

# THE EFFECTIVENESS OF GOVERNMENT INCENTIVES TO FACILITATE AN INNOVATIVE HOUSING DELIVERY SYSTEM: THE PERSPECTIVE OF HOUSING DEVELOPERS

**Nor'Aini YUSOF**

*Universiti Sains Malaysia, 11800 Pulau Pinang, Malaysia  
ynoraini@usm.my*

**Ismael Younis ABU-JARAD**

*Universiti Malaysia Pahang, Pahang, Malaysia  
ismaelabujarad@gmail.com*

**Mohd Hasanal BADREE**

*Universiti Sains Malaysia, 11800 Pulau Pinang, Malaysia  
hasanal\_badree@hotmail.com*

## **Abstract**

The government's role in facilitating innovation has been widely discussed, but there is still a lack of evidence on the effectiveness of the incentives in place. The aim of the study is to identify whether incentives initiated by the Malaysian government to encourage the implementation of a new housing delivery system known as the Build Then Sell (BTS), are able to influence housing developers. Three incentives have been introduced by the government: a fast track planning approval process, a waiver of deposit for a developer's license and an exemption for low-cost houses. Semi-structured interviews were conducted with developers and planning officers who have experience in applying or processing the incentives. The findings revealed that, the incentives are ineffective to influence the implementation of BTS by Malaysian developers. This implies that there is a need to reassess existing incentives in order to increase the implementation of BTS in Malaysia.

**Keywords:** incentive, innovation, housing delivery system, house developers, housing development.

## **1. INTRODUCTION**

The performance, quality, and design of commercial and residential buildings, as well as access to services and recreation, can directly affect quality of life, promotion of healthy living and cohesiveness of society (Colesca and Alpopi, 2011). Innovation is believed to have a direct relationship to better quality residential buildings. In fact, it is widely accepted that innovation is key for business (Hansen et al., 2009). However, many housing developers are not encouraged to be innovative. Here, the importance of the government comes into picture. Haveman (1992), for example, stresses that

government support is vital to facilitate innovation. One of the most common tools used by the government to promote the innovation is incentives.

In general terms, an incentive can be defined as an inducement that is deployed as a motivational mechanism to encourage a desired action (Lucas and Ogilvie, 2006). According to Turnbull (2010), an incentive is defined as something that encourages someone to do something. In fact, there has been considerable interest in whether incentives actually influence organisations to develop innovations. Nevertheless, the evidence on the effectiveness of these incentives in encouraging innovation remains inconclusive (David, et al., 2000). A study on the U.S. by Belezon and Schankerman (2009) shows that incentive schemes are successful in increasing the quality of innovation but not the number of innovations. Pitt et al. (2009) reveal that financial incentives are one of the most important drivers of sustainable construction. However, their study says nothing on whether these incentives are effective in encouraging organisations to engage in sustainable construction. Beerepoot and Beerepoot (2007) find that flexible regulation only encourages improvement with respect to an existing product, process or technology but is insufficient to initiate entirely new innovations. They further suggest that companies only develop new technologies if they enjoy additional support either in the form of grants from the government or in terms of a favourable environment for innovation. While the effectiveness of incentives in promoting innovation has attracted relatively substantial research interest in developed countries, the use of incentives has been rather neglected in the context of developing countries. Most contributions regarding innovation in developing countries focus on the measurement of organisational innovativeness (Kamaruddeen et al., 2009), the factors influencing an organisation's capability to innovate (Pham and Swierczek, 2009), organisational readiness for innovation (Yusof, et al., 2010a) and strategies to facilitate innovation (Yusof et al., 2010b). Among these limited efforts to study the effectiveness of incentives to promote innovation in developing countries is a study by Mani (2004) that examines direct and indirect tax incentives to support technological innovation in India. He reveals that these incentives have limited usefulness in increasing investments for research and development (R & D). An earlier study by the same author shows that incentives only increase investment in pharmaceutical enterprises but are unsuccessful in other sectors, which proves that, in general, incentives are ineffective (Mani, 2002).

The aim of this paper is to investigate whether incentives used by the Malaysian government to encourage the implementation of a new housing delivery system known as Build Then Sell (BTS), which is believed to make housing developers more innovative (Yusof et al., 2010a), can influence housing developers to implement the new system. The three incentives introduced by the government to facilitate the BTS system include a fast track planning approval process, a waiver of deposit for the

developer's license and an exemption for low-cost housing. The question that remains unanswered is to what extent do these incentives effective in encouraging housing developers to implement the new BTS system.

