficients

		Complete Sample			Site-based			Office-based		
Hypo.	Path	Std. Beta	Std. Error	t-value	Std. Beta	Std. Error	t-value	Std. Beta	Std. Error	t-value
H_{1a}, H_{2a}, H_{3a}	CO -> ER	0.330	0.071	4.674	0.438	0.073	5.989	-0.067	0.154	0.431
H_{1b}, H_{2b}, H_{3b}	CD -> ER	0.140	0.070	1.990	0.103	0.085	1.211	0.278	0.127	2.191
H_{1c}, H_{2c}, H_{3c}	RE -> ER	0.131	0.059	2.214	0.106	0.072	1.474	0.311	0.101	3.070
H_{1d}, H_{2d}, H_{3d}	WE -> ER	0.282	0.054	5.195	0.239	0.067	3.568	0.390	0.094	4.126

Besides, the variance explained for employee retention was also evaluated. As shown in Table 7, the four independent constructs can explain approximately 53.80 percent, 53.30 percent and 63 percent of the dependent construct's variance in the complete sample set, construction site-based sample and office-based sample, respectively. The findings implied that all of the four constructs in the three models have moderate levels of predictive accuracy (Hair et al. 2014). The predictive relevance (Q^2) values of each model (Table 7) indicated that the four independent constructs can predict employee retention as the Q^2 values are greater than zero. Comparison of the three samples showed that the office-based sample ($Q^2 = 0.373$) has a strong predictive power ($Q^2 \geq 0.35$), while the other two models have moderate predictive power ($0.15 \leq Q^2 \leq 0.35$) (Cohen 1988). The effect size (f^2) of each independent construct in Table 7 further showed that compensation and work environment in the complete sample set have a small effect size ($f^2 < 0.02$), while another two predictors have no effect (Cohen 1988). However, for the construction site-based sample, the compensation has a medium effect size ($0.15 \leq f^2 \leq 0.35$) and the other two constructs remained with no effect and a small effect size for the work environment. Meanwhile, in the office-based sample, the work environment has a medium effect size whereas the remaining constructs only have a small effect size for recognition and career development and no effect for compensation.

TABLE 7. Coefficient (R^2), Predictive Relevance (Q^2), and Effect Size (f^2)

	Complete Sample			Site-based			Office-based		
Constructs	R^2	Q^2	f^2	R^2	Q^2	f^2	R^2	Q^2	f^2
Employee Retention	0.538	0.317		0.533	0.301		0.629	0.373	
Compensation			0.121			0.240			0.004
Career Development			0.016			0.009			0.074
Recognition			0.017			0.011			0.104
Work Environment			0.109			0.080			0.231

Before the PLS-MGA, the MICOM assessment was conducted as the invariance measurement is required for comparing and interpreting the group-specific differences in PLS-MGA (Henseler et al. 2016). There are three steps involved in the MICOM which include the assessment of configured invariance, compositional invariance, and equal mean value and variance across two groups. The MICOM assessment through permutation was adopted in this study. Table 8 shows that all the constructs passed the first and second steps (invariance & compositional invariance assessments). Meanwhile, Table 9 shows that all the constructs achieved full variance as all the constructs passed the equal mean and variance assessment in step three of the MICOM assessment. This implied that the items of the outer loadings for both groups of samples are invariant and suitable for further analysis using PLS-MGA.

TABLE 8. Configured invariance assessment (Step 1 and 2)

		Compositional Invariance (Correlation = 1)		
Constructs	Configured Invariance	C = 1	Confidence Interval	Partial Invariance Result
Compensation	Yes	1.000	[0.999,0.998]	Yes
Career Development	Yes	0.999	[0.999,0.998]	Yes
Recognition	Yes	0.999	[0.999,0.998]	Yes
Work Environment	Yes	1.000	[0.999,0.998]	Yes
Employee Retention	Yes	0.999	[0.999,0.997]	Yes

TABLE 9. Equal mean and variance assessment (Step 3)

	Equal mean assessment			Equal variance assessment			Full Invariance
Constructs	Diff.	Confidence Interval	Equal	Diff.	Confidence Interval	Equal	Results
Compensation	0.116	[-0.203,0.206]	Yes	-0.071	[-0.328,0.357]	Yes	Yes
Career Development	0.092	[-0.210,0.209]	Yes	0.168	[-0.293,0.323]	Yes	Yes
Recognition	-0.024	[-0.211,0.206]	Yes	0.207	[-0.284,0.314]	Yes	Yes
Work Environment	-0.011	[-0.214,0.206]	Yes	0.107	[-0.339,0.356]	Yes	Yes
Employee Retention	-0.086	[-0.207,0.210]	Yes	-0.004	[-0.348,0.388]	Yes	Yes

