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RESEARCH ARTICLE

HOW NORMALIZATION CAN BE LINKED WITH THEORY OF PLANNED BEHAVIOR TOWARDS THE ACTUAL BEHAVIOR OF GREEN PRACTICE ON MOBILE PHONE

Wong Ling Chai, Oswald Aisat Igau and *Stephen L. Sondoh Jr.

Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah, Sabah, Malaysia

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ABSTRACT

The evolution of mobile phones into smart multi-functional mobile computers have led to a serious Abnormal Battery Drain (ABD) issue. This has spurred the need for green practice in mobile phone to overcome ABD concern. However, far too little attention has been paid to the green practice that focuses on ABD. Hence, this paper aims to conceptualize the actual behavior of green practice on mobile phones by integrating the Theory of Planned Behavior and Normalization Process Theory. Previous studies have found that current green marketing has failed to predict the actual green practice; the intention does not come with actual behavior. Actual green practice only can be achieved through normalization of green practice across the board. Therefore, normalization is strongly suggested to be integrated with the Theory of Planned Behavior to ensure the actual behavior in green practice can be achieved. Apart from conceptualization, the paper also proposes a total of 400 self-administered questionnaires to be distributed among mobile phone users, in main cities in Malaysia via a snowball sampling technique. The Partial Least Square-Structural Equation Modelling (PLS-SEM) approach has been used for data analysis. The final section of this paper involves a discussion of the findings and limitations of the study.

Corresponding author

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INTRODUCTION

The issue of energy consumption on a mobile phone has become critical when the development of new mobile applications does not analogous to battery technology (Ding *et al.*, 2011; Perrucci *et al.*, 2011). As mobile phone batteries are limited in size, the capacity of the battery is becoming increasingly insufficient to support the multi-usage of current mobile phone (Carroll and Heiser, 2010). This limitation encourages energy management by the user to prolong their battery life on their mobile phone (Chen *et al.*, 2015). Current emerging technology claims to have application and hardware in place to help save the battery consumption on mobile phones (Ahmad *et al.*, 2015; Jenkin *et al.*, 2011). However, the latest energy efficient technology is only available in the latest mobile phone, and most consumers will only buy a new mobile phone every three years (Androulidakis *et al.*, 2015). This situation has caused mobile phone battery usage to increase as a whole while the mobile phones attempt to run more energy-demanding application (Sperling and Mains, 2015). Several researchers disagree that improved technology will bring us meaningful energy conservation; they strongly believed that behavior is key achieved the green practice (Brosch *et al.,* 2014; Osbaldiston and Sheldon, 2003).

Theory of Planned Behavior (TPB) was chosen to be integrated, because this theory was employed in the most green or sustainable behavior studies (Joshi and Rahman, 2015). Unlike TPB, normalization accounted for the behaviors and products that are initially regarded as outside the range of normality, gradually become accepted as normal and as part of everyday life (Rettie *et al.*, 2014). A number of prior research asserted that intention did not bring about the actual behavior, and normalization is required to be integrated with TPB in order to create the actual green behavior cases (Rettie *et al.*, 2011; Zaharia and Zaharia, 2014). This paper therefore aims to conceptualize the integration of normalization in TPB in the case of actual behavior in green practice on mobile phones.

Literature Review

Green practice on mobile phone: The functions of mobile phones such as reminders, the alarm clock, news, magazine, note-taking apps, and even media players are helping society go green by decreasing the used of energy (Fendelman, 2015; WWF, 2015). However, development of new mobile phone applications out spaced battery technology (Ding *et al.*, 2011). Mobile phone producers like Huawei, Xiaomi and Micromax put little into energy efficiency and environmental wastage

