UNIVERSITY OF TAMPERE

An Exploration of Sustainability and Unsustainability on Daily Media Content and Its Implications for Media Education:

A Qualitative Content Analysis of Snapchat

Faculty of Education

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JUI-PING HUNG

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The purpose of this study was to explore current situation of sustainability and unsustainability on daily media content. Based on empirical data, the aim of the exploration was to advise potentialities of future media education and to provide possible directions to improve media literacy. The research design of this study examined headline articles of popular online media through the angle of sustainability. The sustainability in this study was based on a holistic perspective which Birdsall (2014) indicated should entail "environmental, socio-cultural and the economic components" (p.818).

Media content of this study was collected from two media outlets, BuzzFeed and Daily Mail under their Snapchat Discover channels, one piece a day continuing for one month. The study used qualitative content analysis as the research method. Qualitative content analysis allowed researchers to interpret meaning of data through a specific angle and then reduced materials to a comprehensive coding frame (Schreier, 2012). The coding frame was developed from previous literature of sustainability and the collected media content. The final coding frame was aimed to present characteristics of current phenomenon on daily media content in relation to sustainability. According to the analysis of the coding frame, the study concluded three characteristics of sustainability and unsustainability on daily media content. They were a scarcity of content related to environmental sustainability, dominance of unsustainability and a few positive exceptions of content related to sustainability. After that, some suggestions and implications were provided for development of media literacy and media education in terms of sustainability in the future.

Keywords: sustainability, unsustainability, daily media content, media literacy, media education, Snapchat

CONTENTS

1 INTRODUCTION

The study intends to explore sustainability and unsustainability on daily media content to answer the research questions: What are the characteristics of sustainability and unsustainability on current daily media content? The following research question is, if so, what kind of media literacy is imperative to confront the nuanced daily media content in terms of sustainability? Here in this study, sustainability is not the same concept with the common usage of sustainability which commercial companies adapt to achieve social responsibility or extend lifespan of their products, nor does it share the same scope with the sustainable development which United Nations defined (World Commission on Environment and Development, 1987). Sustainability in this study shares some basic concepts with sustainable development. They both emphasize the significance of intergenerational equity and the preservation in terms of social, economic, and environmental components. However, instead of favoring economic growth, which sustainable development is often criticized about (Selby, 2006), social, economic, and environmental components of sustainability in this study share equivalent importance.

Media content is a mixture of messages, ideas, and information delivered by texts, graphs, images, audios or videos. Media creators decide and transmit content in media and media users hold control to perceive and process the media content. How people process media content shape their attitudes, worldview, and values toward sustainability (López, 2014, 2015). Since media is often criticized for not aligning with the living system and the dominant ideology is still industrialism, which López (2014) advocated transforming, media content deserves a better examination through the lens of sustainability. Furthermore, media are utilized consciously and unconsciously (Potter, 2004a; 2013). At a media saturated age, the importance of how media content is processed has

increased. Hence, improvement of media literacy emerge as one of solutions to take back the control from media to users (Potter, 2013). By investigating current daily media content through the lens of sustainability, the study will use empirical data to provide a better understanding toward current problems and notions for improving media literacy. Media literacy, which includes personal locus, knowledge structure and skills, is especially requisite for unconscious media usage. Better media literacy helps to build a good habitual way that it ensures automatic processing of media content can properly operate (Potter, 2004a; 2013).

While sustainability has become a major issue of our society and media has saturated to every part of our life, not much academic discussion has linked media and sustainability together (López, 2014). Most of research only addressed some parts of sustainability (Cooper, 2011; Maxwell & Miller, 2012), not the whole concept. There was even less academic attention given to this connection from the angle of media education (López, 2014, 2015). Only a few scholars directly addressed the necessity to connect media and sustainability from a theoretical point of view (Blewitt, 2009; López, 2014, 2015), but they did not delve into the practical level of using media content toward sustainability. Some other scholars have a few related work discussing media and environment together (Cooper, 2011; Maxwell & Miller, 2012) but they did not involve the whole concept of sustainability which as Birdsall (2014) indicated should include "environmental, socio-cultural and the economic components" (p. 818). Clearly, there is an existing gap and a lack of concern about the sustainability and unsustainability in media content. It deserves to be remedied in academic field and on a practical level. Thus, this study intends to examine daily media content to contribute to the gap and provide implications on the issue.

