



# The Climate Change Issue towards Behavioral Intentions: A Perspective of Social Marketing

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## ABSTRACT

This study aims at investigating the online social marketing on climate change and global warming towards behavioral intentions among youngsters in Indonesia. The model of online social marketing composed of perceived ethical capability as mediation variable, trust and commitment. The online social marketing on climate change has significant impact on behavior intentions through perceived ethical capability as mediation variable; trust and commitment have also significant impact on behavior intentions. The purposive sampling method was utilized among 239 respondents. Model of Structural Equation modeling version 23 was used to test the hypotheses. This study might be contributing to the body of knowledge particularly the advancement and effectiveness online social marketing on climate change and its impact on behavior intentions.

**Keywords:** Online Social Marketing, Climate Change, Perceived Ethical Capability, Trust, Commitment and Behavior Intentions

**JEL Classifications:** M31, P28

## 1. INTRODUCTION

Online social marketing ethics as a field of academic study and public policy implementation has long pondered the importance of ethics deliberations, comprising inquiries of what considers as right and wrong, moral or immoral, good or bad. Online social marketing theoretically exposes on why certain performances or rules may be pondered moral or immoral. Such inquiries deal with the strategy and use of online marketing objects in organization in many diverse ways.

An insight of moral suitability, or the lack thereof, could be an imperative element of technology acceptance. The aspect of this technology reception can be grasped in the tradition of applied ethics within philosophy, which emphasizes on more concrete questions in different fields such as medicine, biotechnology, but is also related within information technology and online social marketing. Organizational rules are regularly determined by insights of morally right ways of performing, and these are created on wider ethical points that incline to be mirrored in organizational

visions and cultures. The ethical governance of information technology follows public awareness and is often spurred by major moral apprehensions, such as in the case access and protection of digital intellectual property rights. The role of perceived ethical capability as mediating variable in online social marketing towards the behavioral intentions on climate change is still under research, especially in developing countries. This research will contribute to investigate why the previous social marketing on climate change is ineffective (Jackson, 2005; Corner and Randal, 2011). Most scholars have emphasized regarding the society, as the recipient of mass media information, comprehend the topic of climate change. Nevertheless, few research have emphasized on the actual connection between mass media (online or offline), reporting, ethics and public understanding of climate change (Aoyagi-Usui, 2008).

### 1.1. Technology Marketing Ethics

In the point of view of techno-ethics, Luppardini and So (2016), illustrates techno-ethics is technological study of influence on ethics and morals in community. There is an ethical viewpoint of

technology studies, information sciences and communication. They further pay attention on ethical behavior and social responsibility as significant factors in contemporary society to uphold esteem and harmony. To date, we use and deploy new information and communication technology (ICT). Technology states as the way of doing of our society especially when determining its actions. Therefore, we acknowledge two sides of engineering activities: The social and the technological. Technology impacts society, but society also impacts the advancement of technology. Ethics situates its place in technology, giving, significantly, towards providing its wisdom in human life (Basart et al., 2015). The realm of technology is acknowledged as an essential method of human activity. It views along arts and social sciences as basic to human achievement.

ICT, as a ground of scholastic research and business practice has long taken into account the prominence of ethical consideration including inquiries of what reckons as right and bad, wrong, good and bad, moral or immoral. However, although ethics has extensive thoughtfulness, it has never been a mainstream concern of ICT. In as much as ethics deals with moral philosophy that ICT graduates perceived to be lack of competence (Stahl et al., 2013). Scientific novelties have contributed upsurge to ethical subjects from conveying of digital information. Moreover, there are decision making apprehensions that emphasis on ethical issues in the virtual and digital environment (Ratten, 2013). Ethical behavior in the internet takes account of a set of values which are molded by a cohort of people that support choose the proper way of action. It is imperative to emphasize on how ethical behavior on the virtual world is recognized in order to help improve the beliefs and activities that are needed. The correlation between technology and ethics has mainly concentrated on liable and irresponsible usage of technology by persons. Only persons involved in ethical reason ordinarily recognized as technology ethics, in contrast to software assets issues, privacy issues and other topics attributed to information and technology ethics, machines ethics is pertained with behavior of computers technology towards human operators (Tran, 2016).

