Tenants' Motivations to Lease Green Office Buildings: an Exploratory Study of Sydney Central Business District

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Abstract— Environmentally friendly and energy efficient green buildings have gained their popularity across many countries including Australia. Despite their increasing popularity and rental premium, it is not known why tenants are more inclined to lease green over non-green office buildings in Australia. In addressing this gap, this study aims to explore tenants' motivations to leasing green office buildings. To this, this study first analysed over 2,000 tenants occupying over 100 green buildings in Sydney CBD. This allowed this study to identify which tenants are more likely lease green buildings than the others. The results show that tenants from; (i) the Finance and Insurance services sector, (ii) the Professional, Scientific and Technical services sector, and (iii) Real estate services sector account for over 50% of the entire tenant sample. Then, a judgemental purposive sampling method was adopted, and nine interviews were conducted with the key leasing decision-makers from the top three sectors. The interview findings reveal that the traditional aspects of location and costs are still the key motivational factors for green building tenants. However, many interviewees acknowledge that leasing a green office space could help improving their corporate image. This thus led to many tenants' beliefs that green spaces contain both symbolic value and tangible value, and that higher rents for green buildings are rather acceptable considering what they can offer. The results of the study suggest that understanding the demand of various types of tenants is essential to shed the light on the expensive rental price of green buildings in Australia.

Index Terms—green building, tenant, motivation, symbolic value, Co-occurrence network of words

I. INTRODUCTION

Over the years, evidence has shown that green office buildings are gaining their popularity from large many organisations due to their environmentally friendly and energy efficient features. This is no exception to Australia where the number of 4-Stars or above NABERS and Green Star certified green buildings has increased steadily over the last decade [1, 2]. This suggests that, despite their higher prices [3], green buildings are becoming the 'business as usual' in Australia rather than the 'wow' factor. The recent popularity of green buildings has also attracted considerable attention from researchers trying to investigate the key motivator driving

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tenants' green building leasing decisions. This is because tenants' demands could play a significant role in a wider adoption of green buildings [4]. Studies suggested that tenants could be intrigued by the superior building quality. good indoor environmental quality (IEQ) and higher energy efficiency of green buildings [5-7]. Many of these attributes are closely related to the unique benefits of green buildings that non-green buildings may not able to offer. On the other end, tenants could be also motivated by their corporate values, image and reputation, and altruistic responsibilities which are rather closely related to each tenant's identity, for example, as a socially responsible organisation [8-10]. This is echoed by a study [11] suggesting that intrinsic motivations such as self-defining identity and psychological ownership of their buildings may play a critical role in driving tenants' motivation in leasing green buildings especially with the higher ratings (e.g. NABERS 6 Stars, LEED Platinum).

Despite the many 'carrots' offered by green buildings, there are also several barriers impeding their wider adoption, most notably, their expensive price tag [12]. The lucrative price tag attached to green buildings is often considered as one of the biggest obstacles in many countries including Australia [13, 14]. The reason for the higher price may vary as it could be collectively attributed by several different factors such as higher building quality (e.g. premium grade, A-grade), superior location and the greenness of the building [12]. Nevertheless, limited attention was given to the possible relationship between tenants' identity and their green building leasing motivations, especially in the Australian context. This is an important gap as an investigation on this gap will shed light on what are the reasons driving the high rental price of Australian green buildings.

II. RESEARCH AIM AND METHODOLOGY

The aim of this study is to investigate tenants' leasing motivations towards green buildings in Australia. Under this aim, the objectives were to; (1) identify which organisations are more likely to choose green buildings; (2) compare different organisations' motivations towards leasing green buildings; and (3) determine if organisations' green building leasing decisions are triggered by their intrinsic motivations. In this research,

Sydney commercial building district (CBD) has been identified as the most populous area for green office buildings having 4-Stars or above in NABERS [15]. A semi-structured interviewing approach was adopted, and interviewees were selected based on the judgmental purposive sampling method. Prior to the interviews, a scoping study was conducted to create a sample list of organisations that occupying green buildings in Sydney CBD through site observation and survey of NABERS

database. Thereafter, the three key groups of green office building tenants were identified, and invitations were sent to the key informants (e.g. managing director, sustainability director, leasing and office managers) of some targeted organisations. Overall, nine interviews were conducted, and their findings were prescribed and analysed using the content analysis using 'KH Coder'. Table I shows the company profile of those nine interviews.