1.1 Statement of the Problem

In the time of internet and mobile technology penetration, citizens have access to a myriad of information in media and media becomes an important way of shaping citizens' perspective toward sustainability (López, 2014, 2015). Previous research have referred to different issues on media

content in terms of global warming (Feldman, Maibach, Roser-Renouf & Leiserowitz, 2012), gender (Coyne, Linder, Rasmussen, Nelson & Collier, 2014), extremism (Klausen, 2015), and race (Dixon & Williams, 2015). As media saturated into people's lives, we should pay attention to daily media content in relation to sustainability. We need to examine what kind of sustainability and unsustainability media content are current media users facing. Also, as López (2014) argued, media literacy, which is generally acknowledged as "the ability of a citizen to access, analyze, and produce information for specific outcomes" (Aufderheide & Firestone, 1993, p. 5), is hardly discussed with sustainability in media education field. Understanding sustainability and unsustainability on daily media content will provide insights to fill the gap.

1.2 Purpose of the Study

To mitigate the absence of sustainability in media education (López, 2014), the study intends to make an examination in media content and analyze characteristics of sustainability and unsustainability existing on daily media content. Through the process, the study hopes to explore what kind of media literacy will be requisite to encounter current daily media content. Examining real media content will also add pragmatic and empirical values on current research of media literacy. By combining theoretical ground and authentic materials, the study aims to provide practicable insights for media education.

1.3 Limitations of the Study

Considering available resources and a limited scope of a master thesis, there are two elements not included in the study. First limitation is the restricted choice of media in this study. In the present, people encounter a great amount of media content in their daily life, especially from social media. Among social media sites, Facebook has remained its leading position for many years (OfCom, 2018; Richter, 2018; Smith, & Anderson, 2018). It is the most popular and most

recognized media at the present time, but the data collection of this study excluded it. The main reason is there is no public accessible and credible ways to approach data from Facebook, which is mainly designed for private usage. Algorithm also makes media exposure differ among people. In 2015, Facebook introduced a service called "Signal" which allows for exploration of media trends on Facebook and Instagram (Facebook, 2015). However, this service was only for journalists and the researcher of this study was denied access because of disqualification. Since Facebook is mainly a media platform for individuals to share and interact, without Signal, there is no other credible way to examine what kind of media content people might highly encounter on Facebook. In addition to Facebook, popular social media sites such as Instagram and Twitter have similar problems that exposure of daily media content for media users was too hard to be examined.

The second limitation is the scope of media types in this study. Media has extended from visual content to audios and videos. Nevertheless, due to the time limit, this study did not include audio and video media materials for analysis. These limitations decrease utility of this study.

2 THEORETICAL FRAMEWORK

2.1 Introduction

This literature review presents the most vital concepts related to this study. Firstly, it discusses the meaning of sustainability and previous academic work to define the term. It indicates the features and the scope of sustainability applying in the study. Secondly, it explores the interaction and connection between two often-separate concepts, media and sustainability. It justifies the need to study on them together and the imperative action to tackle unsustainability in media content. It also reviews previous research about linking two concepts together and addresses the gap that this study intends to fill in. Finally, it discusses the contemporary learning theories and their implication for media education. It leads to an exploration of different kinds of media literacy, which may be needed as potential solutions for deal with unsustainability in media content.

2.2 Sustainability

Sustainability has long been a very multifaceted, hard-to-define and evolving concept (Birdsall, 2014). It derived from environmentalism which represented a step that human started to be aware of the external connection with the outside world, from nearby surrounding to the whole environmental system. The core values of sustainability were not yet popularized until United Nations World Commission on Environment and Development (WCED) published *Our Common Future*, also known as Brundtland report, in 1987 (WCED, 1987). It was in Brundtland report that the most influential definition of sustainable development was introduced:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987, p. 43).

Other breakthroughs of Brundtland report included putting sustainability issues on an international level and emphasizing the role of poverty between human development and environmental degradation (Robinson, 2004). Ever since the introduction of *Our Common Future*, United Nations has promoted sustainable development in connection with different areas and the dominance of the term in the discourse of sustainability has maintained through years.