Marketing is one of the utmost substantial factors of a person's behavior. Green marketing is an ecological factor that can contain promotion (printed matters, televisions, and the internet), advertising activities and verbal communication. Persons are uncovered to a variability of marketing promotion about technology that can impact acceptance process. Both marketing about products use and services innovation stimulate a consumer depends on the sources of communications (Khan and Ghani, 2004). People connections frequently influences the information disseminated about a technology novelties. As more data have been made accessible by marketing channels to people they are possible to accept the novelty more quickly. Hence, the usefulness of a marketing promotion is defined by an individual's contact to variety of technologies that mold part of their peripheral environment. Progressively, marketing of technology strengths have dedicated on individual characteristics such as social status and job as a method to embolden practice (Ratten, 2013).

### 1.2. Social Marketing Ethics

There is some proof to advise that some anxieties concerning the ethics of social marketing emanate from broader disbelief

of commercial marketing, especially marketing advertising or communication. The major ethical critics of communication marketing for instance that it is alleged as untruthful, deceptive, unfair, manipulative, offensive and exaggerative. Other contentions refer to the propagation of stereotype, affecting people tend to buy things they do not actually need and play on people's fears and uncertainties.

Worries concerning the ethically of social marketing reflect many of these discernments. For instance, whilst dismays have been recognized pertaining the suitability of strategies utilized by social marketing and the usage of fear pleas, matters have been also recognized linking to how rivaling needs may be considered and what info it is plausible to look for from people to enable in developing social marketing promotions (Eagle et al., 2009). Social marketing has been criticized for government campaigns. It considers the type of activities is not social marketing since it highpoints the perpetual disbelief of government intervention. For instance, Indonesia as a predominantly Muslim country, the online social campaign on using condom to prevent HIV criticized as inflicting Islamic values. Since on the other hand, such campaign might promote free sex among the youngsters.

## 2. HYPOTHESES DEVELOPMENT

### 2.1. Online Social Marketing on Climate Change, Perceived Ethical Capability and the Behavioral Intentions

Current online technology has provided creative novel ways of supporting publics in focusing climate change (Wenkel et al., 2013), and chances for incorporating the larger public in climate change action (Biggar and Middleton, 2010). The scientific meta-analysis of 100 publications scrutinizes the important role of internet and climate change communication or social marketing (Schafer, 2012). Research on the utilization of online social marketing concerning climate change and climate policy is almost absent from the journal literature.

Lindridge et al. (2013) reveal that various personal influences along with economic, environmental and social have influenced behavioral change through social marketing communication campaigns. In addition, thorough planned social marketing interventions encourage stakeholder viewpoints on behavioral change. In contrast, Corner and Randal (2011) contend that the role of social marketing to affect public engagement change is limited. The obvious implication is that social marketing alone inadequate for attaining the substantial challenge of appealing the public on climate change. This finding is supported by Ockwell et al. (2009) that promoting climate change awareness is not like promoting commercial goods for modest intention that promoting climate change is not the goal of public engagement.

Ethical capability has thoughtful effects on stimulating behavioral change through social marketing campaign (Wallis, 2010). Technology (information technology) has significant role in instilling ethical capability on environmental awareness and social responsibility. Parkinson et al. (2018) support the study that social marketing as a concept of exchange to complex behavior, delivers

acumens that enable marketers and policy makers to attain result objectives. Individual's emotion and experience play an important role to behavioral intention change.

Study undertaken by Jeanine et al. (2014) find out that the use of Twitter and other online social media in social marketing campaigns to have public engagement and behavior change through three steps namely first, the most successful engagement comes from communication that request questions of social media supporters and urges them to respond to online and offline appeals to action rather than only concentrating on publicity and share of information. Second, social marketers commit portions of their time to involve in conversation in response to individual's social media commentaries and inquiries. Third, organization does its best to retweet, discussion and having favorite tweet to entice the audiences. Limbu et al. (2012) find out that in online social branding, there is no direction between perceived ethics and behavioral intentions. However, website trust and attitude significantly mediate consumer's behavioral intentions.