We consider the new BTS system as innovative because the nature of the BTS system itself poses some challenges to developers to change the way they develop and sell their houses to customers. Under BTS system, developers must finance the entire project themselves, complete a proper market survey, be ready to accept higher risks and implement a rigorous monitoring system for their projects in order to ensure quality products (Yusof and Mohd Shafiei, 2011). This way of doing business has not reflected the practice of Malaysian developers under the old Sell Then Build (STB) system, since the houses under that system are sold before they are even built (Yusof et al., 2010b). However in developed countries such as England, Wales and Australia, a housing delivery system similar to BTS system is the norm to the housing industry. Developers in those countries either sold their houses off plan (named as buying off plan) or sold completed houses (Yusof et al., 2007). The buying off plan system which is similar to the Malaysian 10:90 BTS, is where a buyer pays a reservation fee and once the sales contract has been agreed, the buyer subsequently pays a 10 percent deposit (Yusof and Mohd Shafiei, 2011). The remaining balance will be paid lump sum once the house is completed and fit for occupation.

The practical contribution of the paper is that by understanding the effectiveness of the incentives provided by the government, it would help the government in setting strategic policy measures to encourage more BTS houses. We argue that the willingness of housing developers to adopt BTS is vital to successful BTS implementation. Through effective incentives it would increase housing developers' optimism about the new BTS system and provide a win-win situation to the developers and home buyers.

## **2. BACKGROUND OF THE BTS SYSTEM**

A new housing delivery system was introduced in April 2007 by the Malaysian government for a trial period of two years alongside with the existing STB system in an attempt to promote better quality housing and provide greater protection for home buyers. Different from STB system, in the new system, BTS, houses are generally put on the market only after construction is complete (Goh, 1997). There are two models in the new BTS system, the 100% BTS model and the 10:90 model.

The old system, which is based on a forward-selling mechanism, has been in effect since Malaysia achieved independence, but it has many flaws. Complaints abound about abandoned projects and

unsatisfactory workmanship. One of the measures to ensure quality completion of housing projects and to protect the rights of home buyers has been the introduction of the BTS system. BTS housing delivery system in Malaysia has the potential to benefit many stakeholders in the housing industry, including home buyers and developers. Under a BTS system, buyers are able to examine the finished houses and the surroundings before deciding to buy (House Buyers Association, 2003). They are also able to move in soon after purchase and thereby can avoid buying an abandoned project. Developers also benefit, since the actual construction costs are known at the time of sale and thus the selling prices of housing units under BTS reflect actual costs and market conditions (Kasi, 1992). BTS should likely give rise to stronger property development companies that would invest in advanced technologies and efficient construction methods for better quality control in order to persuade purchasers to buy their products (Yusof et al., 2010a). This would raise the standard of construction in general. With increased competition, the BTS system has the potential for developers to improve in order to provide quality products and increased value to satisfy the expectations of their clients. The above benefits of BTS housing delivery system are similar to the general advantages of innovation put forward by Ramsey et al. (2008) in enhancing the public good and increase business viability.

In order to encourage developers to implement the new BTS system and thus stimulate the supply of BTS houses on the market, the government has offered incentives to the developers of BTS projects, including fast-track approval, exemptions from building low-cost housing to build low-medium cost housing instead, and an exemption from paying RM200,000 (40,728.5 Euro) deposits for the developer's license (Yusof et al., 2010b). Developers are promised four months for planning approval if all matters pertaining to planning have been observed. A one-stop centre has been set up aimed at shortening the approval time to four months as compared with the current processing time of one to two years (Star, 2007). Developers that adopt BTS are given priority in other matters, such as amendments to land use, land alienation, and approvals regarding structure and building plans (Bernama, 2010). The aims of these incentives are to reduce cost and increase the ability of developers to control risks related to the BTS system. These incentives serve as encouragement to developers so that they are more receptive and ready to consider the adoption of BTS system.

