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Tenants' decision to or not to lease green & non-green buildings: a conceptual framework

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Abstract

Understanding the key features driving tenants' decision to or not to lease green and non-green buildings is important for building owners and developers- especially in today's era of sustainable development. Although evidence shown that green buildings could fetch a rental price premium over non-green buildings, it is not known as to what drives tenants' leasing decision. In addressing this gap, the aim of this study is to develop a conceptual framework for explaining tenants' leasing decision for green and non-green buildings. More specifically, it attempts to (1) identify key building features of green and non-green buildings, and external influences that could affect tenants' decision; and (2) review relevant theories underpinning tenants' behaviours. The research was conducted by using literature survey on related publications, including, but not limited to, books, journal articles, and market and government research reports. The review shows that building features could be broadly classified into: instrumental (i.e. tangible) and symbolic (i.e. non-tangible) aspects and that these two aspects could collectively influence tenants' decision to lease and pay the price premium for green over non-green buildings. In particular, tenants' decision on leasing green buildings might not be only driven by mandatory regulations or sustainability features but also by expectations to fulfil different, possibly conflicting, values, and willingness to portray their identity. To probe this, this conceptual framework integrates four different theories; Expectation-value theory, Push-pull theory, Symbolic self-completion theory, and Theory of bounded rationality. This framework will be tested in subsequent stages of the research project.

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1. Introduction

The underlying concept of sustainability can be defined as making a balance between environmental, social and economic development not only for the present but also for the future [1]. Over the last few decades, increasing concern on environmental issues in the building and construction sector has raised interests in sustainable development in many countries. Particularly in Australia, the sector is one of the world largest single contributors of greenhouse gases and waste, and water consumers [2]. Also, it is the fourth biggest contributor of Australia's Gross Domestic Product (GDP) and plays a significant role in its economic growth [3]. Not only the environmental issues but also the growing demand for improved indoor environmental quality (IEQ) for better building occupants' health, comfort, and performance level have put forward the importance of sustainable development in the building sector [4].

The concept of 'green building' is developed to incorporate the sustainability concept to the building sector. Although there is no consensus on the term 'green buildings', it is generally referred to the buildings which are certified by green building assessment schemes such as BREEAM (UK); LEED (US); Green Star (Australia); and Green Mark (Singapore). Green buildings are typically designed and operated to be more environmentally friendly and energy efficient. Numerous studies [5–9] reported that green buildings produce less greenhouse gases and waste, and consume less energy, and that their occupants are often found to be more productive and healthier and have higher satisfaction and lower absenteeism rate. However, these ingenious benefits are attached with a price tag. For instance, a recent study shows that green office buildings tenants pay almost 20% of rental premium than those who leased non-green buildings in the same neighbourhood [10].

The rental price premium for green office buildings was found consistently throughout the real estate literature [8, 10–29]. The rental price premium was attributed by several factors; from its location to the standard building features. Nevertheless, most of the identified rental price attributes were not much different to those conventional rental price attributes for non-green buildings. One of the possible explanations on this is due to the literature's limited attention to the green buildings' unique symbolic aspect that differentiate green buildings from its counterpart. In fact, property prices are best indicated not only by their tangible aspect (e.g. locational and physical characteristics) but also by its symbolic (i.e. intangible) aspect [30].

Despite the increasing demand for green buildings which is reflected by the rental price premium, the lack of consideration on the green buildings' symbolic aspect shows where the current state of literature is lacking when analysing its lucrative price tag. More precisely, it is still not known what the key factors – especially those related to green building's symbolic aspect – drive tenants to lease or not lease green buildings and make them to pay the higher prices. Most studies focused on identifying potential tenants' general perceptions for green buildings without empirically examining their strategic intention and leasing behaviour. In other words, it remains unknown whether tenants' perceptions on green building are actually aligned with their occupation decisions. It therefore leads to the questions; "If and to what extent tenants' green building occupation decisions are attracted by green buildings' symbolic aspect?", and most importantly, "What are the symbolic aspects of green buildings that could bring about the rental price premium over non-green buildings?"