The importance of perceived ethical capability is highlighted by Kashif et al. (2017) study that finds out moral norms, injunctive norms and perceived behavior control to have significant impact on behavioral intentions, particularly the role of religiosity. Study on pro-environmental behavioral intentions undertaken by Bhuian and Sharma (2017) support the latter study that ethics and religiosity play important role to shape the behavioral intentions. Based on the previous studies we propose hypothesis as follows:

$H_1$  = The online social marketing campaign on climate change has a significant impact on perceived ethical capability

$H_2$  = The perceived ethical capability has significant impact on behavioral intentions towards climate change.

## 2.2. Trust on Perceived Ethical Capability and Behavioral Intentions

The definition of trust among academicians has yet to be engendered deal. Trust can be defined as comprehensive expectation believed by a person that the word of another can be trusted upon (Murphy et al., 2007). Previous studies on trust define trust plays significant role in social exchange, especially when moral responsibilities happens. In public relationships, trust can be defined as the willingness of the public as an external stakeholder in every company to be susceptible to the actions of business as a general institution (Rim and Dong, 2018). From ethical viewpoint, a company would possibly to be trusted if it has been positively involved in the community and ethically and legally accountable. From a competence viewpoint, high standards of organizational ethics can be leading to business achievement through the high level of trust with stakeholders, enabling the company's competitive advantages in the marketplace (McMurrian and Matulich, 2011; Pirson et al., 2016).

Initial trust has no impact demographical aspects such as gender, age, household income, and marital status. Instead, the m-banking consumer's behavioral intention to change to subscribe mobile banking is affected by awareness campaign, knowledge and trial ability at the beginning with customers (Chiu et al., 2017). Engelbrecht and Heine (2017) find out on their study that leader

integrity together with ethical leadership and trust promotes work engagement. Study done by Campbell and Fairhurst (2016) put emphasis that intention to purchase is influenced by the level of trust. The degree of familiarity of store has influenced on consumers purchase intentions. Study undertaken by Schwepker and Schultz (2013) reveal that trust is negatively link to unethical behavior. In addition, they find out the importance of manager's capability to make subordinate trust. Trust is found to be empirically related to sellers being less possible to commit in unethical behavior. Becerra and Korgaonkar (2011) find out that the impact of trust beliefs on online trusting intentions is significant. Communication and consumer experiences strengthen the trust beliefs on intentions. Based on the previous empirical studies hypotheses are proposed as follows:

$H_3$  = Trust has significant impact on perceived ethical capability

$H_6$  = Trust has significant impact on behavior intentions towards the climate change.

## 2.3. Commitment on Perceived Ethical Capability and Behavioral Intentions

Ethical relationship and capability require commitment. Morgan and Hunt (1994); Murphy et al. (2007) contended the importance of the relation between trust, commitment and ethical capability. The characteristics of the commitment are steadiness, sacrifice and allegiance. Ethical relationship in marketing needs trust and commitment. Demirtas and Akdogant (2015) find out on their study that organizations take advantage from their employees who perceive high ethical capabilities. Such insight can be promoted by various management treatments, practices to maintain open means of communication and interactions. Furthermore, this study also puts emphasis on the importance of commitment in fortifying ethical capability and employee intentions to be contented in organization.

Valentine and Barnett (2003), examine relationship among ethics code awareness, perceived corporate ethical values and organizational commitment. The respondents show higher level of organizational commitment when they conscious of an ethics code in their organizations. Biong et al. (2010) argue that ethics have foremost influence on brand and performance. It demonstrates that brand owners, employees and consumers focus on ethical values. Furthermore, commitment has strengthened both performance and ethical values of organization. Inoue et al. (2017) conduct research on behavioral loyalty prediction, consumers involvement and commitment play important role to mediate between perceived corporate social responsibility and consumers behavioral loyalty. Arli and Tjiptono (2016) argue that the prevalence of digital products piracy in Indonesia is contributed by positive behavior towards piracy; hence, it hinders the promotion to reduce piracy. In the absence of intensified ethics cultivation through education and role model, the effort to fight piracy is ineffective. The researchers put emphasis on the importance of ethical education and dissemination. Since the law is very lenient against the perpetrators. The following hypothesis is proposed based on the previous studies.