minimization when manufacturing their products ; Telstra is one of only major mobile phone producers to have interior procedures to upcycle and recycle broken or obsolete mobile phones (Matthews, 2016). The issue of ABD is prevalent enough in the evolution of mobile phones that some researchers have gone on to produce an energy controller application for mobile phone to save energy such as smartphone Clone Cloud Execution (Chun and Maniatis, 2009) ARIVU (Anand *et al.*, 2012), and SOMA (Bojic *et al.*, 2012). ARIVU is a scalable power aware middleware that able to control and reduce the energy consumption when user playing the games through online (Wang *et al.*, 2012; Anand *et al.,* 2012). Openmoko Neo Free runner smart phone was introduced to energy efficacy concept (Carroll and Heiser, 2010). In Malaysia, research into mobile phone applications and energy usage was also carried out, which conducted in qualitative study and proposed both software base and hardware for green purpose (Ahmad *et al.*, 2015). Based on the discussion above, researchers suggested that, mobile phone technology was claimed to assist in a user "going green". On the other hand, several researchers strongly disagree with the statement, such as Brosch *et al* (2014) who argues that changing consumer behavior is more vital than relying on technology. Choong (2008) mentioned that the latest green technology is useless if consumers failed to change their behavior to conserve the energy.

Low *et al* (2011) mentioned that the improving of technology will only lead to the greater use of energy, as consumers will increasingly depend on technology to save energy as opposed to actual physical actions. Osbaldiston and Sheldon (2003) share the same view, where energy conservation behavior needs to be internalized if it is to be sustained. In addition, based on consumer's feedback gathered from the Apple Store and the Play Store, energy saving application alone cannot help to save the battery life (Duan *et al.*, 2011). Thus, it can be concluded that, improving and advancements of physical technologies only transfer the impact of energy consumed by human and is not able to solve the energy problem alone (Tsuda, *et al.*, 2017; Kempton and Schipper, 1994). Hence, the most effective way to achieve energy conservation must emphasize behavioral aspects or change in the consumer behavior (Seniwoliba and Yakubu, 2015). Incidentally, limited studies focused green practice on mobile phone except the study conducted by green mobile network (Androulidakis *et al*., 2015; Wang *et al*., 2012; Wiart, 2012). Whereas Kong *et al* (2014) strongly urge that, green marketing be encouraged in specific product or services instead of doing at general actual purchase or general purchase intention.

The concept of green practice in mobile phone was developed in this study, as a response to the limited studies emphasizing green practice on mobile phone. Green practice on mobile phone in this study is based on the nonstructural energy conservation (Low *et al*., 2011; Seniwoliba and Yakubu, 2015). Those green practice includes action that are carried out before going to bed, effectively managing the internet connection, charged the phone effectively, utilizing the power saving mode of the mobile phone, and finally reducing the number of charge on the mobile phone (Androulidakis *et al*., 2015). The green practice on mobile phone in this also will be measured by five-point frequency scale: never, sometimes, often, very often, and always (Frantz and Mayer, 2014; Markowitz *et al.*, 2012).

Theory of planned behavior: The Theory of Planned Behavior (TPB) was created by Ajzen (1985) to improve the predictive power and overcome the weaknesses of the Theory Reasoned Action (TRA) (Ajzen, 1991). To date, TPB had been applied to environmental studies including those that focus on green product consumption (Paul *et al.*, 2016), and a wide assortment of human practices such as weight reduction (Schifter and Ajzen, 1985) and smoking discontinuance (Godin *et al.*, 1992). TPB is the most frequently model, clarifying how behavioral expectations are framed in studies of this nature (Mancha and Yoder, 2015; Sanchez-Medina *et al.*, 2014). TPB is a theory that focuses on expectation or status to act as the most proximal determinant of conduct (Rivis and Sheeran, 2003).TPB also provides more specific information that can better guide the development if compared with the Technology Acceptance Model (TAM) (Yen and Chang, 2015; Guah, 2010; Mathieson, 1991). TAM is used togive data or broad results about the hobbies and conduct of clients of the framework in getting the data innovation framework (Abbad *et al.*, 2009; Wiyono *et al.*, 2008; Loiacono *et al.*, 2007). The current study focuses on behavior instead of technology, with TPB also being widely employed in other environmentally-focused studies. Hence, TPB was employed in the current study.