In addressing the questions and the gap in knowledge above, the aim of this paper is to develop a conceptual framework for explaining tenants' green building leasing decisions. Under this aim, specific objectives are to; (1) identify key building features of green and non-green buildings, and external influences that could affect tenants' decision; and (2) review relevant theories underpinning tenants' behaviours. The research was conducted by using literature survey on related publications, including, but not limited to, books, journal articles, and market and government research reports. This study focuses on the office leasing market because Australian green building market is generally driven by leased NABERS certified office buildings over across the top three states of NSW, Victoria and Queensland [31]. To this extent, tenants of office market are selected as the scope of this study as key to understanding the drivers for sustainable office is the stakeholder demand, primarily from investors and occupiers [32–35].

2. Literature Review

Over the past decades, there is a considerable amount of research attempted to document tenants' perceptions towards green building. Most recently, world green building trend study identified perceptions on various triggers and obstacles to the occupation of green buildings across different countries. The study found that client demand as well as environmental regulation play an ever increasing role in obtaining the building sustainability certifications. Meanwhile, obstacles like higher perceived initial costs, lack of political support and incentives, and limited understanding on the nature of green building (e.g. green is only for high-end projects) hinder adoption of the green building concept [36]. Other positive attributes identified by the previous literature include, but not limited to, location (e.g. better accessibility to nearby transport and amenities, prestige image of CBD location) [37], flexibility of floor space [37], and enhanced IEQ from the greening such as temperature control and better energy and thermal efficiency [38]. Moreover, marketing benefits from the "green image" [37, 39], staff and client demand [35, 39, 40], as well as regulatory enforcement [35, 41] also played a role in tenants' green building occupation decisions. Overall, It seems that the recent trend is moving from the "push" (e.g. mandatory regulation) to "pull" attributes (e.g. willingness to enjoy the benefits from occupying green buildings) [42].

The magnitudes of each identified attribute were not always the same. Rather, they were influenced by various factors. Most notably, significance of each attribute were often varied by different tenant. In fact, studies have shown that different perceptions, constraints, and characteristics of each tenant's make some differences in their end-behaviour [35, 37, 43, 44]. Moreover, non-sustainability related attributes like availability of stock and the standard building features were often considered more importantly than the sustainability specific attributes [35, 37]. This is similar to most of the identified rental price attributes for green office buildings were not specifically related to its sustainability features.

Meanwhile, studies [30, 45–47] have highlighted that properties are a symbol of identity. They found that special emotional attachments for some properties (or places) make them have different "meaning" or "sense" that driving them beyond its operational value. The term "symbolic" was used in these literature to highlight the relationship between these places and one's "identity" such as self-definition, status, achievements, needs, and values. The symbolic value of property could be presented in various forms including price. In fact, one of the definitions about price setting is that *"it is not just an economic but also a signifying act... prices are expressive of the identity of producers, consumers, and distributors. They serve as status symbols of these actors, and prices enable these actors to enact their role in the market... we have to take cognitive and symbolic meanings of prices into account"* [48]. It seems that not only physical ownership but also psychological ownership plays a role in creation of the symbolic values of a property – values that represent property's identity – as they were often derived from their social, cultural, and other context. For example, Ledgerwood et al. found that some properties are valued highly by certain groups when the they are closely related to group's own history and/or affiliation [30]. This is also consistent with Pierce et al. highlighting the role of psychological ownership as a means to boost self-esteem and personal values [45]. Green buildings are no exception to this as studies suggested that green buildings' symbolic aspect appeal to tenants as a mean of marketing and branding effort [8, 35, 37, 49] although its magnitudes were not always the same. Nevertheless, empirical investigation of the effects of one's symbolic aspect on its price is still very limited especially in the context of green buildings.

Overall, the literature review above suggests some important implications about the influence of tenants' behaviours on green buildings' rental prices. Firstly, tenants' decision makings were driven by a range of push and pull motivators. Tenants were pulled by various pecuniary and non-pecuniary benefits (e.g. productivity increase, better corporate image, energy cost savings) whilst regulatory enforcements such as building codes and environmental legislations also pushed them to choose green buildings over the non-green counterpart. Meanwhile, obstacles like perceived higher initial costs made tenants feel reluctant to choose green buildings although they wanted to enjoy the benefits of occupying a "green" space. When considering tenants' decisions were not only influenced by a single but by multiple attributes, it seems that tenants prioritised different, possibly conflicting, factors, then, determine expected return vs. loss, and make the most rational decision based on it.

