The Propositions of a Business Model in Green Building

Sandy Yu-Rung Yang¹, Sean Te-Hsun Lin² ¹School of Foreign Languages, Huaiyin Normal University ²School of Law Politics and Public Management, Huaiyin Normal University No.111, Chang-Jiang-Xi Road, Huaian City, Jiangsu Province People's Republic of China sandyyang@hytc.edu.cn http://www.hytc.edu.cn/en/

Abstract: As more and more people are aware of the environmental protection and energy saving techniques, the most popular products nowadays are those that are claimed to be so called energy saving, green building. Relevant research on green building is monotonous, focusing on the analysis of product attributes, regulatory mark certification and sales factors, and there is a gap of investigation on the whole business environment and market supply and demand. Based on the "EKB Decision Theory", this study established the relevance of ten propositions of five variables in the two paths of the green building sales process. Under the first path, Proposition 1, Green Building's "Consumer demand" has a positive impact a positive impact on "Integrated marketing"; Proposition 2 - Green Building's "Consumer demand" has a positive impact on "Business philosophy"; Proposition 3 - Green Building's "Business philosophy" has a positive impact on "integrated marketing". Proposition 4 - Green Building's "Business philosophy" has a mediation effect between "Consumer demand" and "Integrated marketing"; Proposition 9 - Green Building's "Policy regulations" has a positive moderation effect between "Consumer demand" and "Business philosophy". Under the second path, Proposition 5 - Green Building's "Green cognition " has a positive impact on "Integrated marketing"; Proposition 6 - Green Building's "Green cognition " has a positive impact on "Business philosophy"; Proposition 7 - Green Building's "Business philosophy" has a positive impact on "Integrated marketing"; Proposition 8 - Green Building's "Business philosophy" has a mediation effect between "Green cognition " and "Integrated marketing"; Proposition 10 - Green Building's "Policy Regulations" have a positive moderation effect between "Green cognition" and "Business philosophy". The findings of this study will shed new lights for green building suppliers on how to strengthen their major marketing capabilities and make potential market targets toward sustainable development.

Key words: Green Building, EKB Decision Theory, Consumer Demand, Green Cognition, Integrated Marketing, Business Philosophy, Policy Regulations.

1 Introduction

It is commonly observed that there is a discrepancy between the supply and the demand of green building market. Various reasons were studied such as the inability of consumers' perceptions toward the effectiveness of green knowledge, or the high cost of construction materials generated in the suppliers' management, and so forth. In fact, both expenses for the green building materials and green building maintenance are much higher than those for the non-green counterpart in addition to the complication and advancement in construction of green building. One phenomenon, observed recently, is the shortage of green building market supply despite the compensation of suppliers' cost premiums. Previous research on green building has revealed that there is an asymmetrical relationship in the preference of green building between consumers and the suppliers. The latter tends to provide economy-friendly green building whereas the former

prefers society-friendly green building. The consumers' limited knowledge on green building is confined to the environmental, economical, and the societal perspectives. Previous research on the marketing strategies of green building has suggested that in order to reach consensus in the advantages of green building and to accelerate the deal, it is necessary to focus on the society friendly aspect in addition to the marketing promotion and education [1].

The significance of this study contributes to the importance of appropriate integrated marketing strategies in the modern society. Due to the environmental and ecological characteristics of green building, compared to the traditional counterpart, more detailed and integrated marketing strategies are necessary including standard procedures of the establishment of public image, offering clear, concise and consistent information by means of social media, public relation, promotion, packaging, and other Internet campaigns in order to maximize the effect of green building marketing and mass communication [2].

The importance of green building suppliers to the corporate business is essential. Green building suppliers, playing a critical role in business, have to be responsible to investors, employees, consumers, and other associates and have to carry on the social responsibilities. Thus, the key to the success for green building suppliers is to embody comprehensive business philosophy and strategies. In other words, the more suppliers accentuate business philosophy, the more investors, employees and consumers accept the managerial model, the more the sense of belonging and the sense of loyalty are enhanced. As a result, the mentioned factors play an important role in corporates' business philosophy. Once green building suppliers have a good command of business management, the quality of green building can be improved. To activate and boost the green building market, suppliers should take into accounts the customers' concerns, the actual benefits, and the environment protection concept [3].

There is an asymmetry in the number of green buildings in many areas of the world. Many regulations and government legislations on green buildings funding can explain its distribution although the green building distribution is not significantly relevant to environmental and energy saving policies and regulations. Thus, it is substantially effective that government should make relevant laws and regulations to educate the general public, to enhance their awareness of energy saving, and to promote the importance and essence of green building. In addition to legislation of relevant laws such as regulations on tax deduction and funding, government needs to provide financial bonuses and rewards. [4].