Attitude: Attitude is considered as the first antecedent of behavioral intentions (Ajzen, 1989). The belief here refers to behavioral beliefs (Conner and Armitage, 1999); when a person has a positive belief, he or she will intend to show a specific matching behavior (Mishra, Akman, and Mishra, 2014). In contrast, if the result showed a negative behavior, they will have a negative attitude towards that particular behavior (Ajzen, 1985). Attiude also being widely applied in green marketing contexts and significantly impacting the behavioral intention (Maichum, Parichatnon, and Peng, 2016).Chen and Tung (2014) defined attitude as the goodness and badness for consumers to stay at a green hotel, the desire to stay at green hotel, pleasant or unpleasant to stay at green hotel, favorable or unfavorable to stay at green hotel, positive feeling or negative feeling to stay at green hotel. The attitude in a study carried out by Finlinson (2005) in energy conservation behavior refers to attitude toward helping the electronic device to last longer, attitude toward time consumed for the deviceto boot up, attitude toward saving money, and attitude toward the cooler room. When attitude is narrowed down to green practices, it can be defined as the thinking of the consumer that they are adequately conserving energy, wise to conserve energy, used to conserve energy, and believe that other people should conserve energy (Macovei, 2015a; Macovei, 2015b; Van-Den-Berg, 2007). Based on the discussion above, the attitude is yet to be conceptualized in green practices on mobile phones. Therefore, in the current study will conceptualize attitude in the context of green practices on mobile phones with the belief that performing green practices will be based on the individual's like or dislike (favorable or unfavorable behavior) in regards to the activity (Ajzen 1985; De-Vries *et al.*, 2011).

Subjective norm: Subjective norm is based on the specific belief that someone agrees or disagrees with a displayed behavior (Davis *et al.*, 1989). An individual will intend to show a specific behavior if they perceive that others of a higher or more valued status potentially think that they should engage in this behavior (a person of value to the subject could also include a family member, friend, or doctor) (Bamberg,

2003; Courneya and Mcauley, 1995). This was determined by asking respondents to define whether other people who are important would tend to agree or disagree if they displayed a certain behavior (Ajzen, 1989).Subjective norm also refers to other people like a roommate, parents, orresident assistant's opinions which may influence a person to agree or disagree to display certain behavior (Finlinson, 2005). According to the study in energy conservation that was carried out by Clement *et al* (2014), subjective norm refers to people that are important to the consumer who will support the consumer's effort to conserve energy, those important people will take action for energy conservation, and will think that the consumer needs to take initiatives for energy conservation. A six point scale from strongly disagree to strongly agree was applied to the study (Clement *et al.,* 2014; Muralidharan, and Sheehan, 2016; Macovei, 2015b). From the energy conservation point of view, the subjective norm is seen as a conviction in the matter of whether energy conservation must be executed or not (Seniwoliba and Yakubu, 2015). To date, there is a noticeable lack of studies which have conceptualized the subjective norm in the cases of green practices on mobile phone; therefore subjective norm in green practices on mobile phones was conceptualized as people who are important and close (i.e. friends and family members) who will positively or negatively be involved in mobile phone energy conservation (Davis *et al*., 1989). This concept was found to be similarto the subjective norm that was applied in the study by Clement *et al*., (2014) on energy conservation, where subjective norm was defined as that which is important to the consumer and will support the consumer's effort to perform the green practices.

Perceived behavioral control: Perceived Behavioral Control (PBC) is defined as one's perception of the difficultly of performing a certain behavior (Orbeil *et al.,* 1997). Ajzen (1988) included these determinants to predict that behavioral intention is not fully controllable by a person. These controls reflect past experiences and also anticipate that there are impediments (Ajzen, 1991; Ajzen, 1988). Madden *et al* Ajzen (1992) compared the theory of planned behavior and the theory of reasoned action found out that, the participation of PBC and behavioral intention is able to improve predictions in certain behavior. Giles and Cairns (1995) used the Theory of Planned Behavior to predict the intention to donate blood and blood donor behavior and found that strong support for PBC has important implications for a person's motivation. Based on the TPB, PBC will impact the actual behavior of a person (Ajzen, 1991).

