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## **Factors Affecting Office Rent in Kuala Lumpur (KL)**

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### **ABSTRACT**

The oversupply of office space in the Golden Triangle Kuala Lumpur (GTKL) and slow on-going demand has resulted in pressure on rental performance. Studies have shown that there are several strategies to improve rent performance. The purpose of this paper is to obtain a deeper understanding of these strategies and their applicability in the context of GTKL. Questionnaires were distributed to 42 office buildings in the GTKL. A total of 212 tenants completed the questionnaire and secondary data on building certifications and the building average rents were extracted from reliable property website sources. The results suggest that office building rental performance can be improved if the building management charges lower rent to longer-stay tenants, attracts more foreign-owned or bigger-sized firm and gets Multimedia Super Corridor (MSC) or Green certifications. The implications for managers and theories in this regard are then discussed.

**Keywords:** Green and MSC certifications, resource-based view (RBV), Demand elasticity, office rent performance, office market

### **INTRODUCTION**

In recent times, the Kuala Lumpur City Centre office space market has become very competitive, with a plethora of newly completed office buildings. According to Gambero (2015), in the period 2015 to 2017, an additional 8 million sq. ft. of office space will enter the market. Of this, only 4 to 5 million sq. ft. are expected to be taken up by tenants, indicating an oversupply situation. The mismatch between

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accelerated supply and slow on-going demand in the office space market causes pressure on rental performance (Foo, 2014). As a result, more rent-free months might be given to attract more tenants (Sarkunan, 2014), which directly leads to weaker rent performance. Hence, owners of office buildings need to develop suitable rent strategies to cope with the current situation in the Golden Triangle Kuala Lumpur (GTKL).

Literature recommends three strategies for improving office rent. The first strategy looks at the rental contract lengths (Miceli and Sirmans, 1999) where demand elasticity is used to determine optimum rent (Barker, 2003). Although a lot of research have used econometric analysis in determining office rent (D'Arcy, McGough, and Tsolacos, 1999; Gardiner and Henneberry, 1991; McDonald, 2002; Shilling, Sirmans, and Corgel, 1987), it is not known if office buildings in GTKL have used this method to optimize rent received. The second strategy stresses the use of positioning strategy that targets financially sound tenants to be master tenants. The Resource-Based View (RBV) theory explains that financially sound tenants are willing to pay a higher rent for an office space, suggesting the potential of achieving high rent by targeting these tenants. Finally, the third strategy relates to the use of building certifications in improving rent performance. In recent years, only Green certifications have been highlighted as important determinants in office rent (Fuerst and McAllister, 2011). Also, there is limited evidence on whether Multimedia Super Corridor (MSC) certification improves rent. A comparison whether a Green or a MSC certification has a higher impact on office rent is worth investigating. The three research questions are:

- i. Should longer-term tenants be charged high or low rents?
- ii. Will firms with more resources be willing to pay higher rents?
- iii. Does Green and MSC certifications have a positive impact on rent?

## LITERATURE REVIEW

Research on factors affecting office rent has been very popular for the past 25 years (Hendershott, MacGregor, and Tse, 2002) and these research have found that practitioners determine rents based on demand and sensitivity analyses, while academics are more interested in the relative significance of these determinants and their relative impact on office rents to predict market behaviour (Öven and Pekdemir, 2006), as well as develop econometrics models to predict future office rent values (D'Arcy *et al.*, 1999; Ke and White, 2009; McDonald, 2002). In rent optimization studies, there are two schools of thought. Although both schools agree that tenancy duration affects rent, there is a differing opinion on whether

the relationship is positive or negative: That is, the question of whether long-term tenants or short-term tenants should be charged a higher rent.

According to Miceli and Sirmans (1999), a longer rental contract length helps property managers to minimize turnover costs; thus, long-term tenants should be charged less than short-term tenants. In other words, property owners do not have to frequently pay tenant-searching costs. However, Barker (2003) is of the opinion that long-term tenants should be charged higher rents because they are likely to have a less elastic demand than short-term tenants. This is consistent with demand theory where low elastic customers are less likely to switch suppliers in the face of small increases in price. Long-term tenants typically make significant investments in their location, including building relationships with neighbours and local businesses, familiarity with the area, and perhaps an emotional attachment to their office spaces. These tenants are unlikely to move because of a small increase in rent, demonstrating a less elastic demand, and hence, can be charged higher rent (Barker, 2003).