Based on our observation, the purpose of this study is to examine all the potential situations when green building suppliers make the market decision. Suppliers should take the following considerations to make the best option:

The following considerations, suggested to be taken by green building suppliers to make the best option, are also the motivations of this study.

(1) When facing potential consumers, green building suppliers should understand consumers' preferences and demands of green building and their decisionmaking process. In addition to the consideration of business philosophy, how do consumers' demands and business philosophy affect integrated marketing strategies?

(2)How do green cognition, such as construction techniques, philosophy, cost and regulations of green building, and business philosophy affect integrated

marketing strategies?

(3)Most previous research, focusing on one single variable of green building, lacks the examination and discussion of relevant strategic development on green building. Thus, this study aims to survey a more complete marketing strategy and a more profitable model by means of examination of green building suppliers' analyses of the integrated marketing planning and the consideration of assessment regulations.

The target of this study is to investigate how green building suppliers develop their integrated marketing strategies by the considerations of consumers' demands, consumers' green cognition, which in turn influences suppliers' business philosophy and marketing policies. Thus, the research questions are as follows:

(1) To examine how consumer demand, green cognition, and business philosophy affect the integrated marketing.

(2) To inspect the mediation effect of business philosophy among consumer demand, green cognition and integrated marketing.

(3) To investigate the moderation effect of assessment regulations among consumer demand, green cognition and business philosophy.

2 Literature Reviews

The aim of this study is to investigate relevant factors influencing green building suppliers' market decision-making process. The relevant literature includes 2.1 the assessment system on green building, 2.2 EKB model on decision-making process, 2.3 definition of five variables, and 2.4 ten relevant propositions intended to discover the effect of each variable on green building suppliers' decision.

2.1 The Assessment System on Green Building

With the drastic change of world climate, the issues of environmental protection and energy saving have been substantially discussed worldwide. The origin of international assessment system on green building comes from Building Research Establishment (BRE) in 1990. combining departments such as energy, environment, and industry to establish an evaluation system on green building and its environment. The evaluation system, called Building Research Establishment Environmental Assessment Method (BREEAM), focus on three assessments, including global environmental problems and resource recycling, local environmental problems, and indoor surrounding problems [5]. Later, among the burgeoning assessment system on green building created by advanced country, the most reliable and reputable are

Leadership in Energy and Environment Design (LEED) and Comprehensive Assessment System for Building Environmental Efficiency (CASBEE). In 1999, Taiwan has started assessment system on green building, consisting of nine green building evaluation categories such as property greening, water conservation, water resources, daily energy saving, CO2 deduction, waste deduction, garbage and sewage improvement, ecological diversity, and indoor surrounding maintenance. Being the fourth most scientific evaluation method on green building in the world, just after the British, the American and the Canadian systems, Taiwanese evaluation system on green building is not only the first one in Asia but also the only single developed system in evaluation system in tropical and subtropical areas [6].

2.2 EKB Model on Decision-Making Process

EKB model, a theoretical structure on consumers' decision-making process, proposed by Engel, Kollat and Blackwell and revised constantly from 1968 to 1993, includes four phases. The first phase, information input, includes the source of information and searching of sources such as consumer needs, product knowledge, and so forth. The second phase, information processing, contains steps such as disclosing, noticing, understanding, accepting, and retaining the product information. The third phase, the decision process, the critical stage of the theory, means the mental process of consumers' decision making which serves as important criteria for suppliers to adopt marketing strategies. Thus, it is crucial that this phase can be divided into five subparts. They are recognizing consumers' needs, searching for information, evaluating options, purchasing, and achieving satisfaction. Next the fourth phase of EKB model, variables influencing decision process, is divided into two subparts: environmental factor and personal characteristics [7]. According to previous research, EKB model is effective in explaining the fact that the mental consumers' decision-making process of and purchasing habits can have a substantial influence on suppliers' marketing strategic planning [8]. Figure.1 illuminates this mental process in details as can be seen in the following.



Fig.1: EKB model (Source: [9]; the current study)

2.3 Definition of Five Variables 2.3.1 Consumer Demand

When assessing needs and making decisions, consumers rely more on specific and available information provided by green building constructors and other consumers than on ambiguous and inaccessible information. Under different evaluation of various references, after constant comparison of two different options before purchasing, consumers would have a choice set, also named as preference reversal [10]. In other words, before purchasing any green building or receiving services relevant to green construction, consumers usually categorize, screen, and integrate all kinds of materials. Finally, the useful information consumers gather includes prices, qualities, and as well as other consumers' evaluations and reviews [11-14].