Unfortunately, not many developers have taken advantage of these government incentives (Star, June 2008). The efficacy of the incentives in promoting the adoption of BTS is unclear. Therefore, this paper investigates the effectiveness of the incentives in motivating developers to adopt the BTS system. It attempts to seek private housing developers' opinions on the implementation of the incentives based on their experience when applying for such incentives at the local level. As initially mentioned, past studies provide mixed evidence on the effectiveness of incentives. We argue that in order for an incentive to be

effective, it must be simple and create a win-win situation. If these criteria are lacking, it will likely encourage developers to remain within the old STB system, as they will easily find excuses for not adopting the new BTS system. Some developers have started using BTS, but not all are utilising the incentives. The next section of this paper provides an overview of the literature on the characteristics of effective incentives.

### 3. CHARACTERISTICS OF EFFECTIVE INCENTIVES

In general, incentives can be defined as mechanism that motivates organisations to become involved in the targeted activities (Lucas and Ogilvie, 2006). As defined by Berrone (2008), incentives are tangible or intangible rewards used to stimulate a person or organisation to take a particular course of action. Incentives also serve as encouragement so that the involved organisations are more receptive and willing to consider the changes that they are expected to adopt (Kam and Tang, 1997). The rationale for incentives is that while innovation generates positive externalities to other organisations in the industry, the organisations that adopt innovations incur the costs and bear the risk for the benefit of others (Hyytinen and Toivanen, 2005). Incentives to promote activities to implement energy savings, for example, provide benefits to home owners in terms of less energy consumption, cost-savings and improved building efficiency, while at the same time, the inventor of energy-saving technologies incurs substantial costs associated with innovation (Zhong et al., 2009). Different countries vary considerably regarding the nature of the incentives systems upon which they rely in order to promote certain actions as a tool to achieve particular goals.

Incentives can be divided into three broad classes, namely, financial incentives, moral incentives and coercive incentives (Johnson, 2004). Financial incentives exist when an agent can expect some form of reward in exchange for a particular course of action. Moral incentives exist when a particular choice is socially regard as particularly admirable. Coercive incentives occur when a failure to act in a particular way is known to result in punishment. Requate (2005) specifically defines the term incentive for innovation as the advantages that an organisation obtains from creating and implementing a new technology. Tax incentive can be another way of encouraging the housing developers to get involved in innovation. Tax incentives have been used by countries to achieve a variety of different objectives, not all of which are equally compelling on conceptual grounds. Some commonly cited objectives of tax incentives include reducing unemployment, prompting specific economic sectors or types of activities; as a matter of either economic or social policy, and addressing regional development needs (Howell et al., 2002). In short, since encouraging organisations to adopt innovations is difficult, incentives play a motivational role by serving as the basis for organisations to change the way in which they do business.

The government plays an important role in providing incentives. Governments, for instance, can provide green economic incentives (Celmens, 2006). Some authors have provided explanations for why incentives are effective. From the organisational behaviour perspective, organisations are assumed to be rational in their behaviour, and fundamental to this concept is that organisations have an expectation of obtaining some form of benefits before they decide to embark on new ideas or products (Wagner III, 2009). According to Argote and Ingram (2000), what is beneficial to an organisation may serve as a signal to the organisation either adopt or reject a new idea or product. This argument suggests that the success of an innovation may be highly dependent upon organisational perceptions of the new idea or product and the incentives offered to motivate the adoption. Ryan and Deci (2000) suggest intrinsic and extrinsic reasons as to why incentives are accepted or rejected. Applying their rationale to an organisational context, the decision for an organisation to engage in a new idea or product may be due to the intrinsic benefits of such activities. As for the extrinsic side, organisations engage in a new idea or product because they want to achieve some desired outcome. Requate (2005) provides compelling examples of intrinsic and extrinsic motivations in the context of the building environment. Intrinsically, organisations engage in R & D of pollution-reducing technologies because they are part of the polluting industry itself, while extrinsically, organisations may engage in R & D exclusively because they want to sell their new technology to a different polluting sector.