$H_4$  = Commitment has significant impact on perceived ethical capability

$H_5$  = Commitment has significant impact on behavioral intentions towards the climate change.

### 3. RESEARCH METHOD AND DATA

A self-managed questionnaire was established in line with traced robust literature reviews. The questionnaires focused on online social marketing on climate change (3 items), perceived ethical capability (3 items), behavioral intentions (3 items), trust (3 items) and commitment (3 items). A 7-point rating scale was used to calculate the items dealing with strongly disagree (1) to strongly agree (7). We used 7-point scale considering that on a 5-point scale, it is too simple to interviewer in reading out the thorough list of scale descriptions (1 = strongly disagree and 5 = strongly agree). The explanation is lengthier for 7-point scale, even it is the best as compared to 10-point scale. Moreover, the validity and reliability are better using 7-point scale (Dawes, 2008). The scale arrangement may influence the score, mean, variance, skewness and kurtosis.

We used purposive sampling method or non-random sampling, two prominent university students in Semarang Indonesia which is Dian Nuswantoro University represented private university and Diponegoro University represented state-owned university. The student respondents were those who knowledgeable about the issue of climate change. They were 249 either under graduate as well as graduate students chosen as research respondents. However, after being processed with structural equation modeling (SEM) version 23, 10 out of 249 data had been excluded since they were categorized as outliers that can worsen the model. The respondents were composed of 13 student of doctorate degree (5%), 24 students of master degree (10%) and the rest were 102 (85%) undergraduate students. Most of the respondents are 143 female students (60%)

and the rest are 96 male students (40%). In terms of respondents' age, the doctorate students were between 32 to 39 years old, the master degree students were between 25 and 30 years old and the under graduate students were between 18 and 23 years old. Sampling collection was done from February to March 2018.