2.3.2 Green Cognition

The crucial concept of green consumption includes 4 R and 3E, namely, reduce, reuse, recycle, and refuse, economic, ecological, and equitable. Green consumption indicates that both consumers and suppliers retain the environmental conservation motivation and reduce the use of hazardous materials to harm the earth [15]. In other words, both consumers and constructors should have energy saving concept and the environment protection perception from idea conception to purchase completion [16]. In particular, consumers and constructors should stick to the green cognition spirit before purchasing and selling green building, including searching, confirming, and evaluation potential green building materials [17].

2.3.3 Integrated Marketing

Integrated marketing communication (IMC) or integrated marketing integrated (IM)or communication (IC) is a way of marketing strategy in which strategic planning, customer service, customer communication, corporate image building are public relations, promotions, integrated via packaging, campaigning, and social media to

maximize the effect of marketing strategies and to optimize suppliers' sales results [2]. The target audience of integrated marketing communication is the consumers with a purpose of building an effective relationship between consumers and brand establishment [18]. Furthermore, the target audience of integrated marketing communication also includes all relevant parties such as consumers, stakeholders, beneficiaries, and so forth, with an aim of balancing profits and ensuring the fair share for each party [19]. Integrated marketing communication combines each separate, individual, and small-scaled promotions and campaigns to achieve the maximal profits [20]. There is a significantly positive relationship between different kinds of media and the effective results of integrated marketing communication [21]. The more closely incorporated integrated marketing communication is, the better the integrated marketing performance becomes [22]. Significant differences are also found in satisfaction and performance of integrated marketing, in business planning of integrated marketing and approval and performance of integrated marketing, in implementation of integrated marketing, performance of integrated marketing and profitability. The purpose of integrated marketing, also the aim of this study, is to combine marketing strategies with customer services via social media, public relations, promotions, packaging, and Internet with a goal to provide clear and concise information for consumers in order to optimize effective results of integrated marketing.

2.3.4 Business Philosophy

Business philosophy, also called business philosophy, is the green building executives' ideas, beliefs, and goals, relevant to their business partners, and stakeholders and tremendously influential on corporates' target plans and strategies. Previous research has revealed that the more creative business philosophy of company executives is, the more excellent corporate culture is, the more superb performance of corporate management is [23]. Similarly, the more corporate executives value concept of management, the more employees accept supervision. This, in turn, enhances organizational commitment such as employees' sense of belonging and sense of loyalty, which is essential to other facets of corporate management such as integrated marketing strategies [24]. Many people such as customers, stakeholders, employees, are involved in the implementation of business philosophy. Customer Relationship Management (CRM), catering to maintaining the relationship among different roles, is the extension of business philosophy. For those who engage in green building construction, it is essential that their ideas and beliefs should make a substantial

impact on management goals, should serve as a guideline for marketing campaigns, and also should make an influence on stakeholders, employees and other business counterparts [25-29].

2.3.5 Policy Regulations

The essence of green products is unique in that it involves ideology and trust. This special product is unusual because customers will have no ideas how beneficial green products is to their environment. Therefore, it is only through advertisements or customers corporate reputation can realize advantages and outcomes of buying green buildings [30]. Another brilliant way to ensure qualities of green buildings is by certification of official organizations. The purpose of certification of green buildings is to inform buyers of the facts that both the producing materials and constructing technologies are ecology friendly and energy saving [11]. Moreover, if green buildings are officially certified, the building price or the managing cost will also increase as compared to those without certificates. From this perspective, the advantages of certification include investment profits and value also preservation [31-32]. Thus, it is essential for governments to take a stance to legislate to protect the environment via green building laws and regulations. It is time for green building suppliers to switch to strategization, systemization, optimization, normalization, evaluation, and certification of green building profession [33]. In addition, suggestions on green building construction and maintenance should be provided. The construction of green building is highly complicated. The promotion and marketing of green building can be technically supported by advanced expertise in engineering. Before making related regulations, it is important to compare those of China, the United Kingdom, and the United States from perspectives such as energy saving, water conservation, material saving, location selection, surrounding outdoor and indoor qualities. Suggestions on green building legislation should be based on the advantages of laws from these three countries [34]. Essentially, performances of marketing strategies are highly influenced by governments' ideas, concepts, regulations and implementation procedures [35]. In China, there are five areas that government is currently working on related to green building. They are legislation of compulsory laws, reinforcement of advertisement on environmental protection, making laws and legislation on financial support and rewards, revision of evaluation and certification criteria, and implementation of regular inspection and monitoring [36]. In fact, the most interfering factors that hinder the development of green building industry include

no guarantees of profits on the suppliers' side, no sufficient technology knowledge of the construction, and inconsistency of government's regulations [37]. The most significant factor that hampers green consumption in China is laws and regulations on green consumption [38]. Some of the effective ways that encourage green construction and consumption include financial rewards, given certification and honors and tax deduction. To sum up, to encourage using environment friendly materials and to boost green building industry, it is government's duty to make the relevant policy regulations.