There are aspects of this theory which must be considered, as noted by Eagly and Chaiken (1993), including the causal relationship between PBC and intention; it is questionable because the statement implies that people wished to carry out an activity or achieve a goal only because they have control over the behavior. It may be true that the perception of control and self-efficacy usually increases the tendency to behave, but this relationship may be less reasonable to be evaluated for negative behavior. People will often assume that they have control over things such as, for example, the ability to wear a swimsuit to a wedding reception or smoke in a public place, but it does not mean that this belief encourages them to perform behaviors that negatively evaluate this (Eagly and Chaiken, 1993). A recent study by Macovei (2015a) with PBC assumes that consumers will have the wisdom to attempt energy conservation themselves as well as enough time and resources for using other alternatives for energy saving purposes. However, PBC is yet to be widely conceptualized for mobile phones. Therefore, the conceptualization of PBC in this study refers to the mobile phone user's knowledge or discerning the responsible and harmful behavior for maintaining green practices on mobile phones (Ajzen, 1991). This concept is similar to the studies that were conducted in energy conservation research, where the consumer was assumed to have the adequate knowledge and wisdom to achieve green practices on mobile phones (Hsu and Fu, 2012; Macovei, 2015a).

Behavioral intention: Behavioral Intention (BI) refers to a person's intention to act in a certain way (Fishbein and Ajzen, 1977). BI also was conceptualized in many other green studies to represent the actual behavior (Han and Kim, 2010; Hsu and Chan, 2015).The green purchase intention for hotel by Han and Kim (2010) defined as consumer willingness, planning, and effort to stay at the green hotel. Behavioral intention as defined in the study that carried out in young generation's green behavior defined as the intention to avoiding using products that are perceived as wasteful or not environmentally friendly, switching to the ecological products, choosing the least harmful products, putting effort towards recycling materials, and considering the environment when purchasing products (Kanchanapibul *et al.,* 2014). BI plays the role of an immediate antecedent for actual behavior and is also known as the function of attitude, subjective norms, and perceived behavioral control (Kaplan *et al*., 2016; Hsu and Chan, 2015). They indicate BI as a degree to which a person has formulated conscious plans whether to perform or not perform certain behaviors (Kaplan *et al.,* 2016). Similarly to Kisaka (2014), BI is claimed as the major determiner of actual behavior, and those intentions were affected by subjective norm, perceived behavioral control, and attitude. BI was predicted collectively by subjective norm, attitude toward the behavior, as well as perceived behavioral control (Sutton, 1998).

In the cases of energy conservation, BI refers to the degree to which a person intends to adopt some actions, such as buying electricity-saving products, influencing others on saving electricity, and carrying out electricity-saving actions (Liu *et al.,* 2015). Similarly, Seniwoliba and Yakubu (2015) defined BI as a person's intention to behave in a certain way to save energy (Smith *et al.,* 2007; Ajzen, 2006; Dodds *et al.*, 1991). According to the discussion above, the BIis yet to be conceptualized in green practices on mobile phones. Therefore, in this study the concept of BI has been adapted from Liu *et al*. (2015) and Seniwoliba and Yakubu (2015), which defined BI as the degree to which a person intends, and their willingness, to engage in green practices on mobile phone. In addition, this theory is suggested by the previous study to be linked with Normalization (Rettie *et al*., 2011, 2014; Sunstein and Reisch, 2013). This mainly caused by a number of prior research asserted that intention failed to predict the actual behavior (Chikaji *et al.*, 2015; Hsu and Chan, 2015; Gleim *et al.*, 2015). For example, research done in go green by recycling behavior from Chikaji *et al* (2015) found that, behavioral intention failed to predict the actual behavior. Similar results were found in the study by Hosseinpour *et al* (2015) and Doszhanov and Ahmad (2015), who studied the effect of green campaign among Malaysians and found out that behavioral intention failed to predict the actual behavior. Although the contexts were different, these studies agreed that actual behavior is not necessarily led by intention to practice green behavior. Green marketing concepts including green practice is currently in the