In spite of global penetration, the term has been regarded with skepticism from the beginning (Robinson, 2004). The concept of sustainable development has caused two main criticisms. First, sustainable development was still within a narrow frame. The perspective was still human-centered and tolerated the problem of economic growth (Robinson, 2004). Second, the terminology of sustainable development was an ambiguous choice. Scholars generally gave no consensus about the term when they needed to extend and complement the concept from the abstract definition given by Brundtland report (Connelly, 2007). In 1996, Dobson's study indicated the interpretation of sustainable development was enormously various with three hundred definitions. The amount of definition was undoubtedly expected to increase over time. The relationship between sustainable development and sustainability also continued the ambiguity and complexity. Some stated that sustainable development and sustainability represented different values in the spectrum (Robinson, 2004). Some considered sustainable development as the process and sustainability as the result (Scott, 2002). Some thought the two terms are interchangeable.

In this study, the concept of sustainability was not considered the same as sustainable development (Nolet, 2009). The sustainability in the study included the basic definition that Brundtland report called for sustainable development for future generation and then extended it to a broader scope. The employment of sustainability was intended to overcome pitfalls of sustainable development. First pitfall is the human-centered orientation of sustainable development (Robinson,

2004; Selby, 2006). Humankind has been relying on a myriad of physical substances in the living system. Dominating the living system is hardly possible. To maintain the balance, adapting sustainability can apply a more holistic view in terms of the whole system of the earth (Sterling, 2010). Second pitfall is that sustainable development was often blurred by the focus on the development (Selby, 2006). It was challenged as a contested and contradictory term for the scope of how sustainable it can be. Sachs (1995) criticized sustainable development "calls for the conservation of development, not for the conservation of nature" (p. 434). As humankind exists in a planet with limited resources, growth is definitely finite (Selby, 2006). The concept of development should not be the prerequisite for sustainability. The last reason is the aim to contend the integrity and equivalent importance of the three interrelated environmental, socio-cultural and economic components in sustainability (Sterling, 2010). Notwithstanding the discrepancies between sustainability and sustainable development, there is still not yet a precise definition of sustainability. Nolet (2009) proposed that the common usage of the term, sustainable, which connected to a variety of areas, caused the difficulty to reach the agreement. The two traits of sustainability, evolving meaning and easy context adaptability (Manderson, 2006), are also possible justification. Therefore, instead of giving sustainability a fixed definition and simultaneously allowing future augmentation, this study intends to use the features of sustainability, which Nolet (2009) summarized to be salience in educational context, to picture a scope of it:

> *To wit, sustainability is an emergent paradigm that considers environmental, economic, social, and political systems as interconnected systems rather than discrete entities; involves transformation of values and belief systems as well as technological, market, or policy approaches to problem solving; views social and economic justice and intergenerational equity as inextricable from environmental stewardship; cannot be achieved if current rates of consumption and environmental degradation remain unchanged; and emphasizes personal and collective practices consistent with responsible global citizenship. (p. 415-416)*

The four systems of sustainability will be taken as lens for examining media content in the

study. The social and economic justice and intergenerational equity will be the values for the examination of media content. Fourteen themes, which were presented by United Nations (2007) as indicators of sustainable development" can complement the four systems of sustainability with more concrete themes. The themes include "poverty", "governance", "health", "education", "demographics", "natural hazards", "atmosphere", "land", "oceans, seas and coasts", "freshwater", "biodiversity", "economic development", "global economic partnership", and "consumption and production patterns".