TABLE I. LIST OF THE ORGANISAT	IS INTERVIEWED FOR THE STUDY
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	Sector	Specialities	Nationality	Office type
Interviewee A	Finance and	Banking	Australian	State HQ
Interviewee B	Insurance	Insurance	Foreign	State HQ
Interviewee C		Finance (Non-profit)	Foreign	Single/Representative office
Interviewee D	Rental, Hiring and	Commercial real estate	Foreign	National HQ
Interviewee E	Real Estate	Commercial real estate	Foreign	National HQ
Interviewee F		Commercial real estate	Foreign	National HQ
Interviewee G	Professional,	Advisory	Foreign	National HQ
Interviewee H	Scientific &	Advisory	Foreign	State HQ
Interviewee I	Technical	Architecture design	Foreign	Single/Representative office

III. RESULTS AND DISCUSSIONS

A. Major Tenants of Green Office Buildings in Sydney CBD

From the investigation of the NABERS datasets and site visits identified, it is found that there are over 2,000 tenants occupying over 100 green buildings in Sydney CBD. The results further reveal that green buildings in Sydney CBD are mostly occupied by tenants from (i) the Finance and Insurance services sector (28.9%); (ii) the Professional, Scientific and Technical services sector (27.2%), and (iii) the Rental, Hiring and Real Estate services sector (10.0%). These three sectors account for over 50% of the entire tenant sample whilst the Administrative and Support services sector (e.g. employment services, building cleaning services) has been identified as the fourth largest tenant group accounting for 7.0% of the sample.

Overall, the results of the scoping study indicate that organisations from the traditional 'FIRE' sectors are the major tenants of green buildings in Sydney CBD along

with the Professional, Scientific and Technical services sector such as consulting, advisory and IT companies. This is consistent with the recent growth of TAMI (Technology, Advertising, Media and Information) sectors in Sydney CBD office market [16] although only 2.6% of tenants were identified from the Information Media and Telecommunications services sector making them ranked as only 8th out of 19 sectors. This implies that the space-intensive organisations such as financial institutions [17] lead the demand for green buildings in Sydney CBD, possibly because green buildings can offer better IEQ and subsequent higher employee satisfaction and productivity gains.

B. Tenants' Leasing Motivations

Table II summarises the interview findings about the key motivators to leasing green office buildings. Significant motivators, marked as a black dot (\bullet) were identified when the interviewees were asked to list their leasing motivators. Less significant motivators, marked as a triangle (Δ), were identified from subsequent conversations.

TABLE II. INTERVIEWEES' GREEN BUILDING LEASING MOTIVATIONS

	LO	CO	FL	BQ	SU	OI	LT	MA	RE	AV
Interviewee A	•	•				•	Δ		Δ	
Interviewee B	•	•			•					
Interviewee C	•	•	•	•	•	•	•			•
Interviewee D	•	Δ	•	Δ	•	Δ	Δ	•	Δ	
Interviewee E	•	•			•	Δ	•			
Interviewee F	•	•	•	•		•	•		Δ	Δ
Interviewee G	•	•				Δ		•		
Interviewee H	•	•			•	•	Δ			
Interviewee I	•	•	Δ	Δ		•				

LO: Location, CO: Cost (incl. rents, operating costs), FL: Floor size, BQ: Building quality/amenities/IEQ, SU: Sustainability (incl. energy efficiency), OI: Organisational Identity, LT: Landlord-Tenant relationship, MA: Ease of management (incl. Facilities Management), RE: Regulation, AV: Availability of stocks

All nine interviewees agreed that location was the paramount motivator of their current green office leasing decisions. This further points to the importance of 'office location' regardless the green certification status. In supporting this, interviewee F pointed out that:

"The location is important to us. Particularly for us, in this particular office... It is proximity to our clients..."

(Interviewee F, from the commercial real estate firm)

This is further shared by interviewee E that:

"Location is always the No. 1".

(Interviewee E, from the commercial real estate firm) Meanwhile, choosing the best location for their businesses was not only limited to the real estate firms but also shared by some interviewees from different sectors, who mentioned that:

"...what is important to you as a business leader... where our clients are located.... Previously, we were isolated from our primary clients".