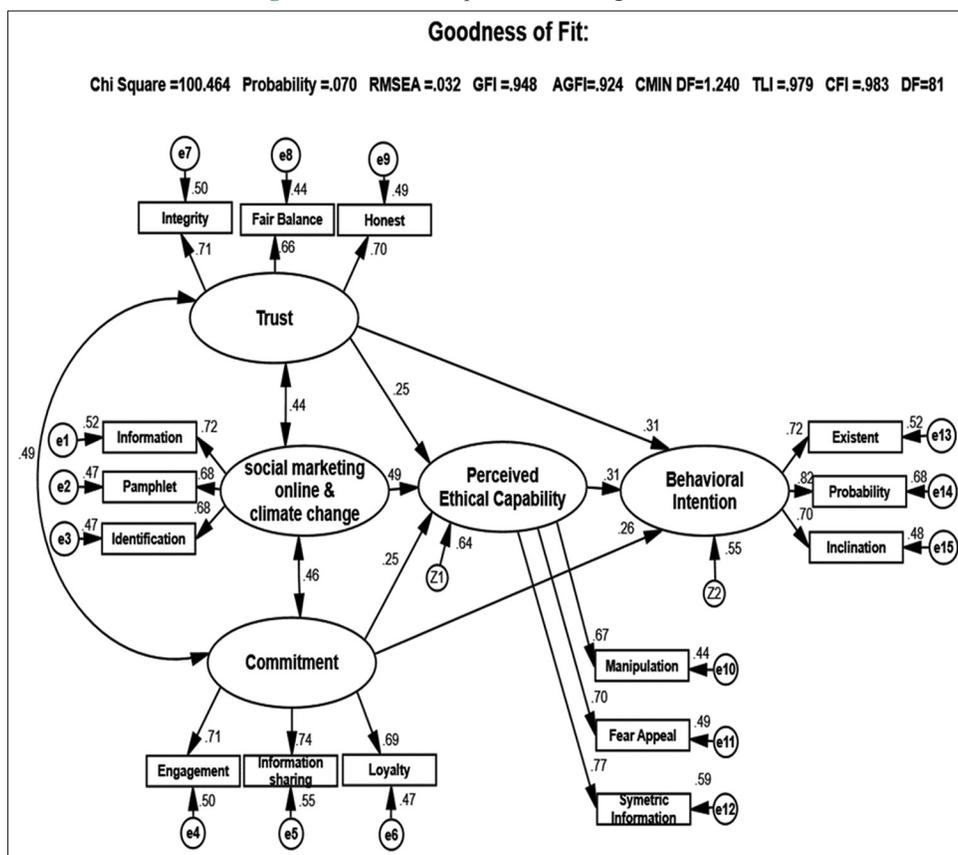
### 4. RESEARCH FINDINGS

#### 4.1. Measurement Validation

Structural equation modeling provided numerical estimates for every parameter in the model to show the strong point of the relationship. Therefore, beside to testing the whole theory, SEM enables the researcher to analyze which observe variables are good indicators of the latent variables to differ with observed variables. We utilized SEM Amos version 23 estimation techniques to gauge the validity and reliability of our measurement in the conceptual model. Figure 1 full Model in this study included online social marketing on climate change (i.e., information, pamphlet, identification), perceived ethical capability (i.e., manipulation, fear appeal, symmetric information), behavioral intentions (i.e., existent, probability, inclination), trust (i.e., integrity, fair balance, honest), commitment (i.e., engagement, info sharing, loyalty).

We managed the confirmatory factor analysis and found out that all factors have high loading related to the ascribed construct. Furthermore, the goodness of fit estimates were acceptable (DF = 81; P = 0.070; RMSEA = 0.032; GFI = 0.948; AW24; CMIN/DF = 1.240; TLI = 0.978; GFI = 0.983). For more detail please see the Table 1.

Figure 1: Structural equation modeling full model



Construct reliability was established to estimate Cronbach's alpha coefficient ( $\alpha$ ), composite reliability (CR score) and variance extracted (VE). Composite reliability was tested by calculating by the composite reliability estimation, whereas, discriminant and convergent validity were gauged by using variance extracted (Peri et al., 2012). All construct have alpha  $>0.7$  met the requirements of reliability (Table 2). In addition, the variance extracted for all constructs were equal or greater than 0.5 satisfying the recommendation.

## 4.2. Hypotheses Testing

We estimated a structural model to test the hypothesized relationship between the constructs. The structural model exemplified in the Table 3 showed the standardized path coefficients. Online social marketing has a significant impact on perceived ethical capability (0.42) as  $H_1$  is accepted. Perceived ethical capability has a significant impact on behavioral intentions towards the climate change (0.275) as  $H_2$  is accepted. Trust has

a significant impact on perceived ethical capability (0.231) as  $H_3$  is accepted. Commitment has a significant impact on perceived ethical capability (0.108) as  $H_4$  is accepted. Commitment has significant impact on behavioral intentions towards the climate change (0.091) as  $H_5$  is accepted. Trust has a significant impact on behavioral intentions towards climate change as  $H_6$  is accepted.  $H_1, H_2, H_3, H_4, H_5$  and  $H_6$  were significantly accepted as  $CR > 2$  respectively (Table 3).

## 5. DISCUSSION

The  $H_1$  mentions that online social marketing has significantly influenced on perceived ethical capability, whereas  $H_2$  mentions that perceived ethical capability has significantly influenced on behavioral intentions towards climate change, these findings show that online campaign interventions have capacity to influence behavior intentions in response to climate change. Intensive online social marketing campaign given the high reach and low cost of online technologies. The online social campaign on climate change as a matter of fact has proven to promote the behavior intentions towards climate change as mediated by perceived ethical capability. This finding is supported by Cugelman et al. (2011) contend that online social marketing campaign on public health is ethically justifiable considering that the campaign blend interpersonal online system with mass-media outreach.