In addition, three more themes were added. Citizens involving in all forms of public affairs regardless with or without sustainability should be an important indicator of a sustaining civilized society. "Global citizenship", which Nolet (2009) mentioned in the scope of sustainability, was adapted into this study because sustainability needs a transboundary level of civic engagement for global issues. Echoing the global citizenship, a "citizenship" theme was created to cover themes in relation to citizenship but not on a global level. Also, "gender", which United Nation also promoted in their latest agenda (United Nations, 2015) was added to complement the social aspect of sustainability. As figure 1 shows, seventeen smaller themes were categorized under four main dimensions. Four dimensions were covered by social and economic justice and intergenerational equity. All of these elements form this study's scope of sustainability.
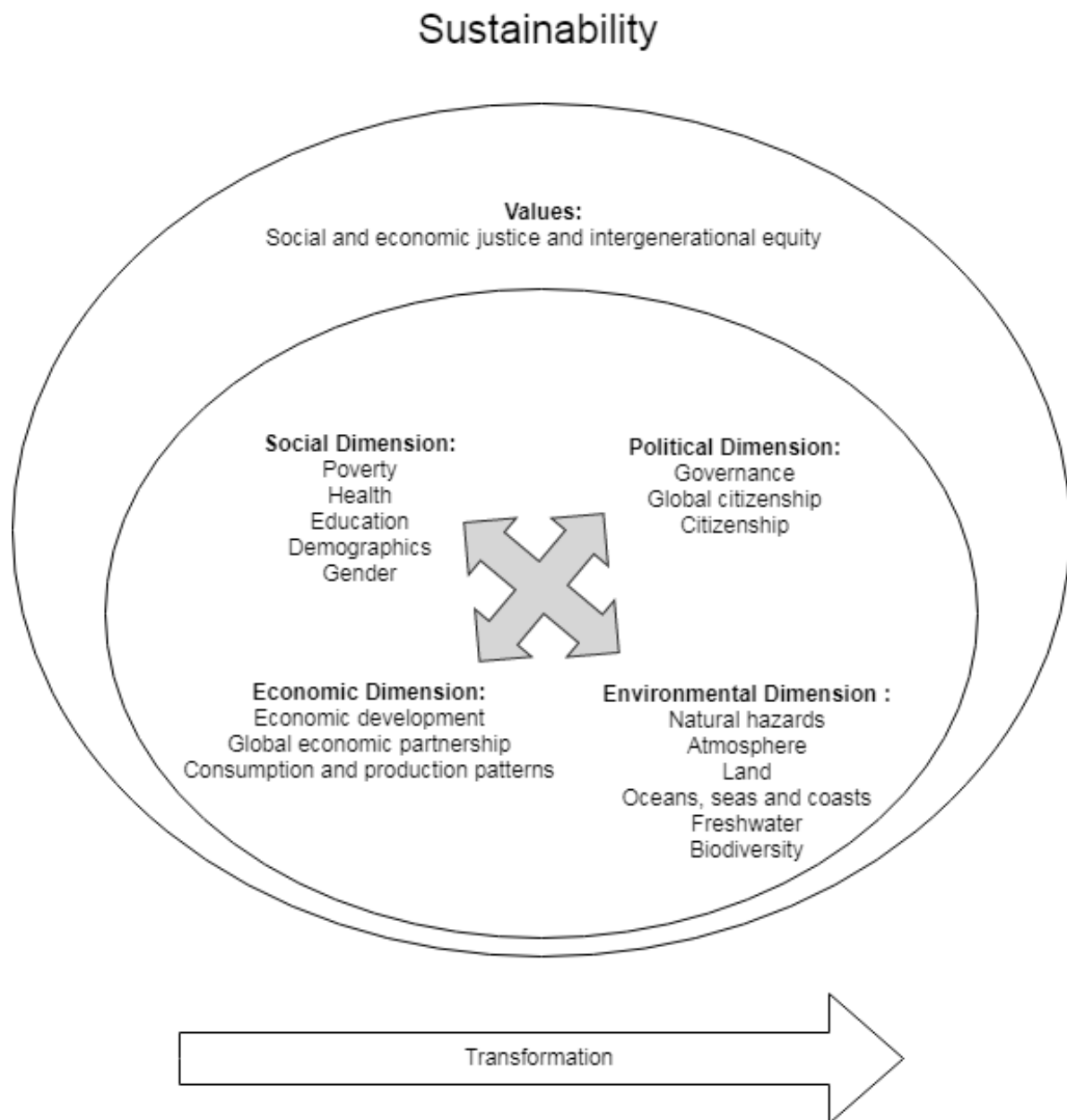
Sustainability

FIGURE 1. The scope of sustainability in this study.

Note: Adapted from Nolet (2009) and United Nations (2007; 2015)

2.3 Media, Media effects and Sustainability

The content flowing on the current media does not always meet the criteria of sustainability. Previous research of media has referred to unsustainability in media content in terms of global warming (Feldman, Maibach, Roser-Renouf & Leiserowitz, 2012), gender (Coyne, Linder, Rasmussen, Nelson & Collier, 2014), extremism, (Klausen, 2015), and race (Dixon & Williams,

2015; Mastro & Behm-Morawitz, 2005; Tukachinsky, Mastro & Yarchi,2015). Although it is definitely not a liner and direct relation between media and its effects, scholars at large affirm the latter exist with different theories to interpret this phenomenon (Potter & Riddle, 2007; Valkenburg, Peter & Walther, 2016). The effects happen in various ways such as facilitating public discussion on diverse issues in the society (Kolandai-Matchett, 2009), influencing viewers' opinions by presenting different forms of political issues (Iyengar, 1994), and making citizens less interested in civic duties (Gamson, Croteau, Hoynes, & Sasson, 1992).