In addition, Pfeifenberger and Tye (1995) identify four attributes that are crucial for incentives to be effective. First, incentives should be simple and uncomplicated. Thus, bureaucratic red tape should be kept to a minimum. Second, incentives should be impartial and unbiased in order to establish a win-win situation for all stakeholders. Carrot-and-stick mechanisms are examples of establishing fairness for all parties involved. Third, incentives must also provide adequate cost motivations through risk-reduction and cost-cutting measures in order to attract the targeted organisations. Fourth, incentives must remain relevant for a relatively long period. This can be achieved by having clear incentive goals, consistent policies, identifying possible difficulties and tackling them before incentives are introduced. Smith et al. (2007) study acknowledges cultural and technical obstacles that have hindered suppliers and research institutions in Denmark from innovating. Nevertheless, Danish policies have been able to anticipate these barriers at the outset and successfully addressed them. Furthermore, Pfeifenberger and Tye (1995) suggest that to ensure acceptance, incentive mechanisms must be transparent, clearly defined, and unambiguous in their interpretation. Ambiguous goals are claimed to affect organisations such that they do not implement the targeted initiatives supposedly facilitated by the incentives (Cavalluzzo and Ittner, 2004). Other obstacles, such as limited opportunities for innovation, uncertainties regarding

whether the incentive will remain for an adequate period of time and limited funds, have dampened efforts to promote technological change (Nemet, 2009).

The above criteria will be employed when assessing the effectiveness of the incentives of the Malaysian government in implementing BTS housing delivery system .

#### 4. METHODS

A qualitative research approach was employed in this study. Some basic materials related to this study were first gathered through public documents, newspapers and journal articles. In order to explain the effectiveness of the incentives under study, semi-structured interviews were conducted with developers who have experience in applying for the incentives. In addition, semi-structured interviews were also conducted with Planning officers in the planning department of the Penang Local Authority, who are involved in handling BTS incentives applications.

The Penang Local Authority was chosen because at the time of the study, there is several reported number of BTS projects developed in its jurisdiction, as compared to none in other local authorities, and the Penang Local Authority was one of the earliest local authorities in which a well-structured procedure for BTS incentive applications was available since the Government's announcement of incentives. Thus, this local authority has experience in processing BTS incentive applications.

Since it is not possible to employ random sampling to select developers that have experience in applying for the incentives because we do not have the access to the names of the developers that have applied for the incentives from the local authority, the names of developers were obtained through a snowball sampling technique. The initial contacts were based on professionals who were involved in BTS projects as consultants. These professionals helped us to locate developers that have experience in applying for the incentives. Nine developers and two Local Authority planning officers were interviewed. The interviews were held face-to-face at the respondent's office. As suggested by Patton (2002), an interview guide was developed to minimise variation and offer flexibility in the interview. The key themes of the interview included opinions on the incentives using the criteria posed by previous studies (i.e., the easy of the application process, fairness, motivation and longevity) as well as the problems respondents faced and their suggestions.

Qualitative analysis was used to analyse the data. The interview data were recorded, transcribed in full and transferred to a computer in the form of word documents. The data were then coded and categorised according to several themes to identify patterns across the different interviews.

## 5. RESULTS AND DISCUSSION

### *Profile of respondents*

Most respondents from the development organisations have worked in the housing development industry for more than 10 years, and all of them hold management-level positions. Four of the developers are public-limited companies, so they can issue shares to the public, and the remaining are private-limited companies. Six companies have been established for more than ten years, one company has been established for seven years, and two companies have been established for five years. With regards to size, five companies have less than 50 full-time employees, and four companies have 51 to 250 fulltime employees. Four companies develop on average between 501 to 1000 houses per project, while the remaining build more than 1000 units per project. This shows that in the case of housing developers, the number of employees alone is not a good indicator of firm size.

Based on the number of houses built per project, we consider four companies as medium-sized developers and five companies as large developers. All developers have applied for incentives, but only one has received the approval.

### Opinions on BTS Incentives

The opinions of respondents from developers were sought regarding each incentive. Most respondents agree that the exemption from building low-cost housing is most influential in enticing them to implement the BTS system. One developer admits that building low-cost housing is costly since the developer has to subsidise part of the costs, and it is difficult to generate any profit. Therefore, adopting the BTS system is a better option, since the price of BTS houses is not controlled by the government, and there is the possibility of yielding a higher profit. Another respondent claims that by concentrating on the BTS system and not building low-cost housing, developers can focus on doing rigorous market surveys and building quality homes that meet the expectation of home buyers.

There is also the argument that the BTS system is challenging, as developers can no longer rely on the buyer's money to finance the housing project; instead, developers must fund the entire project before the houses are sold. For this reason, the BTS system is viewed as fair if the government offers some help by removing the requirement of building low-cost houses.