2.4 Ten Relevant Propositions and Inferences (The Construction of Green Building Business Model)

Being in a continuous process, consumers' behaviors of purchasing are psychologically stimulated by daily commercial information and social media and are satisfied by solving problem in decision making process. Since the process is circular, different variables, factors and phases involved in this process constantly influence each other. Among the variables that influence consumers' purchasing decisions, consumers are the most satisfied when personal factors such as customers' reviews and personal interactions in the purchasing events are involved. Customers' mental process at the point of purchasing is of profound significance to suppliers' business philosophy and marketing strategies. Thus, the purpose of this study is to visualize the best marketing strategies for green building suppliers by analyzing customers' psychological process at decision making moment. This is also the center of the discussion on EKB theory in this study. The conclusion of this study can also serve a reference for corporates' integrated marketing model due to green building suppliers' knowledge on cost of green building material, on technology of construction, on marketing environment, and, in particular, the following integrated marketing development and campaigns.

In the following subsections, ten propositions are offered based on the findings of previous research studies relevant to the variables proposed in this study. Ten propositions are categorized according to the two paths mentioned in this study. The first path is consumer demand, business philosophy, and integrated marketing while the second path is green cognition, business philosophy, and integrated marketing.

2.4.1 Previous Research on Consumer Demand, Business Philosophy and Integrated Marketing

Previous research has shown that consumer demand has a significant impact on consumers' willingness to repurchase (performance of integrated marketing) [39]. The more closely marketing strategies are integrated to relevant management planning, the better the performance of integrated marketing [22]. Therefore, Proposition 1 of this study is established based on the inference and the findings of previous study.

Proposition 1: Green Building's "Consumer demand" has a positive impact on "Integrated marketing."

Customer demand contributes to the primary reason of marketing development of green products. Nowadays, more and more consumers are in great demand of green products. In addition, as consumers concern more about the concept of environmental protection and as their consumption behaviors change, consumers concern a lot on if green building suppliers use energy saving materials. Similarly, consumers are willing to pay a higher price [40]. Therefore, Proposition 2 of this study is established based on the inference and the findings of previous study.

Proposition 2: Green Building's "Consumer demand" has a positive impact on "Business philosophy."

Green building suppliers should quantify indices of customer demand in order that customers could save time from searching aimlessly on the Internet. If green building suppliers are not targeting on the appropriate group of customers, the performance of integrated marketing will be decreased [41]. Corporate Social Responsibility (CSR) is a good way for corporate entities to publicize their products and to gain positive reputations. It is corporate duty to familiarize customers with green products via various means of media because customers have a tremendous influence on the ways suppliers' integrated marketing strategies are deployed [42]. Therefore, Proposition 3 of this study is established based on the inference and the findings of previous study.

Proposition 3: Green Building's "Business philosophy" has a positive impact on "Integrated marketing."

Previous research has revealed that encouraging functions of green buildings have a positive impact on real estate market. In addition, customers' green cognition of green products has a positive impact on the actual benefits offered by the green building suppliers, which, in turn, has an influence on real estate market. Moreover, the functions and performances of green buildings offered by the constructors both have an affirmative impact on real estate market and have a positive mediation effect [17]. Based on those discussed above, the extent to which green building suppliers recognize customer demands can help a great deal to improve the outcome of integrated marketing. Therefore, Proposition 4 of this study is established based on the inference and the findings of previous study.

Proposition 4: Green Building's "Business philosophy" has a mediation effect between "Consumer demand" and "Integrated marketing."

2.4.2 Previous Research on Green Cognition, Business Philosophy, and Integrated Marketing

The most common arketing strategies of suppliers in green building industry include five parts. First of all, suppliers offer green products that satisfy customers' needs. Secondly, suppliers awake customers' needs of green products. Thirdly, suppliers make reasonable prices. Next, suppliers launch plans to stabilize places to sell their green products. Last but not the least, suppliers encourage purchasing by means of media advertisings information distribution [43]. Research has shown that there is a positive correlation among consumers' green building cognition, attitude, and their purchasing intention [44-45]. Therefore, Proposition 5 of this study is established based on the inference and the findings of previous study.

Proposition 5: Green Building's "Green cognition" has a positive impact on "Integrated marketing."