Respondents admit to either experience seeing, browsing, watching, and reading about the climate change and global warming information from internet (online sources) and offline sources such as social marketing pamphlets and other offline social marketing campaign. They perceive that the offline social marketing campaigns as effective as in online and social media campaigns. Levebvre (2011) supports this finding, his research deals with the social marketing campaigns convergent, despite facing some obstacles. Interestingly, the respondents find to be knowledgeable to have information identification on the danger of climate change and global warming in disrupting the climate, plant and crop harvests, irregular earth temperature and weather, sea level and ice polar melting.

With respect to perceived ethical capability, the respondents perceive that ethically, the information and online campaigns on the danger of disaster regarding climate change and global warming is in accordance to their understandings on ethics. The campaigns conducted by government as well as non-government organizations have not violated the ethics. Interestingly, the fear appeal that is usually used by social marketing campaigner on health as found by Hastings et al., 2004; Eagle et al. (2009) apparently, it does not happen

**Table 1: Model of fit**

Goodness of fit index	Cut of value	Result	Explanation
DF		81	
Chi-square	103.009	100.464	Marginal
Probability	$\geq 0.05$	0.070	Fit
RMSEA	$\leq 0.08$	0.032	Fit
GFI	$\geq 0.90$	0.948	Fit
AGFI	$\geq 0.90$	0.924	Fit
CMIN/DF	$\leq 2.00$	1.240	Fit
TLI	$\geq 0.95$	0.979	Fit
CFI	$\geq 0.95$	0.983	Fit

Source: SEM processing. SEM: Structural equation modeling

**Table 2: Construct reliability and average variance extracted**

Construct	Estimate	CR and VE
Social marketing on online climate change		
SOC1 - Information	0.721	CR=0.789
SCO2 - Phamplet	0.684	VE=0.695
SOC3 - Identification	0.683	
Commitment		
COM4 - Engagement	0.710	CR=0.756
COM5 - Information sharing	0.740	VE=0.713
COM6 - Loyalty	0.689	
Trust		
TRU7 - Integrity	0.70	CR=0.734
TRU8 - Fair balance	0.663	VE=0.692
TRU9 - Honest	0.703	
Behavioral intention		
BIN13 - Existent	0.722	CR=0.792
BIN14 - Probability	0.823	VE=0.714
BIN15 - Inclination	0.696	

CR: Construct reliability  $\geq 0.8$ , Variance extracted  $\geq 0.7$

**Table 3: Regression weights: (Group number 1 - Default model)**

Hypotheses test result			Estimate	S.E.	C.R.	P	Result
Perceived ethical capability	←	Social marketing online and climate change	0.420	0.084	5.005	***	H1:Accepted
Perceived ethical capability	←	Trust	0.275	0.087	3.178	0.001	H3:Accepted
Perceived ethical capability	←	Commitment	0.231	0.086	2.692	0.007	H4:Accepted
Behavioral intention	←	Perceived ethical capability	0.313	0.108	2.905	0.004	H2:Accepted
Behavioral intention	←	Commitment	0.284	0.091	3.116	0.002	H5:Accepted
Behavioral intention	←	Trust	0.269	0.094	2.846	0.004	H6:Accepted

Significant 0.01 and 0.05

in Indonesian context. They feel that the online climate change and global warming raise their awareness to prevent the danger and committed to preserve the environment. The mass campaigns on climate change even are in accordance to the respondent's anxiety of the environment detriment. The manipulative content on social marketing campaigns in the form of fear, guilty-feeling and same is supported by Brennan and Binney (2010) present the result from their qualitative study how the respondents feel about advertising that profoundly appeal to their sense of fear, guilt and shame. They suggest that designed social marketing campaign to prevent overuse of negative appeals that most likely to invoke self-protection rather than an active response such volunteering to comply. The perceived ethical capability is in the point of view audience's capability to distinguish the proper and improper that leads to behavioral ethics.