infant stage among Malaysian researchers (Sharaf *et al.*, 2015; Rashid, 2009). Most importantly, these studies focus on the intention to purchase green products rather than their actual usage (Amin and Uthamaputhran, 2015; Sharaf *et al*., 2015; Loo *et al.*, 2014; Kanchanapibul *et al.*, 2014; Wang, 2014; Ong *et al.*, 2014; Hosseinpour *et al.*, 2015). For example, Kong *et al.* (2014) found that Malaysian's intention to purchase green products is significantly caused by green corporate perception, eco-label, and green product. However, the study did not support the claim that intention will actually lead to actual action. Hence, it is suggested that the relationship between intention and actual behavior be studied in relation to the green practice among Malaysian consumers (Moons and De Pelsmacker, 2012; Gleim and Lawson, 2014). Moreover, the gap between behavioral intention and actual behavior can be filled by normalization (Anderson *et al*., 2010; Rettie *et al*., 2014). In order to improve the link between intention-actual behavior, it is suggested that normalization should be used to fill the gap between behavioral intention and actual behavior (Sunstein and Reisch, 2013; Liebig and Rommel, 2014). According to Peter (2011), consumers' intention to consume green products in their daily practice requires them to go through the normalization. At the same time, the studies from Zaharia and Zaharia (2014) and Rettie *et al*. (2014) suggested that future research should explore normalization on how effectively it will help to form the actual behavior. This followed by Thogersen *et al* (2012) which found out that, normalization helps consumer to make final decisions in green product purchase behavior. However, for energy conservation behavior, specifically on a mobile phone, normalization has yet to be conceptualized and linked with the theory of planned behavior for emphasizing the actual mobile phone green practice (Rettie *et al*., 2011). Therefore, this study needs to be carried out to fill the gap by adding normalization as the mediator between behavioral intention and actual behavior and of mobile phone's green practice.

Normalization: The term "normalization" was coined in the late 1950s when people started to challenge the modern drive for creating a normal life, and the increase public focus on smaller groups in society, like the elderly or disabled (Wolfensberger, 1999). The founder of normalization was made to access the rationale that impedes individual examples of life and states from ordinary living. Those lives and states are as close as could be expected under the circumstances in the general lifestyles of society (Abberley, 1987). Based on Nirje (1969), normalization is a process that accepts or rejects an individual or group and to some degree, their social conduct from being incorporated into typical life, whereby social conduct could be expected to form the basic model of life. The normalization concept from the sociological perspective under the findings by Foucault (1988) defined the components of the normative culture formed by the element of social normality. It also refers to the process of people assuming certain ideals or action thought of as normal or taken as granted in their daily life for financial management (Foucault, 1999). Social normalization refers to the reaction of the social looking for the equableness (Wolfensberger, 1980). He defined normalization as the utilization of socially esteemed intents to empower individuals to lead socially esteemed lives, the utilization of socially regularizing intents to give life conditions which are in any event in the same class as those of the normal native, the upgrade of the conduct, appearance, experience, and status of the handicapped individual. In the case of challenge learning, Chappell (1992) stated that in the 1970s, the backers of normalization tried strenuous endeavors by utilizing normalization as an instrument for individual's challenges learning. It implies distinctive things to diverse individuals, advances after some time, and becomes a powerful tool that holds major influence to evaluate services for people with learning difficulties. Similarly, Normalization Process Theory (NPT) gives a set of sociological instruments to comprehend and clarify the social procedures through which new or adjusted practices of considering, ordering, and sorting out work are operationalized in medical services and other institutional settings (Murray *et al.*, 2010). Based on studies carried out by Rosenbrock *et al*. (2000), normalization can be characterized as a procedure in which a factor that was already considered as unprecedented is turned into a perceived standard activity. Limited studies and data have addressed what normalization means for green practices on mobile phones, specifically as mobile phones were categorized as a personalized product, the setting of normalization was based on individual levels (Androulidakis *et al.*, 2015; Weiss and Lockhart, 2012; Oztaş, 2015). In other words, an individual user is the one who performs the judgment on which green practices are normal to them before they carry out the actual behavior (Schultz, 1999). The concept of normalization was formed based on Foucault (1999) referring to the process that people assume certain ideals or actions are normal or abnormal. Those assumptions, thinking, and judgments are able to form a strong coherence to help the new practice to be widely accepted (Johnson and May, 2015; Pantzar and Ruckenstein, 2015). Consumers are likely to adopt the green behavior which they think is normal only when they can accept and practice it in normal life through normalization (Rettie *et al*., 2011, 2014).