Three major factors that influence customers' acceptance of official certification on green building constructions include customers' subjective cognition on green buildings, customers' trust in system, and customers' attitude toward environmental protection [46]. In another word, customers' cognition has a positive impact on suppliers' business philosophy [47]. The higher green consumption cognition consumers have, the better business philosophy suppliers have [48]. Therefore, Proposition 6 of this study is established based on the inference and the findings of previous study.

Proposition 6: Green Building's "Green cognition" has a positive impact on "Business philosophy"

Corporate Social Responsibility (CSR) ensures that corporate constructors' responsibility is to build environment friendly structures and to market appropriately to consumers. Consumers' motivation and intention to buy green building vary depending primarily on their attitudes and ideas toward environmental protection. In other words, consumers' willingness and decision to make the purchasing also differ according to their purchasing behaviors [49]. Therefore, Proposition 7 of this study is established based on the inference and the findings of previous study.

Proposition 7: Green Building's "Business philosophy" has a positive impact on "Integrated marketing."

The functions of green building construction have a positive impact on real estate market. Likewise, consumers' cognition of green building functions has a positive impact on suppliers' attitude toward green building benefits they offer, which, in turn has a positive impact on the real estate market. Specifically, the functions of green building construction, which are manifested by suppliers' actual benefits, have a positive impact on the real estate market. Therefore, as a mediation factor, the actual benefits offered by green building suppliers, has a positive impact [17]. To sum up, green building suppliers' integrated marketing outcome can be highly enhanced by their cognition toward green building construction, which has a positive impact on business philosophy and integrated suppliers' marketing. Therefore, Proposition 8 of this study is established based on the inference and the findings of previous study.

Proposition 8: Green Building's "Business philosophy" has a mediation effect between "Green cognition " and "Integrated marketing."

Another issue relevant to successful integrated marketing is management of customer relationship, which includes both purchasing parties, quality of service, evaluation methods, market orientation, management theory of service relationship, continual customer relation, competition advantage, and improvement of management theory. All factors are intertwined and contributed to the change and improvement of management types [25]. Especially, the sources of competitive advantages of green building industry come from customer service procedure, quality improvement, and other valueadded services. Therefore, it is essential for green building suppliers to establish valuable service procedure to ensure the quality of customer service and to maintain the relationship with customers [50]. Previous research has revealed that suppliers' ability to manage integrated marketing has a positive impact on the broadening of company's reputation and on the increase of company's revenue and, at the same

time, has an indirect impact on the branding competition. These are important performances any successful suppliers can accomplish. Suppliers' ability to perform in the market has a significant influence on their revenue increase. For example, the better the suppliers' ability to integrate marketing strategies to customer services, the more competitive suppliers are, and the better the revenue are, and the more famous their brands are [51].

Based on the description mentioned above, it is essential for suppliers to put customer's process psychological and experience into consideration by taking the stances of cognitionattitude-behavior steps. Specifically, cognition means customers' knowledge of green material and methods. Attitude means suppliers' business ideas and philosophy such as CSR and customer services relationship. Behavior refers to suppliers' integrated marketing strategies such as promotion tactics, campaigns, and purchasing locations. According to EKB decision theory, consumers are able to receive relevant information, whether it's offered by Internet searching or by suppliers, and receive customer-made services from suppliers, and gain the actual benefits offered by suppliers.

Another factor of successful integrated marketing is government policy regulations. Previous research has shown that government legislations and certification system can change the way of consumption. Government policy regulations play a tremendous role in balancing customer service maintenance and making profits, enhancing the consumption beneficial to the environment and the society and helping industries thrive [52-53]. In the light of customers, the primary factor that influences customers' purchasing decision is their attitude toward environmental protection. Previous research shown that customers' knowledge has on environmental regulations and on certification system has a positive moderation between suppliers' attitude of environmental conservation and customers' recommendation of green products [54]. Therefore, Proposition 9 of this study is established based on the inference and the findings of previous study.

Proposition 9: Green Building's "Policy regulations" has a positive moderation effect between "Consumer demand" and "Business philosophy."

Corporate outcome and performance are greatly influenced by governments' laws, policies, and regulations [35]. Green building construction technology is positively influenced by its creation type, its organization style, and environment. Therefore, governments' participation has a positive moderation effect between green cognition and green building construction technology [55]. Because of the inconsistency of governments' regulations, there is no guarantee for suppliers' profits and for advanced technology satisfaction. Three important moderation effects on the green building evaluation system include government policy regulations, suppliers' business philosophy, and customers' green cognition [37]. The aim of this study is to investigate whether there is a moderation effect in business philosophy by examining the effect of government policy regulations. Therefore, Proposition 10 of this study is established based on the inference and the findings of previous study.

Proposition 10: Green Building's "Policy regulations" has a positive moderation effect between "Green cognition" and "Business philosophy."