New tenants however, often have no particular attachment to their office space and are likely to respond to small changes in rent. If other office buildings provide similar features, a small difference in rent could be the deciding factor in a new tenant's decision (Barker, 2003). Therefore, a profit maximizing landlord could attempt to exploit differences in demand elasticity by charging a higher rent to tenants with less elastic demands; and vice-versa (Benjamin, Lusht, and Shilling, 1998). Barker (2003) tested this notion in the context of residential property, and his findings supported the elasticity theory; length-of-residence discounts are less frequent and discounts for new residents are more frequent. Thus, it is interesting to investigate which of these two approaches are predominantly used by office building managers in the GTKL. Thus, H1 is developed as follows:

*H1 : There is a significant relationship between tenancy tenure and rent paid.*

RBV takes an "inside-out" or firm specific perspective in explaining why organizations succeed or fail (Dicksen, 1996). In general, the theory explains how firms use resources (tangible or intangible) and capabilities to enhance performance and achieve competitive advantage (Rapp, Trainor, and Agnihotri, 2010). Resources owned or invested by firms that are valuable, rare, inimitable and non-substitutable (Barney, 1991) give the firm a competitive advantage (Collis and Montgomery, 1995; Grant, 1991; Wernerfelt, 1984). Consequently, in order for office buildings to gain competitive advantage, RBV suggests making available provisions of greater value to office tenants (Appel-Meulenbroek, 2008).

Foreign-owned firms and big local firms which have more financial resources than other local firms and small firms usually are more willing to pay higher rent. Companies that have stronger financial resources are prepared to pay higher rent for the better value that they get from office buildings because the value of a positive building image makes a better financial impression to their customers. This can lead to higher customer trust and translate to better business potential.

Also, the value of a better working environment helps firms to attract and retain employees. Hence, consistent with RBV, firms with strong resources (i.e. foreign-owned or bigger local firms) can use their financial resources to their advantage by paying higher rents to get better value out of the office buildings. In other words, strong resource firms are hypothesized to pay higher rent as compared to smaller resource firms. Thus, H2 and H3 are developed as follow:

*H2 : There are significant differences between rent paid by foreign-owned and locally-owned firms.*

*H3 : There are significant differences between rent paid by bigger-sized and smaller-sized firms.*

In the context of the office space market, certifications signify the use of resources that can bring about competitive advantage. Office building certifications are manifestations of governmental policies to indicate whether or not a building supports environmental sustainability practices (i.e. Green Practice), and whether a building has high-speed communication technology (i.e. Multimedia) that supports business operations. The two popular certifications in the office space market today are MSC status and Green Certification (Asim Tufail, Bakar, and Hassan, 2012; Fuerst and McAllister, 2011). By investing in dual-compliant certifications (MSC and Green certification), office building owners can offer tenants benefits such as lower operating costs, a working environment conducive to higher productivity, tax credits, and image benefits (Asim Tufail *et al.*, 2012; Fuerst and McAllister, 2011). These certifications are desired by most tenants. The question is whether tenants are willing to pay more for these extra benefits. The theory behind the anticipated price effect suggests that most tenants are willing to pay more for these benefits.

Anticipated price effect suggests that a hedonic price is determined by summing the utility benefits of all attributes (Rosen 1974). However, the anticipated price effect has only been measured for green office building so far. For example, green office certification has been found to have a positive impact on rental premiums (Eichholtz, Kok, and Quigley, 2013; Fuerst and McAllister, 2009, 2011; Miller,

Spivey, and Florance, 2008). In particular, green office building have reported higher rental rates in Malaysia, around RM0.50 – RM2.25 more per square foot than non-Green certified office spaces (Halim, 2012). Similarly, Bertrand (2010) reported that most buyers in Malaysia are prepared to pay 5% more for green properties for their quality, comfort, and environmental friendliness.

