

The Benefits of Sustainable Practices to Existing Buildings: The Perception of Local Authorities in Malaysia

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ABSTRACT

Buildings has contributed almost 30% to carbon emission worldwide which also contributed to the climate changes. Over 30 year ago until today, building stocks has rising drastically in fulfilling the needs and humankind greediness. Yet, the rising of building stocks become a major challenge in improving the sustainability impact especially the environmental aspects. Since, building stocks has expanding without control will increase the numbers of carbon emission produced from existing building. This scenario urges a transformation to embedded sustainability practices in existing buildings and existing buildings should not be neglected. However, benefits of implementations, rarely to be highlighted especially in public sector mainly in local authorities' existing building. This study highlights the benefits of sustainable initiatives implemented by local authorities to inspire others in adopting sustainable initiatives. Using semi structured interview with selected top management in local authorities. The information obtained yet, was analysed using content analysis method. The findings discovered eight (8) benefits obtained from sustainable initiatives in local authorities existing building. Unfortunately, the initiatives outcome only focuses on economy aspects compared environment and social aspect of Tipple Bottom Line (TBL). Hence, benefits of sustainable initiatives on economic aspects need to be tied up and balance with environment and social benefits in order to reduce huge gap in TBL aspects and to inspire others adopting sustainable concept. Thus, further research required to measure the effectiveness from environmental benefits, social and economic outcome.

Keywords: Benefits, Sustainable Initiatives, Local Authorities, Existing Building

Introduction

The reckless development by humankind has continuously damaging the environment. The development that neglected the element of sustainability had cause the environment degradation progressively. A part of the human activity is constructing the new building without limits had cause the rising of existing building stocks which contribute in the rising of carbon emission. Prior research proved that building contribute 40% of carbon emission (Capeluto & Ben-Avraham, 2016) and 30% of the energy usage come from existing building stocks (Leung, 2018). However, less attention given on existing building stocks (Nazri et al., 2015) which make research on existing building is still limited. Furthermore, although prior research on existing building has been done, prior research focus only to overall existing buildings, universities buildings, (Nazri et al., 2015; Ismail, 2016; Figueredo & Tsarenko, 2014; Van Mourik, 2018), agriculture buildings (Samer, 2013), commercial buildings (Curtis, Walton, & Dodd, 2017) and schools buildings (Ling, Liu, Zhu, Sun, & Wei, 2018). Very little study focus on government buildings especially local authorities' building. In fact, today, since more facilities were built by the government especially at local authorities' level, government need to ensure that assets and facilities that provided and manage is sustainable and safe (Hasim, 2016) to make cities liveable for communities. This had caused the rises of local authority's assets, facilities and buildings (Audit Scotland, 2009). Therefore, its prime time to focus in discovering existing building context which owned by local authorities.

Recently, the implementation to embedded existing buildings with sustainability concept is no longer a dream. Sustainability that was introduced enable to preserve the environment, economic and social. Therefore, embedded in sustainable practices enable to maximise the benefits and reducing the negative implications especially to the environment in carbon emission and waste of resources (Samer, 2013; Leung, 2018), economic (cost savings) and social benefits (health issues) progressively improve (Osman Balaban, 2016). Such practices if being implemented by all building owners enable to transform the cities more healthier and liveable (Karti & Dubey, 2018).

Hence, the government need to embedded sustainability at all levels of activities that suit with local context and conditions (Peterson, 2016) as role model to others. Today, more research on benefits of sustainable initiatives being carried out (Zhou et al., 2016; Luddeni, Karti, Pernigotto, & Gasparella, 2018), however, little research looked on benefits of sustainable practices in local authorities existing building especially in Malaysia.

Therefore, this study contributes to the body of knowledge in two ways. First, lot of research regarding existing building has been conducted, but little research on local authorities existing building context. Secondly, limited study highlights the benefits of sustainable initiatives practices in local authorities existing building. Thus, this study aims to examine in depth the benefits of sustainable initiatives practices in local authorities existing building in Malaysia.

Methodology

This study adopts qualitative approach using semi structured interview. The approach allows the researcher to discover in-depth understanding from local authorities' perspectives on benefits of sustainable initiatives implemented. This study focusses on 16 local authorities that have committed to in becoming low carbon city in 2020 and further. However, only 8 local authorities were selected, and the participants involved were executive until top management level. The interview scripted was adopt and adapted from (Hasim, 2015) The data was analysed using content analysis and categorised according to the themes. The

frequency of word mentioned by participants were counted and cumulated. Next the cumulated frequency will be rank to prioritize the results obtained.

Results

Base on the analysis, various benefits highlighted that reflected from sustainable initiatives practices. The result indicates eight (8) benefits mentioned by the participants as shown in Table 1.

Table 1:

Benefits of Sustainable Practices in Local Authorities Existing Building

Benefits of Practices	Percentage (%)	Rank
Reduce Operational Cost	27.3	1
Award & Acknowledgement	21.2	2
Organizational Key Performance Indicator	12.1	3
Preserve & Conserve Environment	12.1	3
Safety & Health Aspect	9.1	4
Value for Money	6.1	5
Role Model / Reputation	6.1	5
Competitive Advantage	3.1	6

Each of the theme supported with the statement taken during interview that represent the meaning to the findings list.