Only two respondents agree that speedy or fast-track approval encourages developers to implement BTS. One respondent from a relatively new development organisation states that the status of the

developer as a newcomer to the industry means that it is necessary to develop land as fast as possible to avoid higher land-holding costs.

This respondent, who represents a medium-sized developer, contends that the speedy approval the developer received helped to expedite the development process so that the BTS houses could be completed before schedule.

In contrast, the other respondents do not share the same opinion. They assert that their experience shows that the authority takes longer than four months to approve their BTS projects. Some of them admit that they abandon the idea of applying for the incentives after their first experience.

The information was cross-checked with the planning officers; one officer admitted that the authority takes longer to process the application than the four-month period guaranteed by the federal government. There are three main bottlenecks that explain this delay.

First, developers need to apply for incentives to the Ministry of Housing and Local Government before they are eligible for the incentives by filing out a form at the local level; the form is then sent to the ministry, which makes the decision regarding whether the developer qualifies for the incentives based on the recommendation made by the Local Authority. Interestingly, the officer was uninformed regarding the duration of this process.

Second, technical departments may actually take between 70 to 80 days to be check and comment on the documents submitted by developers rather than the 30 days guaranteed by the federal government. These technical departments consist of the public works department (PWD), the energy department (TNB), the drainage and sanitary department (JPS), environment department (JAS), and the water supply department (PBA), among others. As a result, the guaranteed four-month approval period cannot be met. Third, the problem also resides in part with the developers. Another officer states that sometimes the developers cannot meet the 30-day deadline required for resubmission in cases in which amendments must be made or more documents are needed.

As a result, the time frame for approval may drag on for more than four months. The overall process for BTS project approval as explained by the planning officer is depicted in Figure 1: BTS Project Approval.

Almost all respondents from developers agree that the exemption from paying the RM200,000 (40,728.5 Euro) deposits for a developer's license is not enough to encourage developers to implement the BTS system. These respondents reveal that for medium and large developers with projects consisting of more than 500 homes, the amount of exemption is too small to be meaningful. They further suggest that

THE EFFECTIVENESS OF GOVERNMENT INCENTIVES TO FACILITATE AN INNOVATIVE HOUSING DELIVERY SYSTEM: THE PERSPECTIVE OF HOUSING DEVELOPERS

tax reductions or discount tax rates for income related to BTS projects as well as special land administration procedures would attract small and large developers to adopt the BTS system.