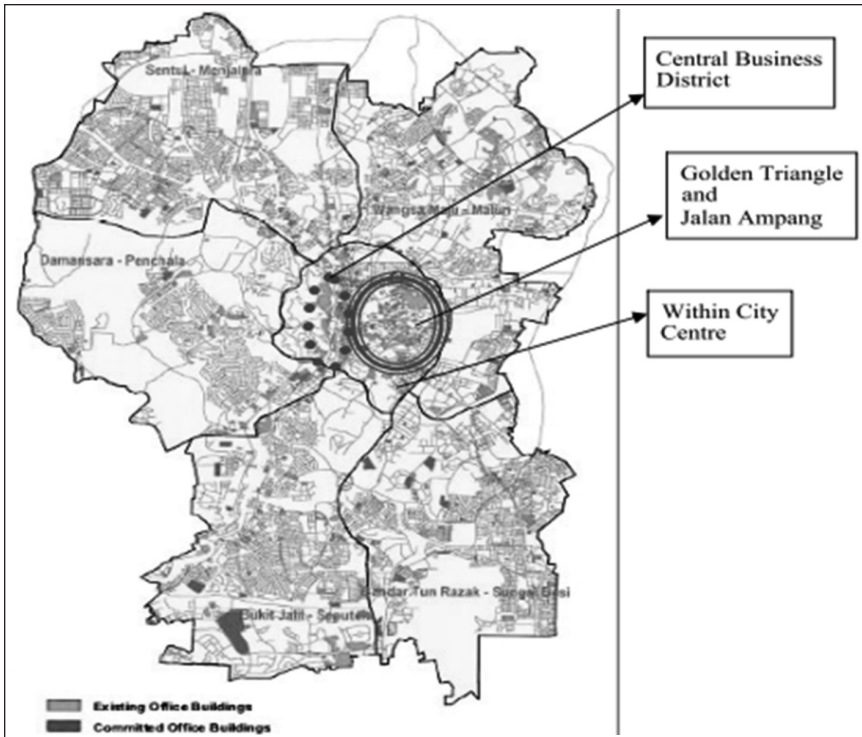
However, to date, there is little empirical evidence concerning the impact of MSC status on rental performance. Only Sing (2005) has studied the impact of ICT on real estate, but it was not specific to office buildings. Some indirect evidence has suggested that rental rates for properties with ICT certification are higher, but these studies have focused on the relocation of ICT companies and have not measured rent performance (Asim Tufail *et al.*, 2012). MSC status office buildings offer benefits such as world-class physical infrastructure, tax exemption, globally competitive telecommunication tariffs, and the possibility of getting global funding (Asim Tufail *et al.*, 2012). Anticipated price theory suggested that tenants might be willing to pay more for these benefits in an office building for long-run lease. Thus, the following hypotheses are proposed:

*H4 : There is a positive relationship between MSC certification and the building's average rent.*

*H5 : There is a positive relationship between Green certification and the building's average rent.*

## **METHODOLOGY**

In this study, the definition of GTKL was adopted from Ting (2002), where the area of GTKL is bounded by Jalan Ampang, Jalan Sultan Ismail, Jalan Raja Chulan, Jalan P. Ramlee, Jalan Pinang, Jalan Bukit Bintang and Jalan Tun Razak (Ting, 2002) (see Figure 1). The GTKL is known as the premier commercial district in Malaysia with a high concentration of corporate offices, prestigious international hotels, financial institutions, and it is highly accessible to the Central Business District (CBD) and other city areas (Ting, 2002). GTKL is selected as the study site because it is currently facing an oversupply issue. Hence, strategies in improving rent performance are highly relevant to office buildings in the area. Moreover, Adnan, Daud, and Razali (2012) have observed that the tenants in the GTKL area are more prominent and reputable than their counterparts in the other CBD areas. This will facilitate investigation of those firms that can afford buildings with certifications and are willing to pay more for these benefits.



Source: Extracted from City Hall, Kuala Lumpur

**Figure 1** Existing and committed office area (Draft Structure Plan, 2020)

In this research, a quantitative approach has been used where data was analyzed at both tenant level (primary data) and building level (secondary data). Primary data was used to test hypotheses H1-H3 while secondary data was used to test hypotheses H4-H5. There were approximately 134 office buildings in the GTKL area in 2014. This list was compiled from multiple website sources, including Zerin Properties, KL Office Space and Carey Real Estate. It was estimated that about 110 buildings were leasing office space to tenants, while the rest are occupied by owners, such as Menara Public Mutual, Wisma RHB, and Tabung Haji Perdana.

To obtain primary data, purposive sampling strategy was used. Purposive sampling refers to the selection of samples that fulfill certain criteria (Zikmund *et al.*, 2012). In this study, respondents who fulfill two criteria were invited to participate in the questionnaire survey. The criteria were: (1) respondent held a senior top level management position (e.g. CEO, HR managers or Operation

managers) and who dealt with the firm's office space lease; (2) the firm had leased office space in GTKL for more than one year. The purpose of setting these criteria for the respondents was to ensure they were able to provide information relevant to the study (Saunders, Lewis, and Thornhill, 2012).

