

# Exploring the Influence of Subjective Norm towards Green Technology Implementation among Malaysian University Staffs: A Literature Review

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## Abstract

The environmental global issues reposition each sector to rearrange and looking back their daily activities in order to reduce environmental damage. Since university consume large quantities of energy and water, therefore university needs to implement green technology as an alternative towards environmental issues. An intensive literature review was conducted and found that subjective norm is one of the green technology implementation factors. Though the study is conceptual in nature, its findings can be used as the foundation for future research to identify the most significant factors that influence green technology implementation.

**Keywords:** Green Technology, Sustainable Environment, University, Technology Management

## Introduction

Most of the sectors around the world are facing a similar critical issue on environmental problems. Harmful gases released polluted the quality of air and wastes in material production contribute a lot towards damaging the environment. Greenhouse emission had caused climate change. With the increment of awareness towards environmental issues, organizations have started to review their operation activities. Parallel to the objectives of Malaysian government in reducing the environmental problems, the idea of green technology implementation should be considered as one of the appropriate solution.

Previous research on green technology implementation has addressed several industries such as green technology in manufacturing (Mansor, Yahaya, Nizam, & Hoshino, 2014), retail industry (Moser, 2015) and service (Gan, Ahmad, & Boey, 2013). Although studies on green

issues have received considerable attention among researchers, little is known regarding factors that influence green practices, especially in developing countries (Siohong & Zainol, 2012). Besides that, only minimal research attention has been directed toward service industry especially university as a site for examining the green technology implementation.

As university consumes large quantities of energy and water, it causes the environmental problem (Stafford, 2011). Considered this issue, universities in Malaysia become interested to implement green technology in their campus. As pointed out by Figueredo & Tsarenko (2013), the success of environmental activities is highly depends on participation of individuals. One of the main issues regarding green technology implementation is subjective norm. It means that, there have an issue regarding the strength of beliefs about the green technology implementation.

### **Literature Review:**

#### **Overview of Green Technology Implementation in Malaysia**

Nowadays, green technology is the most boomers topic to discuss. Parallel to the objectives of Malaysian government in reducing the pollution and emission to the environment, the idea of green technology implementation should be considered as one of the appropriate solution to the environmental problems occurred. Previous research on green technology implementation has addressed several industries such as green technology in manufacturing (Mansor, Yahaya, Nizam, & Hoshino, 2014; Menzel *et al.*, 2010; Li, Liu, & Wang, 2010; Bartlett & Trifilova, 2010). Others studies have focused on green technology implementation in retail industry (Moser, 2015; Lai, Cheng, & Tang, 2010; Smith & Perks, 2010). Service is another industry that involves green technology implementation. It is the most important industry in Malaysia. Example of green technology implementation in service industry is higher education (Gan *et al.*, 2013 ;Figueredo & Tsarenko, 2013)

#### **Subjective Norm**

Subjective norm is a silent social context factor which can impact individual behavior. It occurs when one's emotions, opinions or behaviors are affected by others. Subjective norm measures the influence of social pressures on individuals to perform or not to perform a particular behavior. In short, subjective norm is referring to the change in the individual thinking, attitude, behaviors or feelings resulting from the influence from another individual or group (Chan, 2013). There are many studies being conducted to understand the relationship between subjective norm and environmental related issues.

Numerous of these study supported positive relationship between subjective norm and green technology implementation in different sector, such as manufacturing and service. Previous green studies also demonstrate that subjective norms affected the intention to purchase green products (Moser, 2015), the intention to visit and revisit the green hotel in a positive way (Mohd Suki & Mohd Suki, 2015; Wu & Teng, 2011) and the intention to recycle (Siohong & Zainol, 2012).

Though many findings highlight the direct relationship between subjective norm and intention, Chen, Gregoire, Arendt, & Shelley (2011) found that subjective norm also has an indirect impact on the intention to adopt sustainable practices (as mediator). However, there are also findings from studies in Malaysia context showed that subjective norm will not necessary to influence green technology implementation. Chan (2013) which study involved of consumers (white collar employees) in Malaysia pointed out that another individual or

group will not affect consumers' intention to purchase green products. Table 1.1 below shows the summary of previous study between subjective norm and environmental issue.

Table 1.1

Summary of previous study on relationship between subjective norm and environmental issues

Author & year	Area	Country	Respondent	Relationship
Moser (2015)	Green Purchasing	Germany	12113 households	Significant
Siohong & Zainol (2012).	Green Practices	Malaysia	315 Voluntary respondents	Significant
Mahesh & Ganapathi (2012)	Green Products	Chennai	300 consumers	Significant
Teck (2013)	Green Purchasing	Malaysia	252 respondents	Not Significant
Chan (2013)	Green Products	Penang, Malaysia	137 white collar employees	Not Significant

As overall, the review of above studies indicate that subjective norm have significant relationship on behavioral intention. In contrast, despite significant relationship, there were few previous studies found insignificant relationship between subjective norm and behavioral intention. Thus, these results revealed that the relationship between subjective norm and intention is inclusive. Therefore, it was proposed that:

H1: Staffs' subjective norm positively influences their intention to implement green technology.

### Proposed Model for this Study



Figure 1

Conceptual Model of Study

### Conclusion

As summarize, from review of extant previous literatures found that subjective norm have significant influence on behavioral intention in various environmental issues. This indicates that overwhelming support by parents, friends and people surrounding will influence the level of behavioral intention towards green technology. However, at the same time there were also some studies found that insignificant relationship between subjective norm and behavioral intention. Thus, this result reveals that inconsistent in nature of findings. Hence, this research attempts to examine the influence of subjective norm towards behavioral intention in term of green technology implementation in Malaysia.

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