Development of Hypotheses

The relationship between attitude and behavioral Intention: The positive significant relationship between attitude and BI for household energy saving was confirmed by Abrahamse and Steg (2009). This result was similar to the study that was conducted in residential energy conservation by Macey and Brown (1983), where attitude influences the BI of residential energy conservation. A recent study also found that attitude has the strongest influence on energy conservation intention among the 2000 students in Malaysia (Low *et al.*, 2016). The saving energy study conducted by Chen (2016) also found that a consumer's attitude was significantly affected by the intention of that consumer to make the energy saving. In this study, green practices on mobile phones also aim to save battery energy. Attitude is taken to have a similar relationship on BI as the hypothesis below:

H1: *Attitude has a positive effect on consumers' behavioral intentions towards green practices on mobile phones.*

The relationship between subjective norm and behavioral intention: Subjective norm was found as the second strongest factor, after attitude, for predicting BI for energy conservation among the university students studied (Low *et al*., 2016). Research conducted on renewable energy technologies (solar water heaters) indicated that a positive significant relationship was found between subjective norm and BI to use renewable energy technologies (Chen, Xu, and Frey, 2016). Another study conducted by Wang *et al.* (2014) on household electricity-saving behavior also defined subjective norm having the positive and significant relationship in residents'

intention of energy-saving behavior. In the current study, green practices on mobile phones aims to save the battery energy on the phone which can be likened to general energy saving. Thus, in line with this discussion, the following hypothesis is formulated:

H2: *Subjective norms have a positive effect on consumers' behavioral intentions towards green practices on mobile phones.*

The relationship between perceived behavioral control and behavioral intention: A significant positive relationship was found between PBC and BI to switching off a computer whenever leaving a desk, or intention to use video conferencing in the office instead of traveling (Greaves *et al.*, 2013). The research conducted on household energy saving found that PBC was significant towards intention to perform energy saving behavior (Webb *et al.*, 2013; Klockner, 2013). This result substantiates the study by Han (2015) which indicates that consumers intended stay at the green hotel can be predicted by attitude, subjective norm, and PBC. Pollard (2015) identified the relationship between attitude, subjective norm, and PBC toward intention for computer energy saving were positively related and significant. In the current study, green practices on mobile phones aims to save battery energy which is similar to energy saving behaviors. Accordingly, it is posited that:

H3: *Perceived behavioral control has a positive effect on consumers' behavioral intentions towards green practice son mobile phones.*

The relationship between behavioral Intention and actual behavior in green practices on mobile phones: A consumers' intention was claimed to be able to bring out the actual behavior in the organic study (Wee *et al*., 2014). In the study on the use of herbs as part of health practices and treatment of diseases, it was found that behavioral intention significantly affects actual behavior (Ismail and Mokhtar, 2016). Wu and Chen (2014) claimed that BI is able to predict actual green consumption adequately. However, based on Pollard (2015), this situation happened because the workers of ten forget what they intended to do; those behaviors werenot in their normal daily routine. Hsu and Huang (2010) conclude that TPB constructs are able to predict BI, but BI does not necessarily lead to actual behavior due to the gap in actual behavior. People cannot remember their intentions after a year (Hsu and Huang, 2010). Another reason that has affected the issue of intention/actual behavior is that the longer the distance between the intention and behavior, the greater the likelihood of a change of intentions (Ajzen and Fishbein, 2005; Ajzen, 2011). In green practices on mobile phones, actual behavior still remains unknown since limited studies have been conducted in this specific field. Therefore, the hypothesis below was formedto predict the relationship:

H4: *Behavioral intention has a positive effect on a consumer's actual behavior in green practices on mobile phones.*

The relationship between behavioral intention and normalization: There is a significant relationship between BI and normalization. In the study by Sznitman (2008), new drug takers intended to take drugs when they perceived that behavior as normal, and this is followed by addiction after they practice taking drugs routinely. This is supported by Parker *et al*. (2002) who found that drug users started to take drugs when they perceived their intention as normal. This similar relationship has also been found in corruption behavior as studied by Ash forth and Anand (2003), where a person intends to be corrupt when corruption is perceived as normal and they ultimately adopts corrupted behavior. When they succeed the first time, they will try to be corrupt routinely which becomes the norm to them (Ashforth and Anand, 2003). The discussion above shows that when a person intends to do something, they perceive it as normal. In the context of green practices on mobile phones, it is assumed a consumer's BI to conserve mobile phone battery leads them to perceive that particular intention as normal. Therefore, the below is hypothesized:

H5: *Behavioral intention has a positive effect on normalization of the green practices on mobile phones.*