The result of  $H_2$  is perceived ethical capability plays role as moderation to significantly influence behavioral intentions. The online social marketing campaign as a matter of fact, has influenced the respondents on how they think about the threat of climate change and global warming. The behavioral paradigm shift towards climate change is indispensable; it must be taken into account. Information and knowledge on climate change and global warming is increasing respondent's awareness. In addition, information and knowledge on climate change is merely in the form of flyers, pamphlets, or news but also could be in the form of online games, online comics, and other digital materials that encourage the youngsters to be aware and behave to take account on climate change. The previous study on community's green batik excursion in preserved ecological sites is interesting the youths to appreciate the efforts to respect the environment. The youths are experiencing to plant trees for reforestation program, and learning how to paint the batik with natural dyes from wood's skin, leaf, bark etc. This approach is flourishing today to attract the youths in the area of Klaten Central Java Indonesia (Aryanto et al., 2018). The probability the respondent's shift their mindset is enhancing to get to know the knowledge of climate change and global warming. They are committed to behaving positively against the climate change in the form of participating in the activities of environment preservation and dissemination in their campus or in their outside campus activities.

The hypothesis test of  $H_3$  and  $H_4$  concerning the significance impact of trust and commitment to the perceived ethical capability, the results are significant. Public entrusts that the online social marketing dissemination is either in the ground of social integrity, fair balance and honest. Those three aspects form public perceived ethical capability. The commitment which includes engagement, information sharing and loyalty also plays important role to form public perceived ethical capability. This result is supported by the previous studies undertaken by Morgan and Hunt, 1994; Murphy et al., 2007; Schwepker and Schultz, 2013; Pirson et al., 2016.

The hypothesis of  $H_5$  and  $H_6$  with respect to the significance impact of trust and commitment to behavioral intention, the results are significant. The behavioral intention is indicated by the existent, intention to change and probability to positively behave against the climate change and global warming. The previous research done by Murphy et al., 2007; Ratten, 2013 support this study that ethics, trust and commitment have significant impact on behavior intention.

Outcome expectancy about online social marketing on climate change is related to an understanding of the perceived ethical capability of the public. Furthermore, trust and commitment of the climate change campaigners will influence the public behavior intention. When they perceive that the online social marketing dissemination on climate change are able to promote public information and knowledge, fair balance or symmetric information and knowledge between the campaigners and public, the campaign does not generate public fear, anxiety and shame, therefore, they appreciate the online social marketing program and lead to the behavior intention. In addition, online social marketing is becoming an innovative ground for many people where information can be placed that are distributed among other individuals. The multimedia and social media learning experience of climate change is becoming borderless and interactive experiences for people who receive the information. This has allowed the online social marketing to reduce time and resource gaps to produce a degree of flexibility to social marketers. The capability to access information at any geographical locations (Indonesia is an archipelago of 13,466 islands) means that social marketers are facing new challenges from technological convergent of information communication.

The progress of ICT has enabled a variety of various media devices to transfer a diversity of information and service comprising images, sounds, data and videos (Karakas and Manisligil, 2012). The steady move of information technology from electronic commerce to mobile commerce has meant that entry to information becomes much easier. This has enabled people to avail of variety of internet and digital information to correspond with others depending on their own favorites.

## 6. CONCLUSION

This paper has extended previous research by examining perceived techno ethical capability to mediate gap between online social marketing on climate change and behavioral intentions. The contribution of this study focuses on the extension of online social marketing on climate change and techno ethics on behavior intentions. The trust and commitment variables fortify the mediation variable and behavior intentions.

This study also highlights the importance of climate change and global warming campaign contents for not inflicting the audiences fear, anxiety, unfair balance information, in order to gain the audience and community trust, commitment leads to behavior intentions. However, this study also has limitation since most of the respondents were those who individuals knowledgeable on climate change and global warming. Research on transformation from those who unknowledgeable on climate to be the knowledgeable (environmental divide) is suggested for next research agenda.

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