During the three month data collection period (August 2014 to October 2014), a total of 67 office buildings were contacted; 42 office buildings gave permission to conduct the survey, and the remaining 25 office buildings refused to grant access. The reason for denied access included security reasons, where the management did entertain survey requests, and buildings were being refurbished and unsafe for visitors. From the 42 office buildings which granted access, 212 tenants completed the questionnaire (See Table 1).

On the other hand, secondary data on buildings' average rent and their MSC and Green Certifications were extracted from their respective property websites. In short, the unit of analysis for primary data was tenants while the unit of analysis for secondary data was office building. Sample size for primary data analysis was 212 persons while the sample size for secondary data was 42 office buildings.

## **MEASUREMENT**

Two types of data were used, primary data (questionnaire) and secondary data (websites). The primary data was gathered using the questionnaire. The questions included were "How long has your company been occupying this office space?"; "What is the current rent for your office space (psf)?" "What is the size of your office space (sq. foot)?" and "What is the ownership of your company (Foreign/Malaysia)?" These data were used to test hypotheses H1, H2 and H3.

Secondary data was used to test hypotheses H4 and H5. The secondary data for green certification and MSC certification were extracted from these two websites, "www.greenbuildingindex.org" and "www.corporateoffice.my". Additionally, data on average building rent received (midpoint of the rent range) by the office buildings was extracted from Zerin Properties, Go KL Offices and Carey Real Estate.

## **DATA ANALYSIS**

This study used SPSS version 22 to test the research hypotheses. The findings of this study were divided into three sections. First, this study performed a descriptive analysis on the respondent profile. It provides readers a 'snapshot' of the data collected. Second, correlation analysis was performed to test the relationship between rent paid and tenancy tenure using primary data from the questionnaire

**Table 1** Office buildings surveyed in the GTKL

| <b>No.</b> | <b>Building name</b>      | <b>Number of respondents</b> |
|------------|---------------------------|------------------------------|
| 1          | UBN Tower                 | 9                            |
| 2          | Menara Taipan             | 5                            |
| 3          | Menara KH                 | 4                            |
| 4          | Wisma Nusantara           | 6                            |
| 5          | Kenanga International     | 10                           |
| 6          | Wisma MPL                 | 5                            |
| 7          | Menara Weld               | 6                            |
| 8          | The Intermark             | 3                            |
| 9          | Menara Citibank           | 5                            |
| 10         | Menara Binjai             | 5                            |
| 11         | The Icon                  | 6                            |
| 12         | Wisma MCA                 | 5                            |
| 13         | Menara Atlan              | 5                            |
| 14         | Menara See Hoy Chan       | 5                            |
| 15         | Menara Tan & Tan          | 5                            |
| 16         | Rohas Perkasa             | 5                            |
| 17         | Plaza See Hoy Chan        | 7                            |
| 18         | Menara Prestige           | 6                            |
| 19         | Menara IMC                | 6                            |
| 20         | Menara Hap Seng           | 5                            |
| 21         | Wisma Central             | 5                            |
| 22         | PNB Darby Park            | 5                            |
| 23         | Menara TA One             | 5                            |
| 24         | Menara Haw Par            | 5                            |
| 25         | Menara Safuan             | 5                            |
| 26         | Menara Darussalam         | 5                            |
| 27         | G Tower                   | 5                            |
| 28         | Menara Getah Asli         | 5                            |
| 29         | Etiqa Twins               | 5                            |
| 30         | Menara Tokio Marine       | 5                            |
| 31         | Menara Exxon Mobil        | 1                            |
| 32         | Megan Avenue 1            | 5                            |
| 33         | Pavilion Tower            | 5                            |
| 34         | KLCC Tower 2              | 5                            |
| 35         | Wisma Cosway              | 5                            |
| 36         | Menara Dion               | 5                            |
| 37         | Megan Avenue 2            | 5                            |
| 38         | Menara Park               | 5                            |
| 39         | Menara Worldwide          | 1                            |
| 40         | Menara Yayasan Tun Razak  | 6                            |
| 41         | Menara LTAT               | 1                            |
| 42         | Menara Standard Chartered | 5                            |



survey. Then, an independent sample t-test was run to test which types of tenants are more likely to pay higher office rentals based on primary data from the questionnaire survey. Lastly, a multiple regression analysis was performed to examine whether MSC and Green certifications lead to higher rents, based on secondary data.