Moreover, the identified push and pull motivators were not purely external influences but they could include internal influences (e.g. CSR implementation). More precisely, tenants' awareness, commitment, and expectations all played a positive role in green building occupation decisions. Hence, it is likely that tenants' characteristics would make some differences when it comes to their green building leasing decisions and rental prices they pay. For example, tenants having a high level of awareness on sustainable development might be more actively leasing green buildings with high ratings which typically cost more than buildings with lower ratings.

Lastly, not all the identified motivators for green office buildings were specific to its "greenness" nor "sustainability". Rather, many of these attributes shared similar characteristics of the typical high quality A-grade office building situated at prime locations. When considering the rental price premium was found from the analyses between green and comparable non-green office buildings having similar characteristics, this indicates that not only the typical building attributes but also other factors might play a role when it comes to tenants' leasing decisions. It seems that the symbolic aspect of green buildings plays a positive and significant role in tenants' decision makings and their willingness to pay for the higher prices especially when considering tenants were pulled by green buildings' marketing and branding benefits.

To sum up, we acknowledge that analysing tenants' behaviour to lease and not to lease green buildings, and identifying its possible linkage with the higher prices should embrace the following; (i) identification of internal and external influences on tenants' decision makings, (ii) consideration on decision makers' expectations especially in regard to green buildings' symbolic aspect, and (iii) acknowledgement of decision makers' imperfect rationality. This is consistent with previous studies [35, 37, 43, 50, 51] keep pointing out that; (i) preferences take an added meaning, and significantly influence on spatial choice and behaviours; (ii) tenants' decisions are dependent on by its own characteristics, and (iii) rational behaviour in the office market should be determined by testing if actual choices by investors are well-aligned with their expectations. Accordingly, a conceptual framework is proposed as it is shown in Figure 1 and will be discussed subsequently.

3. Proposed Conceptual Framework of the Research

In this study, four theories have been used to underpin the proposed conceptual framework for explaining tenants' green building leasing decisions (as shown in Figure 1). They are: (i) Push and Pull Theory; (ii) Symbolic Self-Completion Theory; (iii) Expectancy-Value theory; and (iv) Theory of Bounded Rationality. From the perspective of "push and pull theory", tenants are "pulled" by the various pecuniary and non-pecuniary benefits from the greening whilst they are also "pushed" by the pressures from outside to adopt the green building concept. Meanwhile, push and pull motivators do not only influence the tenants but also impact on perceived value of products and places [52, 53]. In this context, the push and pull motivators might increase or decrease the value of green office buildings and this eventually lead to tenants' decisions between green and non-green office buildings. Tenants' motivations, however, might not solely come from the already known push and pull factors. Rather, their leasing decisions might be also motivated by the symbolic values of green buildings. "Symbolic self-completion theory" highlights that people with high identity goals use various symbols to substantiate their self-definition or "identity" especially when their identity is important but under threat [30, 54]. Whilst the scope of the theory might seem to be limited to the individual level, values are sometimes shared with others and constitute the basis of group, professional, political, or cultural identities [55]. For instance, values are placed on material symbols to substantiate the "group identity" which individuals belong (e.g. company) [30]. Indeed, material possessions such as building ownership could be an effective means for communication of group identity [56]; "*Property derives values from its capacity to serve as an efficient means to support in the pursuit of group identity goals*" [30]. To this extent, perceived value of a property might be not only closely related to the group identity but also depends on which property is able to symbolise their identity better. For example, some tenants might prefer the highly rated green buildings (e.g. 6 Green Star certified) [57] because they believe that these buildings can represent their identity more effectively than the green buildings with lower ratings. Meanwhile, because symbolic values placed by tenants must be highly dependent on characteristics of each tenant, the conventional "perfect rationality" concept would not very appropriate to explain tenants' green building leasing decisions. Instead, different tenants are likely to make the most rational decision in a various constraint environment [51]. More precisely, tenants' leasing decisions must be

based on their own expectation that returns offered by the symbolic value of green buildings would be greater than the expected loss from the higher rental prices. Hence, “bounded rationality theory” and “expectancy-value theory” would be better to explain if and to what extent each tenant’s green building leasing decisions are related to green buildings’ symbolic values.