Subsequently, the PLS-MGA was conducted to compare the significant differences between two groups of work location in the construction sector and the results are presented in Table 10. The PLS-MGA can compare the group-specific bootstrapping of each sample. A significant difference in the influence of compensation (H_{4a}) on employee retention in the construction sector across different work locations was noted. A positive path coefficient on compensation was found for construction site-based employees. In contrast, negative insignificant path coefficients were found for office-based employees. The findings suggested that good compensation increased the retention of construction site-based employees compared to office-based employees. However, the results of other hypotheses indicated no significant differences between other path coefficients across both work locations. Overall, the findings indicated that there was no significant difference between construction site-based and office-based employees concerning the influence of career development (H_{4b}), recognition (H_{4c}), and work

environment (H_{4d}) on employee retention in the construction sector. Therefore, PLS-MGA findings concluded that only the hypothesis for compensation (H_{4a}) was supported but not for other hypotheses ($H_{4b} - H_{4d}$).

TABLE 10. PLS-MGA findings

		Path Coefficient		Confidence Interval (95%)		Coeff. Diff.	p-value diff.	Result
Hypo.	Path	Site	Office	Site	Office		MGA	
H_{4a}	CO -> ER	0.438	-0.067	[0.308,0.552]	[-0.301,0.224]	0.505	0.003	Support
H_{4b}	CD -> ER	0.103	0.278	[-0.030,0.246]	[0.065,0.488]	0.175	0.871	Not Support
H_{4c}	RE -> ER	0.106	0.311	[-0.016,0.224]	[0.129,0.466]	0.205	0.948	Not Support
H_{4d}	WE -> ER	0.239	0.390	[0.124,0.350]	[0.224,0.545]	0.151	0.897	Not Support

DISCUSSION

The relationships between four independent constructs and employee retention were found in this study. The results revealed that all four independent constructs influenced employee retention in the construction sector. However, inconsistent findings were found for the construction site-based and office-based group of employees. The results showed that compensation and work environment positively impacted employee retention in construction site-based employees. Meanwhile, compensation was the only construct that did not significantly influence the retention among office-based employees. The PLS-MGA findings revealed that there were no significant differences between the path coefficients for career development, recognition, and work environment on the employee retention for both work locations, except for compensation where a significant difference was noted between the two sub-samples.

Compensation was found to have a significant positive relationship with employee retention for the complete sample set and construction site-based sample. In contrast, the reverse was found for the office-based sample. The hypotheses (H_{1a} & H_{2a}) were supported while the H_{3a} was rejected. This implies that compensation is important for the retention of construction site-based employees but not for office-based employees. The significance of compensation in retaining the employees is consistent with that reported by Fahim (2018), Pittino et al. (2016), and Rombaut and Guerry (2020). The better the compensation package, the greater is the intention of the construction site employees to retain in the company (Kasmuri et al. 2020). The PLS-MGA findings further revealed the significant differences between the two groups of employees and supported the H_{4a} hypothesis. This finding is in line with the previous studies which revealed the differences between office and site-based employees but with other research contexts (Alkhaddar et al. 2012; Lingard & Francis 2004). As suggested in Lingard and Francis (2004), the male employees tend to work on construction sites while female employees are mostly in the office. This seems to imply that the responsibility as the main source of family income, urged the male employees to be more concerned with the compensation, if compared to the female employees.

Career development also showed significant influence on employee retention for the complete sample set and the two different groups of samples that supported the related hypotheses (H_{1b}, H_{2b}, & H_{3b}). The present findings were consistent with those reported in previous studies (Bibi et al. 2018; Fahim 2018). It was stated that employees remain in a company if a clear and well-planned career development scheme is available (Rahman et al. 2020). The H_{4b} hypothesis was rejected as the PLS-MGA showed an insignificant difference between construction site-based and office-based samples. However, the path coefficient and effect size analyses revealed that career development has an additional effect on the decision to stay in the company for office-based employees.

Unlike compensation and career development, recognition did not significantly influence the retention of construction site-based employees; therefore, the H_{2c} hypothesis was rejected. However, H_{1c} and H_{3c} hypotheses were supported as recognition significantly influenced employee retention for the complete sample and office-based sample. The significant relationship between recognition and employee retention was in line with the findings reported by Rahman et al. (2020) and Sunanda (2018). The employees feel more appreciated and belong to the company when they are recognised for a good job performed (Mngomezulu et al. 2015). Also, the PLS-MGA further rejected the H_{4c} hypothesis, where no significant difference between the two groups of employees was detected. Similar to career development, recognition resulted in higher retention of office-based employees than the construction site-based employees.