## RESPONDENT PROFILE

This section illustrates the profile of the respondents who had participated in the study. A total of four demographic profiles are presented here. These are job titles, building information, company background, and expansion potential of the tenants:

### (i) Job Title

Table 2 shows the grouping of respondents according to job title. The majority of the respondents were Admin and Procurement managers (89 respondents or 42%). This was followed by HR managers (57 respondents or 27%). Other respondents held positions like CEO/CFO/COO, Operation Managers, Finance Managers and Others (Lawyer and Company Secretary) (less than 10%).

**Table 2** Respondent profile under job titles

| Grade                                 | Frequency  | Percentage |
|---------------------------------------|------------|------------|
| CEO/CFO/COO                           | 18         | 8          |
| HR Manager                            | 57         | 27         |
| Admin & Procurement Manager           | 89         | 42         |
| Operation Managers                    | 19         | 9          |
| Finance Managers                      | 17         | 8          |
| Others (Lawyer and Company Secretary) | 12         | 6          |
| <b>Total</b>                          | <b>212</b> | <b>100</b> |

### (ii) Building information

Table 3 shows the building information: office size, tenancy tenure and rent (psf) paid by respondents. In terms of office size, the majority of the respondents (70%) leased offices of 10,000 or less square feet. Of the remaining 30%, about 10% occupied very large office spaces of 25,000 or more square feet. On the subject of tenure, about 68% of respondents' companies had occupied the office space for 2 to 10 years already. Newly moved-in tenants who had occupied the office space for less than 2 years were 25%, while loyal tenants who leased the same office space for more than 10 years were about 7%. Lastly, an almost equal number of the respondents paid a leasing price of RM4 or less

per square foot (71 respondents or 33%) and RM 4.10 to RM6 per square foot (72 respondents or 34%). About 24% of them paid between RM6.1 to RM8 per square foot while only 9% paid more than RM8 per square foot.

**Table 3** Building information

|                          | Frequency  | Percentage (%) |
|--------------------------|------------|----------------|
| (a) Office size (sq ft)  |            |                |
| 2500 and below           | 51         | 24             |
| 2501 to 5000             | 49         | 23             |
| 5001 to 10000            | 49         | 23             |
| 10,001 to 15,000         | 23         | 11             |
| 15,001 to 25,000         | 16         | 8              |
| 25,000 and above         | 24         | 11             |
| (b) Occupancy rate       |            |                |
| 50% and below            | 26         | 12             |
| 51% to 75%               | 59         | 28             |
| 76% and above            | 127        | 60             |
| (c) Tenancy tenure       |            |                |
| 2 years and below        | 54         | 25             |
| 2.1 years to 5 years     | 65         | 31             |
| 5.1 years to 10 years    | 78         | 37             |
| 10.1 years and above     | 15         | 7              |
| (d) Rent per square foot |            |                |
| RM4 and below            | 71         | 33             |
| RM 4.1 to RM6            | 72         | 34             |
| RM6.1 to RM8             | 50         | 24             |
| Rm8 and above            | 19         | 9              |
| <b>Total</b>             | <b>212</b> | <b>100</b>     |

## (v) Company background

Table 4 shows the company background based on employee size, company of origin and highest rent the companies were willing to pay (psf). In terms of employee size, almost 67% of the companies were small-sized with 50 or less employees. Only about 5% were large companies with 300 or more employees. The balance of 27% were medium-sized companies with employee strength between 51 to 300 employees.

On country of origin, the majority of the respondents (tenants) were Malaysian firms (114 respondents or 54%). This was followed by European

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(13%) and American firms (10%). All other countries (Middle East, Korea, Japan, Singapore, Australia, Taiwan, Myanmar, China, Philippines, Brazil and Indonesia) made up less than 6% of the participants in the study. Lastly, the highest rent respondent companies were willing to pay was between RM4.51 to RM6.00 psf (81 respondents or 38%).