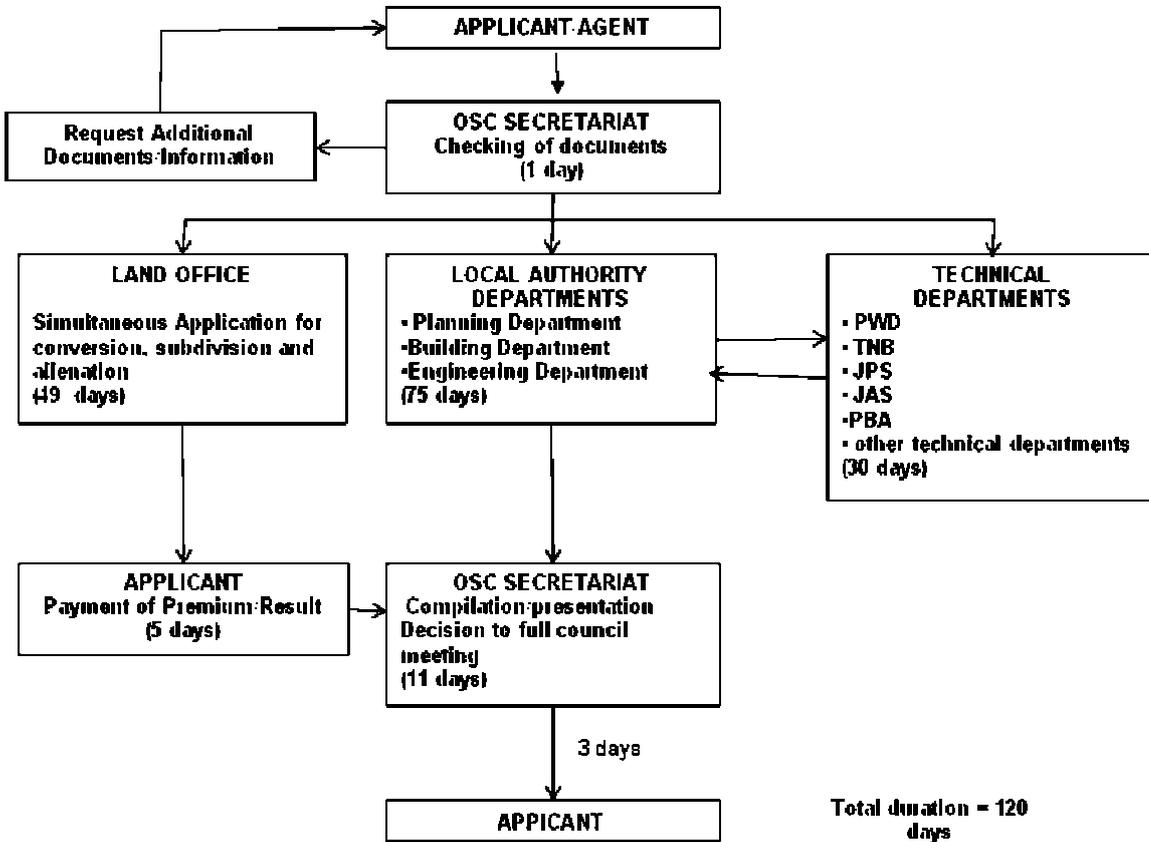


FIGURE 1 - BTS PROJECT APPROVAL  
Source: interview with Penang Planning Officer

The respondents from developers also highlight that the incentives are too rigid so that they only apply for the 10:90 BTS system, rather than other BTS models, including the 100% BTS system. This means that only 10:90 BTS adopters are eligible for the incentives which contrasts with the expectations of many developers. Because of this reason developers which adopt other BTS models do not qualify for the incentives and are thus disappointed. There is also the issue of uncertainty. Some developers argue that they are uncertain about whether the BTS system will continue in the future after the two-year trial period has lapsed. The interviews with the planning officers do not provide conclusive answers regarding the duration of incentives either.

In general, the above findings are consistent with the criteria of effective incentives articulated by Pfeifenberger and Tye (1995), Cavalluzzo and Ittner (2004), and Nemet (2009). The exemptions from building low-cost housing benefits developers and therefore are perceived as encouraging developers to adopt the BTS system. In contrast, exemptions from paying for a developer's licence are perceived

as inconsequential because they do little to reduce costs or increase developer profits. In addition, unclear procedures and uncertainties regarding approval time with regards to the fast-track approval incentive are the reasons why the developers are unwilling to adopt the BTS system.

Finally, some respondents suggest that the government should encourage the bank to finance BTS projects, as this would make the BTS system more attractive to developers. Under BTS, market risks for developers are high. Even developers that can finance projects independently often prefer other financing methods in order to not fully use their capital and thus leave some capital available for other projects or unexpected needs. The problem with obtaining bridging loans from financial institutions has been cited as the major problem that has hindered developers from switching to the BTS system (Yusof et al., 2010b). As a consequence, developers have to rely on the money obtained from home buyers, thus maintaining the old STB system.

The result implies that strong support from financial institutions is crucial to full BTS implementation. The support from banks to facilitate the BTS system could be in the form of favourable loans for BTS projects, loans for home buyers and funds for research related to the BTS system. Financing under BTS need not differ much from the current STB system, as BTS and STB differ only in payment structure. The suggestion is in line with Yusof et al. (2010b), who stress the important role of financial institutions in facilitating the BTS system. They argue that dealing with developers in the BTS system would be a safer bet for banks, as they would have absolute control over loan disbursement as well as full control of the collateral.

## 6. CONCLUSIONS

The study adds to the existing, limited knowledge on innovation efforts within the housing industry by focusing on the perspective of housing developers regarding government incentives aimed at facilitating the implementation of a new housing delivery system. These incentives focus on supporting supply-side drivers for the Build Then Sell (BTS) housing delivery system in order to open up opportunities for developers to derive competitive and business value advantages from innovation through cost-reduction measures. The findings show that except for the exemption to build low-cost housing, other incentives have not been well received by developers and are thus ineffective to promote the BTS system. Even developers who have adopted BTS have often been willing to forego these incentives.