3 Conclusion and Suggestions

Examining the influence of green building customer demand, green cognition, and green policy regulations on suppliers' business philosophy and integrated marketing strategies, the purpose of this study is to establish marketing propositions according to research motivations and to the findings of previous research studies. In this study, variable factors, mediation factors, and moderation factors are also discussed.

3.1 Conclusion

Two paths of analysis, mediation effects, and moderation effects are discussed and established. The discussion can be summarized as followings:

The first path, including customer demand, integrated marketing, business philosophy, policy regulations, mediation factor, and moderation factor has generated five propositions as can be seen in the followings:

Proposition 1: Green Building's "Consumer demand" has a positive impact on "Integrated marketing."

Proposition 2: Green Building's "Consumer demand" has a positive impact on "Business philosophy."

Proposition 3: Green Building's "Business philosophy" has a positive impact on "Integrated marketing."

Proposition 4: Green Building's "Business philosophy" has a mediation effect between "Consumer demand" and "Integrated marketing."

Proposition 9: Green Building's "Policy regulations" has a positive moderation effect between "Consumer demand" and "Business philosophy."

The second path, including green cognition,

integrated marketing, business philosophy, policy regulations, mediation factor, and moderation factor has generated five propositions as can be seen in the followings:

Proposition 5: Green Building's "Green cognition" has a positive impact on "Integrated marketing." **Proposition 6:** Green Building's "Green cognition"

has a positive impact on "Business philosophy"
Proposition 7: Green Building's "Business philosophy" has a positive impact on "Integrated marketing • "

Proposition 8: Green Building's "Business philosophy" has a mediation effect between "Green cognition " and "Integrated marketing."

Proposition 10: Green Building's "Policy regulations" has a positive moderation effect between "Green cognition" and "Business philosophy."

To sum up, the integrated marketing model for green building, including two paths, five variables, and 10 propositions, is summarized in Figure.2 as can be seen in the following:



PATH2

Fig.2: The structure of this study: two paths, five variables, 10 propositions.

The conclusion of this study has revealed that green building suppliers will follow two paths of the marketing model and create an appropriate integrated marketing model. The conclusion is of substantial and creative significance both to the academic research and to the green building industry.

3.2 Suggestions

The aim of this study is to provide green building suppliers a profitable and suitable marketing strategy by recommending 10 propositions based on EKB decision theory and on findings of related previous research studies. Academically speaking, these propositions are valuable in that they can be studied as hypotheses in further research. For future study, factor analysis can be conducted to examine factor elements of each variable under different paths statistically. The result of this study is significant to green building construction industry to serve as criteria for operation procedures. The findings can also be extended for research in intelligent building and its marketing strategies.

From practical perspective, through the inspection of these 10 propositions, common ground of environmental protection and evaluation technique can be built up between green building suppliers and customers. In order to avoid message confusion and fragmentation to shun marketing asymmetry, resulting from inconsistent viewpoints of environmental protection and energy saving materials [1], it is the purpose of this study to offer solutions of this dilemma and to reach consensuses so that green building market can be activated.

Last but not the least, ten propositions offered in this study are based on the analysis of EKB decision theory. If the decision making process discussed in this study is applied in other field, it would be challenging if same discussion and analysis are used. Thus, it is suggested that more theories are applied in future research and are analyzed in more perspectives. That will be more instrumental and valuable for green building suppliers' integrated marketing strategy capabilities.

References:

- [1] Chen, Fong-Yao (2017). Green Buildings Value : Cognition from both ends. Zand Economics Annual Publication (28), 106-132.
- [2] Dai, Kuo-Lian (2015). Integrated Marketing Communication: A well-sounded theory structure and local practical cases. Taipei: Wu-Nan Bookstore.
- [3] Lin, Sean Te-hsun, & Liang, Andrew Yi-hung. (2018). Applying IPA Model to Analyze Real Estate Marketing Strategy - Taking Green Building as an Example. International Journal of Economics and Management Systems, 3, 99-109.
- [4] Zou, Y., Zhao, W., & Zhong, R. (2017). The spatial distribution of green buildings in China: Regional imbalance, economic fundamentals, and policy incentives. Applied Geography, 88, 38-47.
- [5] Cole, R. J. (1999). Building environmental assessment methods: clarifying intentions. Building Research & Information, 27(4-5), 230-246.