**Table 4** Company background

|                        | <b>Frequency</b> | <b>Percentage (%)</b> |
|------------------------|------------------|-----------------------|
| (a) Employee size      |                  |                       |
| 15 and below           | 68               | 32                    |
| 16 and 50              | 74               | 35                    |
| 51 to 100              | 34               | 16                    |
| 101 to 300             | 25               | 12                    |
| 301 and above          | 11               | 5                     |
| (b) Country of origin  |                  |                       |
| US                     | 22               | 10                    |
| Europe                 | 28               | 13                    |
| Malaysia               | 114              | 54                    |
| Middle East            | 5                | 2                     |
| Korea                  | 10               | 4                     |
| Japan                  | 9                | 4                     |
| Singapore              | 5                | 2                     |
| Australia              | 10               | 4                     |
| Taiwan                 | 1                | 1                     |
| Myanmar                | 1                | 1                     |
| China                  | 4                | 2                     |
| Philippines            | 1                | 1                     |
| Brazil                 | 1                | 1                     |
| Indonesia              | 1                | 1                     |
| (c) Highest rent       |                  |                       |
| RM2.50 to RM4.50 psf   | 24               | 11                    |
| RM4.51 to RM6.50 psf   | 81               | 38                    |
| RM6.51 to RM8.50 psf   | 55               | 26                    |
| RM8.51 to RM10.50 psf  | 30               | 14                    |
| RM10.51 to RM12.50 psf | 10               | 5                     |
| RM12.51 to RM14.50 psf | 6                | 3                     |
| RM14.51 to RM16.50 psf | 6                | 3                     |
| <b>Total</b>           | <b>212</b>       | <b>100</b>            |

## (iv) Expansion potential

Table 5 demonstrates the expansion potential of tenants in GTKL. The majority of the participants have the intention to expand their office space in GTKL in the next 5 years (72%). However, 57% of them would not expand their office space in the existing office building. This indicates great potential for big offices, as 43% of tenants would like to expand offices in a different building. Interestingly, only 83% of them have the intention to renew their lease contract in the existing building although 96% would continue to maintain offices in GTKL, suggesting some 13% of the participants would be looking for new offices in GTKL in the near future. Therefore, understanding the factors affecting office rent in Kuala Lumpur is critical to attracting and keeping tenants.

**Table 5** Expansion potential

|  | Frequency  | Percentage (%) |
|--|------------|----------------|
| (a) Expand Office Space in GTKL in the next 5 years                                    |            |                |
| Yes  | 153        | 72             |
| No   | 59         | 28             |
| (b) Expand Current Office Space in existing office building (Reason: Business Growing) |            |                |
| Yes  | 92         | 43             |
| No   | 120        | 57             |
| (c) Renew lease contract in existing building  |            |                |
| Yes  | 175        | 83             |
| No   | 37         | 17             |
| (d) Maintain office in GTKL  |            |                |
| Yes  | 203        | 96             |
| No   | 9          | 4              |
| <b>Total</b>   | <b>212</b> | <b>100.0</b>   |

**CORRELATION ANALYSIS**

The analysis involved an examination of the correlations between actual rent paid and tenancy tenure. The outcome, shown in Table 6, indicates a negative correlation between rent paid and tenancy tenure ( $r = -0.14$ ,  $p \leq 0.05$ ). In other words, when tenancy tenure increases, rent paid decreases. This finding provides support for H1, that there is a significant relationship between tenancy tenure and rent paid. Since it is a negative relationship, the notion of Miceli and Sirmans (1999) is supported,

namely, that tenants who stay longer enjoy lower rents. This might be due to the current oversupply of office spaces, where office building managers are offering tenants rent incentives (e.g. discounted rent) for renewing tenancy agreements. This could also be due to the fact that it is cheaper to keep existing tenants than to bring new ones.

**Table 6** Correlation between tenancy tenure and rent paid

|   |                     | What is the current rent of your office space (psf)? |
|---|---------------------|--|
| How long has your company been occupying this office space? | Pearson correlation | -0.14*   |
|   | Sig. (2-tailed)     | 0.04   |

\* Correlation is significant at the 0.05 level (2-tailed).