1) Reduce Operational Cost

According to participants, the most significant benefits implementing sustainable initiatives practices enable to reduce their operational contribute (27.3%) from all variables. Among the statements that support this finding as below:

“we are of benefits practising sustainable initiatives. Because it reduces our operational cost” (Participant#1)

“When we adopt any sustainable initiatives. We expected to savings our operational cost up to 25% savings...”(Participant#3)

“here...our focus is to reduce running cost”(Participant#7)

2) Award & Acknowledgement

Participants claimed that through sustainable initiatives practices enable them to get award and acknowledgement either national or international level. This benefit is the 2nd ranked that mostly expected among the feedback. This indicates that their organization inspired other especially other agencies and private sector to embedded sustainable initiatives.

“in our action plan, we making sure our building will obtain Green Building Award, through the initiatives, we adopted in this building” ..(Participant#3)

“We won second place for Green Office Award due 43 of compliance criteria. We also gained Green Apple Award 2015..(Participant#9)

3) Organizational Key Performance Indicator

The benefits of sustainable practices also enable to fulfil organisational Key Performance Indicator. For Local Authorities, there is Star Rating for Local Authorities that rating organisational performance according to the criteria compliances at either State Level or Federal Level. This benefit contributes (12.1%) from all total statements. Part of participants answers relating to this benefit as below:

“...this practice for sure to fulfil organisational Key Performance Indicator for our organisation acknowledgement”... (Participant#1)

“We did all these initiatives because we (organisational) were assessed and audited, so we did it .”.(Participant#6)

4) Preserve & Conserve Environment

When participants were asked on the benefits of practice sustainable initiatives, the response mentioned that all the initiatives at the end reflect in preserving and conserving the environment. The result indicates (12.1%) mentioned relating to Environmental outcome support with below statements:

“we are heading toward green city..so we embedded all initiatives to support this goal”..(Participant#4)

“we concern on how much carbon emission we produce”(Participant#9)

5) Safety & Health Aspect

Safety & Health of occupants is top priority and to make sure this, sustainable initiatives is the tools. Although (9.1%) mentioned benefits practising, enable to increase safety and health aspect, this one statement concludes the results as stated below:

“we always making sure the building conditions of this building safe and good by adopting sustainable initiatives.”(Participant#4)

6) Value for Money

Value for money describes as worth buying or using from the money invested. Although there is policy relating to procurement and value for money adoption, the implementation is still subjective and depends on the decision makers. This benefit (6.1%) in a way base on the judgment and justification. Below statement, describe the situation above:

“Although we focusing in green but we narrow down that focus on the value worth ...”(Participant#9)

“..what ever new procurement, the department yet will decide the best ...”(Participant#10)

7) Role Model / Reputation

This benefit reveals the benefits of practice sustainable that can boost organisational reputation (image) and the role of local authorities to become regulatory compliance and role model for private sector before imposing any regulations. This benefit indicates more positive implication and the role of local authorities in heading toward sustainable existing building and sustainable goal. The result represents (6.1%) from total statements from the interviews.

“we must walk the talk and become champion before we impose to others..”(Participant#3)

8) Competitive Advantage

It was claimed that embedded with sustainable initiatives practices provide value added for the organisation and indicate the best of organisation compare to other local authorities. This benefit is unseen to be favourably mentioned by participants (3.1%) which are 1 statement from overall benefits.

“...sustainable initiative benefits us because it give us added value to the organisation.”(Participant#1)

Discussion

Sustainability practices have proven the benefits to the environment, economic and social. However, the main outcome from this finding discover the aims only to the economic aspect which reducing current operational cost as a due limitation of budget and to the obligation to serve the public is more priority as main goals. The results had regarded reducing operational cost is their main priority due to lack of knowledge on sustainability and unknown the implication of the initiatives implemented.

In addition, inability to see on the holistic view in adopting sustainable initiatives in the long term such as enhancing building performance, building value (real estate perspective), creating more saving should be improved because it is dealing with public fund and government assets. The finding of this study indicates similarity claimed by (Shari & Soebarto, 2014) on economic is the main priority although the research was carried out in difference settings.

This study also highlights that expected outcome from sustainable practices on the environment and social are still low especially in the social aspect in local authority existing building. With regard on lacking social aspect, this condition should be improved because social aspect deal with people life, health and safety (Peterson, 2016) is intangible but crucial especially for all stakeholder in local authorities existing building. Unfortunately, although the initiatives implemented contribute to a positive outcome to the environment, it is still not become the main attraction compared to economic outcome.

Conclusion

In conclusion, the implementation of sustainable practice in existing building proven benefits to the environment, economic and social aspect. However, the effectiveness of the implementation demands further research that include technical measurement with quantitative data. Thus, continuous improvement required to ensure the sustainable initiatives practices continuously cultivate and making local authorities existing building as a

role model to other buildings. Hence, more research on existing building embedded with sustainability in Malaysia should be explore and making a research on existing building as part of sustainable agenda is significant. Finally, more study on local authorities building should be discover because the significant responsibilities of local authorities in cultivate sustainable agenda.

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