The relationship between normalization and Green practices on mobile phones: There is a significant relationship between normalization and actual behavior regarding green practices in consumers' daily lives (Rettie *et al.*, 2014; Purushottam, 2014). Several countries such asChina, Indonesia, Japan, Korea, and Thailand are showing the beginnings of sustainable consumption as part of a normal and even aspirational lifestyle (Zhao and Schroeder, 2010). Normalization as defined by Font and Villarino (2015) is able to influence people to make actual behavior. Johnston and Tan (2015) stated the major reason consumers do not buy green products is because green behavior is not promoted as the mainstream. In the case of actual behavior of green practices on mobile phones, it is assumed consumers have a similar relationship between normalization and the actual behavior. The hypothesis below was formed:

H6: *Normalization has a positive effect on the actual behavior of green practices on mobile phones.*

The Mediation Effect of Normalization between Behavioral Intention and Actual Behavior of Green Practices on Mobile Phones: Mediation was used to explain how an independent variable influences an outcome (Gunzler *et al.*, 2013). The investigation process of the current study defined how normalization influenced actual behavior in green practices on mobile phones. In other words, the study aims to explore the link of normalization between the BI (cause) and green practices on mobile phones (effect). The mediation effect of normalization between BI and actual behavior was found by Weick (2012). This finding was also supported by Velmans (1999) and Mayer (1996). Based on the discussion above, limited studies used normalization as mediator between BI and actual behavior. Thus, the below hypothesis below was formulated to fill the gap between BI and actual behavior:

H7: *Normalization mediates the relationship between behavioral intention and actual behavior of green practices on mobile phones.*

The mediation effect of behavioral intention between attitude, subjective norm, PBC and green practices on mobile phones: The role of BI as mediation was discovered in the previous study by Dhaha and Ali (2014) on factors that affect adoption rates and satisfaction with third generation (3G) mobile phones. Mafabi, *et al.* (2017) also found that BI has the full mediation impact between attitude, subjective

norm, PCB, and knowledge sharing behavior. This finding was supported by Taylor and Todd (1995). Thus far, few researches use BI as mediator between attitudes, subjective norm, PCB, and actual behavior specifically in green practices on mobile phones. Therefore, the current study hypothesized BI as a mediator in this study and thus the hypotheses below were derived:

H8: *Behavioral intention mediates the relationship between attitude and actual behavior of green practices on mobile phones.*

H9: *Behavioral intention mediates the relationship between subjective norm and actual behavior of green practices on mobile phones.*

H10: *Behavioral intention mediates the relationship between perceived behavioral control and actual behavior of green practices on mobile phones.*

Proposed theoretical framework: Attitude, subjective norm, and PBC were expected to have a significant relationship to BI for green practices on mobile phones. Aside from this, the BI was expected to have a significant role in normalization and actual behavior. This follows the expectation, whereas normalization also exhibited a significant relationship to the actual behavior of green practices on mobile phones.

This research expected to show that normalization could mediate between BI and actual behavior of green practices on mobile phones. It is based on the guidelines proposed by Baron and Kenny (1986) in mediation:

- *First, the BI of the green practices on mobile phonesmust have a significant effect on the normalization when regressing the mediator on the independent variable (Sznitman, 2008; Leitch and Motion, 2007; Parker et al., 2002).*
- *Secondly, the independent variable (BI of green practices on mobile phones) must have a significant effect on the dependent variable (actual behavior of green practices on mobile phones), when regressing the dependent variable on the independent variable (Pollard, 2015; Alias, et al., 2015; Wu and Chen, 2014; Webb et al., 2013).*
- *Third, the mediator (normalization) must have a significant effect on the dependent variable (actual behavior of green practices on mobile phones), when regressing the dependent variable on both the independent variable and mediating variable (Rettie et al., 2014; Purushottam, 2014; Zaharia and Zaharia, 2014; Sunstein and Reisch, 2013).*

However Zhao, Lynch Jr, and Chen (2010) disagree with the guidelines formed by Baron and Kenny (1986), where the independent does not have to significantly affect the dependent variables. There are also times when the total effect is not significant but there is still evidence of mediation. This usually happens when the independent to dependent variable effect is weak, but the relationship for A and B is stronger as shown in figure 3.1. The research needs to explain theoretically that there is a relationship between BI and actual behavior of mobile phone's green practice.