### INDEPENDENT SAMPLE T-TEST

An independent sample t-test was used to compare means. Table 7 shows that the Levene’s Test for Equal variances yields a p-value of 0.92. This means that the difference between the variances was statistically insignificant and one should use the statistics with equal variances assumed. The p-value for equal variance was 0.00 (less than 0.05) indicating that there was a significant difference between the mean rent paid by foreign firms and local firms. The 95% confidence interval for the difference between two means was (1.09, 2.03), indicating foreign-owned firms

**Table 7** Independent samples test between rent paid by foreign and local firms

| What is the current rent of your office space (psf)? |   |             |                       |
|--|---|-------------|-----------------------|
| Levene’s Test for Equality of Variance               | F   |             | 0.01                  |
|  | Sig (2-tailed)                            |             | 0.92                  |
| t-test for Equality of Means with equal variance     | t   |             | 6.53                  |
|  | df  |             | 210.00                |
|  | Sig. (2-tailed)                           |             | 0.00                  |
|  | Mean difference                           |             | 1.56                  |
|  | Std. error difference                     |             | 0.24                  |
|  | 95% confidence interval of the difference | Lower       | 1.09                  |
|  |   | Upper       | 2.03                  |
|  | <b>N</b>                                  | <b>Mean</b> | <b>Std. deviation</b> |
| Foreign firm   | 98  | 6.43        | 1.76                  |
| Local firm   | 114                                       | 4.87        | 1.71                  |

pay about 1.09 to 2.03 higher rent than local firms. This was also evident in the mean rent paid by Foreign vs. Local Firms in Table 7, where the mean rent paid by foreign firms was greater than that of local firms ( $6.43 > 4.87$ ). In other words, the results supported hypothesis H2, namely, foreign firms pay significantly higher rent than local firms.

To test the differences in rent paid between larger and smaller firms, another independent sample t-test was performed. According to Table 8, the Levene’s Test for Equal variances yields a p-value of 0.04. This means that the difference between the variances was statistically significant and one should use the statistics with equal variances not assumed. The p-value for equal variance not assumed was 0.00 (less than 0.05) indicating that there was a significant difference between the mean rent paid by bigger-sized and smaller-sized firms. The 95% confidence interval for the difference between two means was (0.79, 2.01), indicating that bigger-sized firms pay about 0.79 to 2.01 higher rent. This was also shown by the mean rent paid by bigger-sized firms vs. small-sized firms in Table 8, where the mean rent for the bigger-sized firms was greater than the small-sized firms ( $6.57 > 5.17$ ). In other words, the results supported H3, and showed there was indeed a difference in rent paid by bigger-sized and smaller-sized firms.

**Table 8** Independent samples test between rent paid by bigger-sized firms and smaller sized firms

| <b>What is the current rent of your office space (psf)?</b> |   |             |                       |
|---|---|-------------|-----------------------|
| Levene’s Test for Equality of Variance                      | F   |             | 4.39                  |
|   | Sig (2-tailed)                            |             | 0.04                  |
| t-test for Equality of Means without equal variance         | t   |             | 4.55                  |
|   | df  |             | 89.93                 |
|   | Sig. (2-tailed)                           |             | 0.00                  |
|   | Mean difference                           |             | 1.40                  |
|   | Std. error difference                     |             | 0.31                  |
|   | 95% confidence interval of the difference | Lower       | 0.79                  |
|   |   | Upper       | 2.01                  |
|   | <b>N</b>                                  | <b>Mean</b> | <b>Std. deviation</b> |
| 10001 and above   | 63  | 6.57        | 2.22                  |
| 10000 and below   | 149                                       | 5.17        | 1.58                  |

### MULTIPLE REGRESSION ANALYSIS

A multiple regression analysis was used to determine whether Green and MSC certifications have positive impacts on rental premiums. The regression equation appeared as follow:

$$\text{Average Office Building Rent} = a + b_1 (\text{Green Certification}) + b_2 (\text{MSC certification})$$

As shown in Table 9, the regression model was significant (sig.  $F=0.00$ ,  $F=34.17$ ). The  $R^2= 0.25$ , meaning a 25% variance in rent paid was due to the combination of both certifications. In terms of effect size, the magnitude of the relationship from multiple correlation coefficient ( $R=0.50$ ) shown a strong relationship of both certifications on average office building rent (Cohen, 1988).