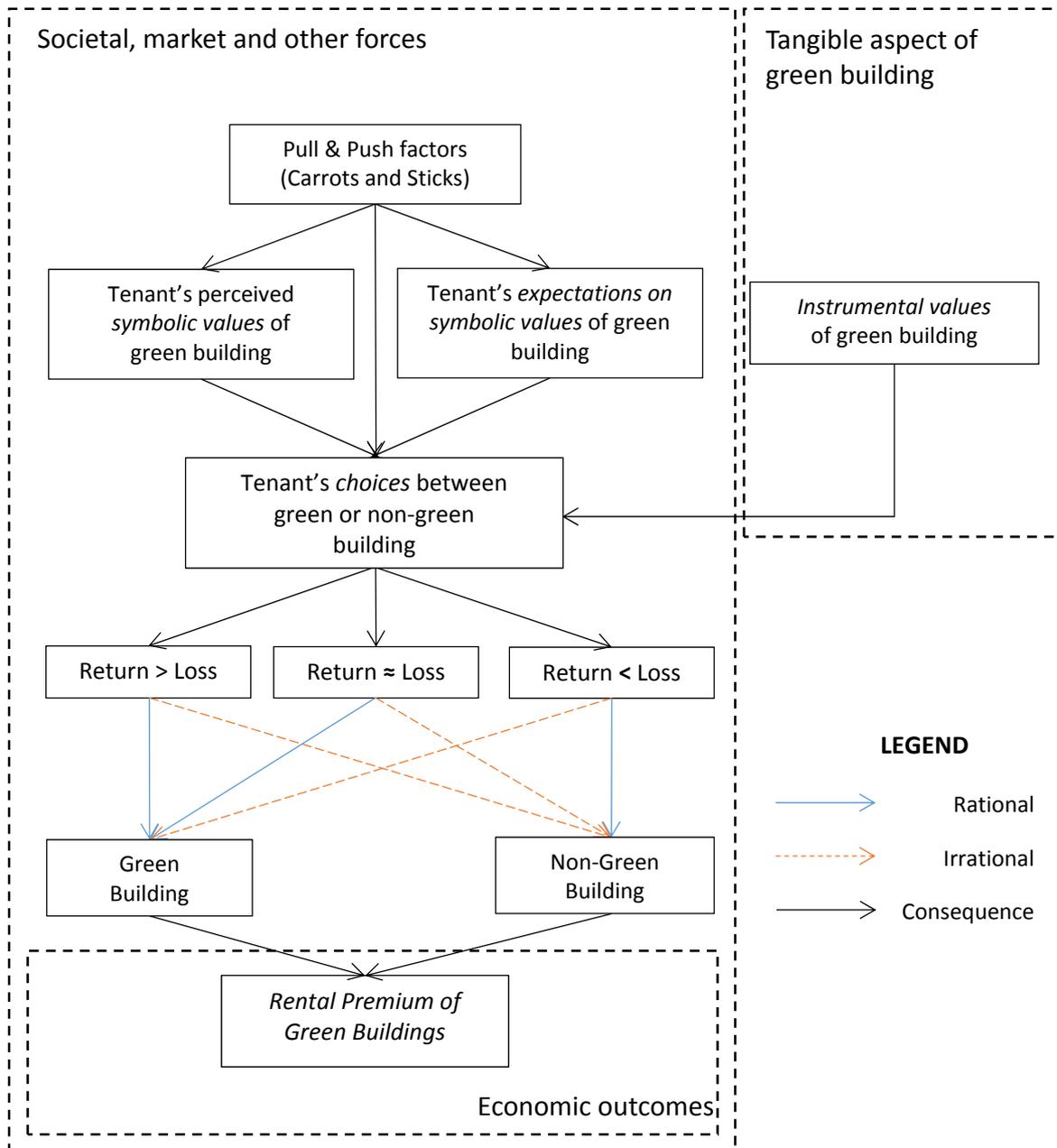


Fig. 1. Conceptual Framework of the Research

4. Conclusion

Integration of the four theories for the proposed conceptual framework allows examination on how green building leasing decisions were made and how these decisions are related to the symbolic value of green buildings. The main reason why the proposed research framework is underpinned by those multiple number of behaviourist theories is that analysis on impacts of symbolic aspect of a green building on real estate prices requires encompassing various sources of occupation motivation, perceived value of a green building as well as tenants' decision making process which could be not always perfectly rational. Hence, it must be supported by more than the conventional theories of real estate pricing model which only consider the tangible aspect of a property. It is expected that the proposed conceptual framework will shed some light on if and to what extent symbolic aspect of the green building made tenants to choose green building and pay the higher prices.

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