(Interviewee H, who works for an advisory firm)

"Location. It is really all about staff engagement these days. So, we think about what drives the staff engagement, (such as) services, access to bars, restaurants, dry cleaning, public transport".

(Interviewee A, from the consumer bank) Overall, the responses from the nine interviewees clearly highlight that they perceive location as a mean of accessibility – e.g. access to amenities, clients and public transport. This is consistent with the co-occurrence network of words (Figure 1) showing a close connection between 'accessibility', 'transport', 'relocation' and 'proximity'.



Figure 1. Co-occurrence of network of words

In addition, interviewees agreed that costs played a significant role in their leasing motivation. However, at least half of them expected that the higher prices will be compensated for the better operational efficiency and subsequent lower bills. For instance, one of the interviewees mentioned that:

"...as a business, I think we understand the benefits of occupying a 6 Stars building over 4 Stars. We would probably be prepared to pay the premium for that".

(Interviewee F, from the commercial real estate firm)

Interviewee I also agreed that they would not consider non-green buildings in a first place, rather, lease a green building at the most reasonable price. This indicates that tenants, especially those having a good knowledge of the benefits of green buildings, are ready to pay the premium unless it is excessive. However, it should be also noted that premium and A-grade office buildings in Sydney CBD are also generally green buildings. Thus, although tenants might not willing to pay the premium for the higher energy efficiency alone [18], they might be happy to pay the premium when green buildings tick their boxes and provide greenness as a 'bonus', as shown in the US [5]. This is supported by responses from Interviewee D, E and I saying that they are buying the 'full experience' when they lease a green building.

Meanwhile, interviewees also highlighted that reflection of their organisational identity through green buildings was another biggest motivator. For example, one interviewee clearly stated that they pursued green building and sustainability because they perceive themselves as an industry leader;

"Sustainability is seen to be something that leaders do, and I think we see ourselves as a leader and an innovator, not just a follower"

(Interviewee D, who works for the commercial real estate firm)

This is consistent with other interviewees including Interviewee I who pointed out that:

"...in terms of branding, if you want to portray the image, sustainability commitment, that (green building) speaks itself".

(Interviewee I, from the architectural firm)

Indeed, it seems that tenants perceive green building certificates as a 'badge'. For instance, interviewee C, D and E answered that they would not choose buildings without a certificate; "It must be certified". This was further emphasised by Interviewee I mentioned that they only aimed at the highest ratings available because it reflects their branding. To some extent, tenants' efforts to portray their organisational identity through green buildings were also related to the level of competition they face. For example, as Interviewee D stated, 'keeping up with the Joneses' was their another biggest motivator.

"I think property industry is a very competitive industry... 'Keeping up with the Joneses' is a powerful motivator. Absolutely impacts on our views on sustainability".

(Interviewee D, from the commercial real estate firm) This was also shared by interviewee F and H who were well-aware of their competitors' efforts to utilise sustainability practices and green buildings as a marketing tool. This was further highlighted in Figure 1 showing a close connection between the words 'scar', 'signage', 'strategy', 'brand' and 'locate'. To this extent, this shows both tangible (e.g. sustainability features) and symbolic aspect (e.g. image) of green buildings could collectively play a positive and significant role in tenants' green building leasing motivations and creation of the rental premium, as it was suggested by an earlier study [11].

IV. CONCLUSION

This research aimed to identify tenants' leasing motivations towards green buildings in Australia. The overall results show that although locational and cost aspects are still being considered important, many interviewees also perceived green buildings as a guarantee of better building quality, superior IEQ and other associated benefits. Moreover, they considered green buildings as a mean of portraying their organisational identity, for example, as an industry leader. This shows that tenants may perceive green buildings as a marketable product that appeals to their clients and to the public. As such, tenants were happy to pay the premium although they might have a chance to go for the cheaper option. Nevertheless, most of the organisations being interviewed were using their offices as either a national headquarters or as a state headquarters. Therefore, their leasing motivations could be limited to the characteristics of premium or A-grade office buildings. It is recommended further investigation on tenants' leasing motivations based on a bigger sample size covering different types of office buildings, followed by more comprehensive quantitative analysis. This would eventually lead to more in-depth understanding on the reasons behind the various tenants' leasing decisions and the higher rents for green buildings.