**Table 9** Multiple regression

| Dependent variables          | Independent variables | Standardized coefficient (Beta) | t-value | Sig. |
|------------------------------|-----------------------|---------------------------------|---------|------|
| Average office building rent | MSC certification     | 0.17                            | 2.21*   | 0.02 |
|                              | Green certification   | 0.38                            | 4.92**  | 0.00 |
| R                            | 0.50                  |                                 |         |      |
| R <sup>2</sup>               | 0.25                  |                                 |         |      |
| Adjusted R <sup>2</sup>      | 0.24                  |                                 |         |      |
| F-value                      | 34.17                 |                                 |         |      |
| Sig. F                       | 0.00                  |                                 |         |      |

Note: \*\* $p<0.01$ , \* $p<0.05$

Standardized regression coefficients were used to determine the relative impact each of the independent variables had on rent paid; and allowed a comparison to be made between variables of differing magnitudes and dispersions. As shown in Table 9, there were two significant variables. First, MSC certifications have a positive regression coefficient of 0.17 and significant level of 0.02 ( $p\leq 0.05$ ), suggesting a positive relationship between MSC certification and average office space rent, supporting hypothesis H4. Next, Green certifications have a positive regression coefficient of 0.38 and significance level of 0.00 ( $p\leq 0.05$ ). Thus, hypothesis H5 was also supported, suggesting a positive relationship between green certification and average office space rent.

The results confirm two points. First, offices in GTKL with either MSC or Green certification received higher average office space rent. Second, the positive impact of Green Certification ( $r = 0.38$ ) is higher than MSC status ( $r = 0.17$ ), indicating that tenants considered Green certification to be more important than MSC status. This is probably due to the perception that green buildings offer better cost-saving features than MSC buildings.

## **CONCLUSION, IMPLICATIONS AND SUGGESTION FOR FUTURE RESEARCH**

There are three implications to practitioners. First, tenancy duration can be used as a criterion for rent determination. Tenants with longer duration tenancy contract should be charged lower rents to reduce turnover costs. In particular, in the highly competitive GTKL environment, and given the oversupply condition in the market, attracting new tenants will become more challenging; therefore, retaining old tenants by charging cheaper rents is an important strategy to succeed in the market.

Second, high-end office building managements should target foreign-owned or bigger-sized firms because these firms are willing to pay higher rents for a better company image. In fact, foreign-owned and bigger-sized firms are willing to provide a better quality working environment to their employees whom they deem to be substantial resources for gaining competitive advantage. Hence, they are more than willing to invest in better office space for their business operations, compared to local-owned and smaller-sized firms.

Lastly, Green and MSC certifications were found to result in higher building rents, which justify building owners' decisions to invest in these two certifications. If cost is a concern and office building management can only afford one certification, Green certification is recommended because it has a higher positive impact on rent performance. In addition, external parties (i.e. government and property consultants) should encourage office building managements to use certification as a tool to improve rent performance. Certainly, government agencies should provide guidelines on incentives for old office building refurbishment with certification.

Besides the practical implications, this study makes three theoretical contributions to office building management research. First, the concept of elasticity is not applicable in the context of the office market in the GTKL. Second, the Price Effect theory is viable, in that it explains why tenants are willing to pay for Green and MSC certified buildings. Third, RBV explains why high-resource firms rent more expensive office spaces compared to low resource firms. Consistent with RBV theory, firms use resources to achieve competitive advantage. In the office space context, high resource firms more effectively sustain market and internal



competitiveness through the use of higher-end building spaces. This is consistent with the findings of Hills and Levys (2014) who found that financially sound firms often invest in a better workplace setting for their employees so that it will bring about the sense of well-being and increased productivity, thus, contributing to competitive advantage.

For future studies, a larger sample size that involves more participants from different prime business areas in the Klang Valley (e.g. Kuala Lumpur Central Business District, Petaling Jaya and Damansara) should be considered. This study is limited to the office space tenants of GTKL and, as a result, there are limitations to generalizing the findings to other prime areas in the office market context. A deeper and wider spectrum of study will provide a more comprehensive and thorough review of the strategies, and could likely result in improved commercial office rents. Furthermore, future research should take into consideration factors like office building grading (Grade A and Non-Grade A) to see how it may influence rent performance because there seems to be a perception that office rent performance depends on the grading of an office building (Daud *et al.*, 2010). Lastly, future research could explore how positioning strategies from office tenants' perspective could influence rent performance (The demand side). By understanding tenants' perceptions, office building owners could position their office building more effectively.

To sum up, this paper provides empirical evidence on possible strategies for improving the rent performance of office buildings. All hypotheses were supported. First, tenancy tenure was negatively related to rent paid. Second, firm ownership and businesses size had significantly different effects on rent paid, where foreign-owned and bigger-sized firms paid significantly higher rents than locally-owned or smaller-sized firms. Lastly, Green and MSC certifications were shown to positively influence office space rent.

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