For the work environment construct, a positive significant relationship with employee retention was found for all samples. The proposed hypotheses (H_{1d}, H_{2d} & H_{3d}) were supported. The employees were concerned about the surrounding environment of their work location which was consistent with the findings in previous studies (Rahman et al. 2020; Yusliza et al. 2021) where employee's intention to stay in the current company was found to increase with a conducive work environment. Moreover, the construction employees are more concerned about the safety of their working locations. The PLS-MGA results showed an insignificant difference in employee retention between construction site- and office-based employees as affected by work location which rejects the H_{4d} hypothesis. Overall, the work environment presents the largest effect in influencing the retention of office-based employees.

THEORETICAL IMPLICATIONS

Despite several studies that have reported on employee retention in different sectors, including the construction sector, there is limited information available on the influence of work locations on employee retention. The construction sector specifically offers a unique context to examine the possible influence of different work locations on employee retention. The two main work locations for a construction company are the construction site and office where different findings may result although the employees work for the same company. By applying the four constructs from Herzberg's theory, this study is expected to provide new evidence on the impact of different work locations on employee retention. This study successfully proved the significant influence of the compensation on employee retention with the difference detected between the construction site-based and office-based employees. Hence, the finding of this study validated that different work locations have a significant effect on the similar construct towards the intention to continue contributing to the company.

PRACTICAL IMPLICATIONS

Considering the significant contribution of the construction sector, retaining desired employees is a critical issue for construction companies. All four constructs evaluated in the present study were valid determinants to retain an employee in the construction sector. Therefore, to maintain preferred employees, all four constructs should be focused on the human resource policies. Specifically, the company has to provide a competitive compensation package for the employees including remuneration, allowances, and other benefits. Besides, the company also has to provide a safe and favourable working environment. Not only that, a clear, consistent, and favourable career development scheme is also important to retain the employees. Lastly, the company has to recognise the employees when a good job was performed where the employee will feel they are important and appreciated by the company which will indirectly increase the intention to stay with the company.

However, this study revealed different findings between construction employees working in different locations. Only compensation and work environment significantly influenced retention among construction site-based employees. This implies that the construction site-based employees are more concerned about the compensation package such as salary, allowances, bonus, and other benefits. This could be due to their low earning which suggests compensation as the most crucial determinant for them. Also, the company has to ensure a safe and healthy work environment at the construction site. The construction sites usually consist of numerous hazards that could harm site-based employees. The company should take precautionary steps and follow the safety rules and regulations specified by the Department of Occupational Safety and Health, Malaysia.

Unlike construction site-based employees, office-based employees are not concern about their compensation. The work environment predominated other constructs in influencing employee retention. Therefore, a company should ensure a favourable office environment, concerning both physical and emotional elements. Career development and recognition were also found to be significant determinants in encouraging office employees to retain in the company. Besides, a company also should provide clear and encouraging career development schemes such as position promotion or job training that could be an effective strategy to retain the employees. Moreover, the employees should also be appreciated by recognising their efforts when they accomplish their tasks excellently.

CONCLUSION

The significant differences between construction site- and office-based employees possesses unique research setting in assessing possible effects of different work locations on the employee retention. Therefore, the main objective of this study was to examine the relationship between the four constructs and employee retention in two different work locations, namely construction sites and offices. The findings first showed that all four constructs were significantly related to employee retention in the complete sample set. However, only compensation and work environment have a significant influence on employee retention in the construction site. Meanwhile, compensation is the only construct that does not significantly affect employee retention in the office-based environment. Furthermore, the findings of PLS-MGA revealed that compensation is the only construct that shows significant difference between construction site- and office-based employees but not the other three constructs. This finding provides valuable information on the HRM literature as the significant difference in employee retention between the two work locations has been proved. Besides, retention schemes based on locations are required for employee retention for a prolonged period, especially for those companies who have different work locations as there is discrepancy on the preeminent factors of retaining employees in different work locations.

Some limitations are present in this study. For instance, some other related determinants were not considered in this study as only four determinants from Herzberg's theory were included. Therefore, future study should expand the framework where more determinants can be included. Moreover, the two stage-research framework is a simple research model. Future study may expand the framework by including a mediator such as motivation and

satisfaction as it may mediate the relationship between the independent and dependent constructs. Thirdly, only primary data were collected from the construction companies in Sarawak which is a limitation from the perspective of geographical scope. Future research may cover a wider range of geographical areas such as at the national level to increase the evidence on employee retention and improve the generalisability of the study. Finally, the research concept of different work locations can be replicated and applied in other sectors such as the oil and gas sector, and retail sector with branches.

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