Figure 3.1. Mediation effect of Normalization

Moreover, Hair, Hult, Ringle, and Sarstedt (2014) mention that researchers need to follow "Preacher and Hayes (2004, 2008) bootstrap the sampling distribution of the indirect effect, which works simple and multiple mediator models" (p.223). In addition, this method is suitable for PLS-SEM, which makes no assumption about the shape of the variables' distribution or the sampling distribution of the statistics. It can then be applied to a small sample size (Hair *et al*., 2014; Preacher and Hayes, 2008). Normalization is therefore shown to qualify to be a mediator in this study. BI will have a mediation impact on attitude, subjective norm, PBC and actual behavior of green practices on mobile phones. Based on the discussion above, the hypotheses of this study were defined as below:

H1: Attitude has a positive effect on consumers' BI towards green practices on mobile phones.

H2: Subjective norms have a positive effect on consumers' BI towards green practices on mobile phones.

H3: PBC has a positive effect on consumers' BI towards green practices on mobile phones.

H4: BI has a positive effect on consumers' actual behavior of green practices on mobile phones.

H5: BI has a positive effect on normalization of green practices on mobile phones.

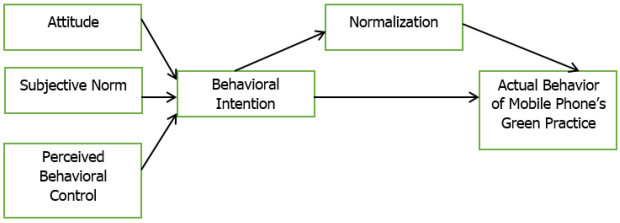
H6: Normalization has a positive effect on the actual behavior of green practices on mobile phones.

H7: Normalization mediates the relationship between BI and actual behavior of the green practices on mobile phones.

H8: BI mediates the relationship between attitude and actual behavior of green practices on mobile phones.

H9: BI mediates the relationship between subjective norm and actual behavior of green practices on mobile phones.

H10: BI mediates the relationship between PBC and actual behavior of green practices on mobile phones.



4.1. Proposed Framework

RESEARCH METHODOLOGY

In this study, a self-administered survey will be applied to examine the veracity of the hypotheses.

Persons 18 years old and over will be used as the demographic guideline as this age group has the ability to determine normal behavior and energy-conservative behavior. The snowball sampling method (based in Kota, Kinabalu, Kuching, and Selangor) will be used for data collection in this study as this method can produce in-depth results relatively quickly given the amount of data to be collected (Atkinson and Flint, 2001). The total sample size for this study will be 400 respondents which exceeds the sample size requirement calculated by G-Power analysis. There are five measurements for attitude which were adapted from the Van den Berg (2007) study. Five measurements were also adapted from Clement *et al* (2014) and Zhang *et al* (2014) for subjective norm. PBC of green practices on mobile phones only employed four items from the Ajzen (1991), Macovei (1995), and Zhang *et al*. (2014) studies. There are five items employed as the measurement for BI, which are adapted from Soderlund and Ohman (2006), Macovei (2015a), Chen and Tsai (2007), and Mancha and Yoder (2015) studies. Actual behavior of green practices on mobile phones only employed four items which adapted from Androulidakis *et al.* (2015) study. SEM-PLS will be used for the whole framework to ensure contribution of normalization is able to be linked with Theory of Planned Behavior in the content of green practices on mobile phones.

Conclusion

In sum, normalization had been linked and integrated with TPB as suggested by previous studies as mentioned and discussed above. The result of the hypothesis testing will be presented in a later study. In addition, conceptualized theory emerged from this paper offer some insights into green practices on mobile phones that might useful for marketers and developers, giving insight into normal consumer behavior and promoting green behavior in a way that promotes normalization. However, this study was conducted in Malaysia and therefore does not represent a comprehensive picture of mobile phone use across the developed world. The findings of this study are relevant in Malaysia's specific context and do not sum up normalization of green practices in other nations. Taking this into account, the present research is a valuable tool to improve comprehension of normalization of green practices on mobile phones.

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