The findings conform with Mani (2004), who shows that in general, incentives are ineffective to promote the desired actions. Unclear procedures and uncertainties in the application process make developers feel that the incentives are not worth the time and effort required. Developers also have had bad

experiences when dealing with authorities, making them sceptical that BTS approvals will be made easier and faster in the near future. The rigid BTS application as well as uncertainties regarding whether the BTS system will be implemented at all after the two-year trial period also discourage developers from adopting the BTS system. The findings imply that there is a need to reassess the existing incentives so as to increase the implementation of the BTS system in Malaysia.

Last but not least, there are some limitations in the present study. First, semi-structured interviews were employed to solicit opinions on the effectiveness of BTS incentives. Since it is qualitative in nature, care should be applied when generalising from the findings. Second, the characteristics of developers involved in the study may inevitably influence the opinions of respondents. Since only medium and large developers were identified through the snowball sampling method, the findings are not meant to represent the broad population of developer organisations, a population in which small firms are the majority. A comprehensive empirical study is needed to analyse the effectiveness of BTS incentives to promote BTS adoption.

## ACKNOWLEDGEMENTS

The authors acknowledge the incentive grant (Grant number 1001/PPBGN/821054) provided by Universiti Sains Malaysia, which was instrumental in supporting this paper.

## REFERENCES

- Argote, L. and Ingram, P. (2000). Knowledge transfer: a basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*. 82, pp. 150-169.
- Beerepoot, M. and Beerepoot, N. (2007). Government regulation as an impetus for innovation: evidence from energy performance regulation in the Dutch residential building sector. *Energy Policy*. 35, pp. 4812-4825.
- Belezon, S. and Schankerman, M. (2009). University knowledge transfer: private ownership, incentives, and local development objectives. *Journal of Law and Economics*. 52, pp. 111-144.
- Bernama (2010). *Quality And Affordable Homes Under 10th Malaysia Plan*. Property News Update. Retrieved September, 20, 2010 from <http://property.bernama.com/detail.php?id=504968>.
- Berrone, P. (2008). *Current global financial crisis: an incentive problem*. Occasional paper 158, October, IESE Business School, University of Navarra, Spain.
- Cavalluzzo, K.S. and Ittner, C.D. (2004). Implementing performance measurement innovations: evidence from government. *Accounting, Organizations and Society*. 29, pp. 243-267.
- Clemens, B. (2006). Economic incentives and small firms: Does it pay to be green?. *Journal of Business Research*. 59, pp. 492-500.

- Colesca, S.E and Alpopi, C. (2011). The quality of Bucharest's green spaces. *Theoretical and Empirical Researches in Urban Management*. 6(4), pp.45-59.
- David, P.A., Hall, B.H. and Toole, A.A. (2000). Is public R&D a complement or substitute for private R&D? A review of econometric evidence. *Research Policy*. 29, pp. 497-529.
- Goh, B.L. (1997). *Housing Delivery System: An Academician's Perspective in Housing The Nation: A Definitive Study*. pp. 603-666. Kuala Lumpur: Cagamas Berhad.
- Hansen, E.G., Grosse-Dunker, F. and Reichwald, R. (2009). Sustainability Innovation Cube- A Framework to Evaluate Sustainability-Oriented Innovations. *International Journal of Innovation Management*. 13 (4), pp. 683-713.
- Haveman, H.A. (1992). Between a rock and a hard place: organisational change and performance under condition transition. *Administrative Science Quarterly*. 37 (1), pp. 48-75.
- House Buyers Association (2003). *Adopt build-then sell variant. A buyer watch article by National Home buyers Association*. Published in NST-PROP on 11/1/03. Retrieved January, 11, 2007 from [http://www.hba.org.my/articles/buyer\\_watch/2003/adopt\\_build.htm](http://www.hba.org.my/articles/buyer_watch/2003/adopt_build.htm)
- Howell, H.Z., Stotsky, J.G. and Ley, E. (2002). Tax Incentives for Business Investment: A Primer for Policy Makers in Developing Countries. *World Development*. 30(9), pp. 1497-1516.
- Hyytinen, A. and Toivanen, O. (2005). Do financial constraints hold back innovation and growth? Evidence on the role of public policy. *Research Policy*. 34, pp. 1385-1403.
- Johnson, D.M. (2004). Adaptation of organisational change models to the implementation of quality standard requirements. *International Journal of Quality and Reliability Management*. 21(2), pp. 154-174.
- Kam, C.W. and Tang, S.L. (1997). Development and implementation of quality assurance in public construction works in Singapore and Hong Kong. *International Journal of Quality and Reliability Management*. 14(9), pp. 909-928.
- Kamaruddeen, A.M., Yusof, N. and Said, I. (2009). A proposed framework for measuring firm innovativeness in the housing industry. *International Journal of Organizational Innovation*. 2(2), pp. 101-132.
- Kasi, P. (1992). *Pros and Cons towards Build Then Sell concept*, Build then Sell Housing Development Approach Towards 2020 Seminar □, 14th -16th April 1992. Kuala Lumpur: Malaysia.
- Lucas, L.M. and Ogilvie, D.T. (2006). Things are not always what they seem; how reputations, culture and incentives influence knowledge transfer. *The Learning Organization*. 13(1), pp. 7-24.
- Mani, S. (2002). *Government, Innovation and Technology Policy*. An International Comparative Analysis. Cheltenham: UK.
- Mani, S. (2004). Institutional support for investment in domestic technologies: an analysis of the role of government in India. *Technological Forecasting and Social Change*. 71, pp. 855-863.
- Nemet, G.F. (2009). Demand-pull, technology-push, and government-led incentives for non-incremental technical change. *Research Policy*. 38, pp. 700-709.
- Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods (3rd ed.) California: Sage Publications*.
- Pfeifenberger, J.P. and Tye, W.B. (1995). Handle with care, a primer on incentive regulation. *Energy Policy*. 23(9), pp. 769-779.