- [6] Architecture and Building Research Institute of the Ministry of Interior.(2017). Nine indexes for evaluating green building. Retrieved from http://www.abri.gov.tw/tw/en/index
- [7] Engel, J. F., & Roger, D. (1993). Blackwell, and Paul W. Miniard (1995). Consumer behavior, 6.
- [8] Ho, Chang-Iuan, Huang, Hsu-Han, Yuan, Yu-Lan, Chen, Ming-Chi (2016). Exploring M-Commerce Consumer Decision-Making Process: A Case of Restaurant Selection. Journal of Outdoor Recreation Study, 29(4),103-133.
- [9] Slideplayer.com.(2017).Engel-Blackwell-Kolla (EBK) Model. Retrieved from http://slideplayer.com/slide/2539333/9/images/7/ EKB+MODEL.jpg.
- [10] Hsee, C. K. (1996). Elastic justification: How unjustifiable factors influence judgments. Organizational Behavior and Human Decision Processes, 66(1), 122-129.
- [11] Lan, S. H., Hsieh, M. Y., & Hsu, Y. H. (2014). The Impact Factor Evaluate of Popularizing Strategies of Green Building. Journal of Architecture, 89,195-209.
- [12] Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. Cognitive psychology, 5(2), 207-232.
- [13] Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185(4157), 1124-1131.
- [14] Ismail, H., Nawawi, A. H., & Saat, Z. M. (2012). Property development: The influence of demographic changes on the actors and the Malaysian housing demand (preferences)— Preliminary findings (housing consumers). Paper presented at the Business Engineering and Industrial Applications Colloquium (BEIAC), 2012 IEEE.
- [15] Gilg, A., Barr, S., & Ford, N. (2005). Green consumption or sustainable lifestyles? Identifying the sustainable consumer. Futures, 37(6), 481-504.
- [16] Lien, Ching-Yu & Chen, Yu-Shih (2010). Study on the Relationship among Individual Consumer Attributes in the Restaurant Industry, Green Consumption Cognition and Behavioral Intentions: Using Taipei and Hsinchu Regions as

Examples. Journal of Hospitality and Home Economics, 7(2), 133 - 162.

- [17] Hsieh, Tsu-Kuang, Chou, Wen-Han, Yang, Zhi-Yu, & Lo, Wan-Yu (2011). Empirical Analysis for the Impact of Green Building on Taiwan's Real Estate Market. Hwa Kang Journal of Agriculture, 26,71-99.
- [18] Schultz, D. E. (1992).Integrated marketing communications. Journal of Promotion Management, 1(1), 99-104.
- [19] Duncan, T., & Moriarty, S. E. (1998). A communication-based marketing model for managing relationships. The Journal of marketing, 1-13.
- [20] Wang, Tzu-Hsi (2013). An Application Analysis of Integrated Marketing Communication for Traffic Safety Propaganda. Journal of Police Management, 9,165-185.
- [21] Chang, Hui-Lien(2008). The Study of Performance for Integrated Marketing Communication in Non-profit Organizations, Ming Hsin Journal, 34(2),93-115.
- [22] Tien, Tzu-Wu, Wei, Shang-Ling, Lee Mei-Hui (2005). The Research on the Construction of Integrated Marketing Communication Performance Measurement, Manuscripts Format for Marketing Review, 2 (2) ,193-217.
- [23] Lin, Tsai-Mei & Chuang, Gun-Ming (2007). Managerial Philosophy of Peace Culture and the Performance of Multinational Enterprises' Cross-cultural Management: A Research on Japanese Multinational Enterprises Strategies, Journal of International Business Studies, R.O.C. 1(1), 1-38.
- [24] Huang, Da-Wei & Yen, Hui-Te (2014). Managerial Philosophy of a Peace Culture and Organizational Commitment, Journal of International Business Studies, R.O.C., 8,69-87.
- [25] Shiau, Wen Lung, Yan, Chang Ming, & Yang, Han Shiuan(2017). The Intellectual Structure of the Customer Relationship Management, Electronic Commerce Studies,15(3),335-361.
- [26] Swift, R. S. (2001). Accelerating Customer Relationships: Using CRM and Relationship Technologies: NJ : Prentice Hall Professional.