REFERENCES

- [1] S. Kim, B. T. Lim, and J. Kim, "The effect of building sustainability regulation on the green office building stock in Australia," in *Proc. International Conference on Sustainable Built Environment: Actions for the Built Environment of Post-Carbon era Complying with COP21 Sustainable Built Environment 16 Seoul (Seoul, 11-14, Dec)* (Seoul, Korea) pp. 470–3, 2016.
- [2] S. Kim, J. Kim, and B. T. Lim, "Who occupies the green building: A case of Australia global collaboration for Asia's construction challenges," in *Proc. 6th International Conference on Construction Engineering and Project Management (ICCEPM 2015) (Busan, Korea, 11/10-14/10)* ed B Koo et al (Korea Institute of Construction Engineering and Management (KICEM)) pp 549–52 2015
- [3] G. Newell, J. MacFarlane, and N. Kok, Building Better Returns: A Study of the Financial Performance of Green Office Buildings in Australia (Sydney), 2011.
- [4] N. Brown, T. Malmqvist, and H. Wintzell, "Owner organizations' value-creation strategies through environmental certification of buildings," *Building Research & Information*, vol. 44, pp. 863–74, 2015.
- [5] R. Simons, S. Robinson, and E. Lee, "Green office buildings: A qualitative exploration of green office building attributes," *Journal* of Sustainable Real Estate, vol. 6, pp. 211–32, 2014.

- [6] Z. Gou, S. S. Y. Lau, and D. Prasad, "Market readiness and policy implications for green buildings: Case study from Hong Kong," *Journal of Green Building*, vol. 8, pp. 162–73, 2013.
- [7] Y. H. Ahn, A. R. Pearce, Y. Wang, and G. Wang, "Drivers and barriers of sustainable design and construction: The perception of green building experience," *International Journal of Sustainable Building Technology and Urban Development*, vol. 4, pp. 35–45, 2013.
- [8] I. J. Onuoha, N. Kamarudin, G. U. Aliagha, I. U. Kalu, J. A. Onyike, S. A. Okeahialam, N. S. Okoronkwo, S. O. Chika, and I. N. Alaka, "Green tax incentives and other demand factors motivating green commercial property investment," *Journal of Sustainable Real Estate*, vol. 9, pp. 46–65, 2017.
- [9] D. C. Matisoff, D. S. Noonan, and A. M. Mazzolini, "Performance or marketing benefits? The case of LEED certification environmental science & technology," vol. 48 2001–7, 2014.
- [10] S. Kubba, LEED v4 Practices, Certification, and Accreditation Handbook (Elsevier Science), 2015
- [11] S. Kim, Lim, and J. Kim, "Tenants' decision to or not to lease green & non-green buildings: A conceptual framework," *Procedia* Engineering, vol. 180, pp. 1551–7, 2017.
- [12] S. Kim, B. T. Lim, and J. Kim, "2017 green features, symbolic values and rental premium: Systematic review and meta-analysis," *Procedia Engineering*, vol. 180, pp. 41–48.
- [13] A. Darko, C. Zhang, and A. Chan, "PC 2017 Drivers for green building: A review of empirical studies," *Habitat International*, no. 60, pp. 34–49
- [14] S. Azeem, M. A. Naeem, A. Waheed, and M. J. Thaheem, "2017 Examining barriers and measures to promote the adoption of green building practices in Pakistan," *Smart and Sustainable Built* Environment, vol. 6, pp. 86–100.
- [15] S. Kim, and B. T. H. Lim, "How effective is mandatory building energy disclosure program in Australia?" *IOP Conf. Ser.: Earth Environ. Sci.* 140 12106
- [16] A. Pham. 2017 Sydney emerging as one of Asia Pacific's leading tech and start-up hubs: Sydney is expanding fast as a tech location, resulting in the opening of more co-working offices. [Online]. Available: http://www.knightfrank.com.au/blog/2017/12/12/sydney
 - emerging-as-one-of-asia-pacifics-leading-tech-and-start-up-hubs (accessed 27 Feb 2018)
- [17] A. Reichardt, N. B. Rottke, and M. Thomas, (eds) 2016 Sustainability in commercial real estate markets (Essays in real estate research Band 12) (Wiesbaden: Springer Gabler)
- [18] J. Gabe and M. Rehm, "2014 Do tenants pay energy efficiency rent premiums?" *Journal of Property Investment & Finance*, vol. 32, pp. 333–51
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