Researchers have used the cultivation theory to explain how media shape the general public's social reality, which might be away from the real world (Morgan & Shanahan, 2010). The influence of television viewing on attitude toward environment can exemplify the effects. Environmental cultivation research asserted that heavier television users show less interested in environmental issues than lighter television users (Shanahan, Morgan, & Stenbjerre, 1997). Good (2007) further pointed out even for people with higher pro-environmental attitude, their attitude would also be eroded to a lower level. Good (2009) explicated the reasons for the effects and two out of three, which were absence of environmental symbols and materialism, were highly related with the media content. In addition to environmental topic, other research findings dealing with different sustainability-related topics also demonstrated interaction between content and media effects. For example, Mastro, Behm-Morawitz, and Ortiz (2007) stated that the more white viewers consumed the media, the more their perception of Latinos became consistent with the media. Shrum, Lee, Burroughs and Rindfleisch (2011) presented a short period experimental study for understanding the long-term cultivated effects of materialism by watching materialistic content. Hence, by analogy, to some extent, the unsustainability in media content certainly has effects on individuals and they should not be ignored.

However, to discuss the interaction between sustainability and media and even further utilizing media to enhance sustainability, adapting perspective of cultivation theory is too narrow and insufficient in the present. Firstly, the efficacy of cultivation theory has been undermined by

online media. It allows media users become more active. It also grants media users more choices compared to TV viewers. Secondly, it focuses more on macro level of media effects and is lack of a good explanation on individual level.

The reinforcing spiral theory together with cognitive theory of media literacy gives us better insights for understanding the interaction between sustainability and media. The combination of them can also be utilized to provide future implications. In reinforcing spiral theory, it shared the same perspective with cultivation theory that the media content would shape users' notions toward the society (Slater, 2007). It replenished the media effects with individual's media selectivity and, moreover, the reciprocal process between them. Instead of taking media usage as a starting point and media effects as the ending point, Slater (2015) stated that media usage served two roles in the interaction with media effects. On the one hand, it is shaped by media content and individual interpretation. On the other hand, it also produced effects, which influence mindset of individuals. The mutual forces of media usage and effects over time formed an ongoing and spiral process.

Potter's (2004a; 2013) cognitive theory of media literacy shed additional light on the inner process of media content processing. Potter mentioned media content is processed in two ways, consciously and unconsciously. When the information is processed consciously, people give attention to what they are using. It is certainly safe when people are mindful of what they use and capable to deal with it. However, since a myriad of information flows in media in the daily-level, it is impossible to mindfully process everything. The capacity of human attention is very limited. To survive in the massive media exposure, people also need to rely on an unconscious method, called 'automatic processing' (Potter, 2004a, p. 9). It is rapid, efficient, and effortless but it also has a higher risk to leave out and misinterpret information. Most importantly, the exposure, which people automatically processed without intention, may still leave effects on the subconscious mind:

> *The media exert their most powerful effect when the personal locus is operating in the unconscious mode. When the locus is not engaged, people have mindless exposures. That means their minds are on automatic pilot, and their personal locus*

defaults to the media locus. If they are in an environment where there are audio or visual messages, those messages get into their subconscious unfiltered. (Potter, 2004a, p. 70)

Research on advertisement exemplified the effects of automatic processing specifically (Janiszewski, 1988, 1990; Shapiro, 1999). Potter (2004a) indicated that the key to make both conscious and unconscious content processing under control is to examine and construct people's own media routines and then develop sufficient media literacy and a strong knowledge structure of media.

To confront sustainability and unsustainability people face every day in media, these two theories provided beneficial insights. From the reinforcing spiral theory (Slater, 2007), it explained the long-term effects of consuming unsustainable content and the problem of the vicious cycle between usage and effects. The urge to break the downward cycle is therefore urgent and imperative. From the cognitive theory of media literacy (Potter, 2004a), it presented the effects come from both conscious and unconscious media content processing. The demand of the content processing has become more than ever as to date media are extremely ubiquitous especially in light of the development of internet and the growth accelerates (Potter, 2013). To move toward a more sustainable world, media effects of unsustainable media content need to be minded, and how to equip with sufficient media literacy and a knowledge structure of media deserves to be scrutinized. The concept of media literacy will be further discussed in later section 2.5.