- [27] Kincaid, J. W. (2003). Customer Relationship Management: Getting it right! : Prentice Hall Professional.
- [28] Parvatiyar, A., & Sheth, J. N. (2001). Conceptual Framework of Customer Relationship Management: New Delhi, India: Tata/McGraw-Hill.
- [29] Freeman, R. E. (1984). Strategic Management: A Stakeholder Approach (Boston: Pitman, 1984). Google Scholar.
- [30] Kirchhoff, S. (2000). Green business and blue angels. Environmental and Resource Economics, 15(4), 403-420.
- [31] Eichholtz, P., Kok, N., & Quigley, J. M. (2010). Doing well by doing good? Green office buildings. The American Economic Review, 100(5), 2492-2509.
- [32] Miller, N., Spivey, J., & Florance, A. (2008).Does green pay off? Journal of Real Estate Portfolio Management, 14(4), 385-400.
- [33] Fu, Xie(2015).The green facility planning and its implications in China. Urban Development Studies ,22(4), 52-58.
- [34] Zhang, Y., Wang, J., Hu, F., & Wang, Y. (2017). Comparison of evaluation standards for green building in China, Britain, United States. Renewable and Sustainable Energy Reviews, 68, 262-271.
- [35] Tseng, K. F., & Rao, Y. Y. (2012).Marketing Management, Theory and Applicatio, Future Career Management Corporation, FCMC.
- [36] Ren, Yu-Ping (2007). The Question and Countermeasure of the development of the Green Construction in Our Country, Journal of Zaozhuang University, 24(6),80-82.
- [37] Ding, Z., Fan, Z., Tam, V. W., Bian, Y., Li, S., Illankoon, I. C. S., & Moon, S. (2018). Green building evaluation system implementation. Building and Environment, 133, 32-40.
- [38] Fu, Xin-Hua, & Zheng, Xiang (2010). On the Establishment of Green Consumption Legal System, Journal of Beijing Jiaotong University (Social Sciences Edition), 9(3),115-118.
- [39] Liu, Ching-Hua, & Lin Ying-Chao (2016). Consumer demand, consumer experience and

willingness to spend again Related to the study -A Case Study of Parental theme restaurant, Journal of Sport,Leisure and Hospitality Research, 11(1),77-103.

- [40] Wang, N. M., Sung, L. Y., & Wong, Y. L. (2005). Green Supply Chain Management, Tsinghua University Press.
- [41] Wang, Chin-Hsiang, & Lu, Hsin-Hai (2014). Application Analytic Hierarchy Process to Establish Homebuyers of Factors in Affecting Consumer, Yu Da Academic Journal, 39, 19 – 38.
- [42] Gruber, V., Kaliauer, M., & Schlegelmilch, B. B. (2017). Improving the effectiveness and credibility of corporate social responsibility messaging: An Austrian model identifies influential CSR content and communication channels. Journal of Advertising Research, 57(4), 397-409.
- [43] Yang, C.(2010). Talks on green building marketing strategies. Management and Technology of Corporation in smaller scale, (6A),110-110.
- [44] Chan, R. Y. (1999). Environmental attitudes and behavior of consumers in China: Survey findings and implications. Journal of International Consumer Marketing, 11(4), 25-52.
- [45] Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. Journal of consumer marketing, 16(6), 558-575.
- [46] Liu, Y., Hong, Z., Zhu, J., Yan, J., Qi, J., & Liu, P. (2018). Promoting green residential buildings: Residents' environmental attitude, subjective knowledge, and social trust matter. Energy Policy, 112, 152-161.
- [47] Fang, Shyh-Rong (2004). An Exploratory Study on the Relationship Perception, Relationship Attitude and Relationship Behavior, Journal of Management & Systems, 11(4), 509-539.
- [48] Wang, Po-Wei, Huang, Jen-Jen, Tang, Hsiao-Lan, Yeh, Gwo-Liang, & Tseng, Chie-Chien (2009). A Case Study on Knowledge, Attitude, and Behavioral Intention Related to Green Consumption and Related Factors for 7(superscript th)~9(superscript th) Students on

One School in Taipei City, Chinese Journal of Science Education, 17(3),255-274.

- [49] Tzeng, Lun-Chung, Chang, Yong-Fu, & Lin, Chia-Tzu (2010). The Study of Green Consumption on Sustainable Development in Taiwan, The Journal of Innovation Research & Development,6 (2), 62-76.
- [50] Njuguna, R. K., & Mirugi, S. (2017). The effectiveness of relationship management and service quality on service delivery, 6(2). 52-59.
- [51] Luxton, S., Reid, M., & Mavondo, F. (2015). Integrated marketing communication capability and brand performance. Journal of Advertising, 44(1), 37-46.
- [52] Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. Journal of Marketing, 74(5), 18-31.
- [53] Muldoon, A. (2006). Where the green is: Examining the paradox of environmentally conscious consumption. Electronic Green Journal, 1(23). 1-15.
- [54] Fan, Yi-Wen, Fang, Yu-Hsien, & Cai, Ming-Feng (2012). Exploring Green Product Consumption Intentions: The Moderating Effect of Eco-Label, Journal of E-Business, 14(2), 257-280.
- [55] Li, Yong-Hui, Huang, Jing-Wen, & Pan, Pei-Ju (2016). A Study of the Drivers and Moderators of Green Technology: Green Buildings as Examples, Taiwan Academy of Management Journal,16(1),61-78.