- Pham, N.T. and Swierczek, F.W. (2009). Facilitators of organizational learning in design. *The Learning Organization*.13(2), pp. 186-201.
- Pitt, M., Tucker, M., Riley, M. and Longden, J. (2009). Towards sustainable construction: promotion and best practices. *Construction Innovation*. 9(2), pp. 201-224.
- Ramsey, E., Ibbotson, P. and Mccole, P. (2008). Factors that impact technology innovation adoption among Irish professional service sector SMEs. *International Journal of Innovation Management*. 12(4), pp. 629-654.
- Requate, T. (2005). Dynamic incentives by environmental policy instruments – a survey. *Ecological Economics*. 54, pp. 175-195.
- Ryan, R.M. and Deci, E.L. (2000). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology*. 25(1), pp. 54-67.
- Smith, T., Junginger, M. and Smits, R. (2007). Technological learning in offshore wind energy: different roles of the government. *Energy policy*. 35, pp. 6431-6444.
- Star (2007). *Ong: BTS concept will help developers cut costs*. 14 April 2007. Retrieved February, 16, 2008 from <http://www.malaysianbar.org.my>.
- Star (2008). *Slow response from Developers*. 4 June 2008: pg 5.
- Turnbull, J. (2010). *Oxford Advanced Learner's Dictionary of Current English* (8th ed. p.758). London: Oxford Press.
- Wagner III, J.A. (2009). *Readings in Organizational Behavior*. NSW, Australia ; Booktopia Pty Ltd.
- Yusof, N., Mohd Shafiei, M.W. and Yahya, S. (2007). Build Then Sell Models for Housing Industry: a review, *Journal of Valuation and Property Services*. 7(1), pp. 1-20.
- Yusof, N., Mohd Shafiei, M.W. and Said, I. (2010a). *Dimensions of Housing Developers' Readiness for Innovation: The Case of the Build-Then-Sell System in Malaysia*. In the Proceedings of 2010 International Conference on Innovation, Management and Service (ICIMS 2010). Pp. 155 – 161. Liverpool: World Academic Press. ISBN: 978-1-84626-027-8.
- Yusof, N., Mohd Shafiei, M.W., Yahya, S. and Ridzuan, M. (2010b). Strategies to implement the “build then sell” housing delivery system in Malaysia. *Habitat International*. 34(1), pp. 533-58.
- Yusof, N. and Mohd Shafiei, M.W. (2011). *Knowledge Creation and Sharing in the Malaysian Housebuilding Industry: Improving the Housing Delivery System*. In Al-Shammari, M. (ed.) *Knowledge Management in Emerging Economies: Social, Organizational and Cultural Implementation*. Chapter 8: 141-156. IGI Global.
- Zhong, Y., Cai, W.G., Wu, Y. and Ren, H. (2009). Incentive mechanism design for the residential building energy efficiency improvement of heating zones in North China. *Energy Policy*. 37, pp. 2119–2123.