2.4 Learning in the Present

Learning theories are used to provide a solid basis for educational practitioners to know how knowledge is constructed and how education can be efficiently conducted. Different learning theories exist in educational paradigm. From the early on behaviorism to the latest connectivism, learning theories have developed to improve the deficiencies of others (Alias, Lashari, Akasah & Kesot, 2014) and have attached to shifts in societies. Behaviorists emphasize knowledge learning is

conducted through external behaviors, especially stimulus, response, and reinforcement (Ertmer & Newby, 1993). The efficiency of behaviorism benefits instructors and institutions but it hugely ignores learners' mental process and state. This deficiency results in another two theories, cognitivism and constructivism.

In contrast to behaviorism, cognitivism focuses on learners' mental process to acquire information. Supporters of the theory believe, in addition to quality of instruction, learners' mental process of information decides outcome of learning. In cognitivism, the role of learners has already become more active than in behaviorism (Ertmer & Newby, 1993). Constructivism escalates it to an even higher level. In constructivism, learners create their own unique knowledge by absorbing information through a filter of their previous experience and background. Knowledge becomes not just objective information but learners construct an internal perspective of it (Cooper, 1993). Knowledge can be interpreted variously by different learners (Ertmer & Newby, 1993). Since cognitivism, the development of learning theory has been shifting to a more active role of learners.

The latest learning theory, connectivism, also follows the same trend. Connectivism is introduced to adapt to the changeable technological society (Siemens, 2005). In connectivism, the learning process is not confined to learner themselves. Siemens contends previous learning theories such as behaviorism, cognitivism, and constructivism only refer to learning on an individual level and fail to consider external learning environment. The process of learning should be extended to happen "within nebulous environments of shifting core elements – not entirely under the control of the individual" (Siemens, 2005, p. 7). Connectivism requires learners to actively gain information through investigating in today's new type of information flow, distinguishing useful information and making necessary connections. Furthermore, the benefits, which connectivism brings, not only happen on learning in formal education but also, most importantly, on the life-long learning, which is essential for the mutable society (Siemens, 2005).

As surrounded by a variety of information in daily life becomes a common matter for today's people, two vital aspects can be drawn from these learning theories. Firstly, people need to be able to

construct their own knowledge based on new information and previous experience. Secondly, they also need to have sufficient abilities to obtain worthwhile information from disordered connections of everything. These aspects of learning correspond with the essence of media literacy. The aim of media literacy is to help users gain back the control of using media, hence they will have autonomy to construct meaning for what they find on media. To achieve this aim, Potter (2013) states media literacy have three pillars, including personal locus, knowledge structures, and skills. The personal locus can be taken as a personal control. The knowledge structures should be taken as the context for meaning producing. The skills are the necessary abilities for information processing. The initiative, adequate knowledge structure, and practicable skills are the keys for people's learning process, and also surviving in current society and this media saturated world.

2.5 Media Literacy in the Present

Media literacy is commonly acknowledged as a broad concept, which leads to diverse interpretation, applications, and educational approaches (Hobbs, 1998). For protectionists, media contains harmful content and twisted values thus the education of media literacy should be oriented to avoidance (Kellner & Share, 2007). This approach was criticized for wrong assumption and underestimation of users' cognitive recognition toward media (Buckingham, 1998). By contrast, supporters from empowering perspective concern on citizens' perception and participation on the media (Buckingham, 1998). This perspective currently dominates the field. The focus of empowerment varies from how to utilize media as tools in a practical way (Hobbs & Jensen, 2009) to the higher level such as how to cultivate decoding and criticizing subtle media messages (Kellner & Share, 2007). They generally fit in the most accepted definition of media literacy, which is "the ability of a citizen to access, analyze, and produce information for specific outcomes" (Aufderheide & Firestone, 1993, p. 5). In terms of empowering media users on a daily basis, scholars have extended from the general definition and expressed different focuses of media literacy. The dynamics accord with what Livingstone (2004) states that media literacy is not comprehensive enough with the basic skills and it

should move beyond them.

In this study, as the intention was to empower media users' ability to confront sustainability and unsustainability on daily media content and explore how users can transform their ways of using media. Including various aspects of media literacy may be beneficial in terms of it. Alagaran II (2015) promoted an "Explore, Engage and Empower Model" (p. 33) to respond the sustainable development goals in United Nation's Post-2015 Development Agenda (2013). The model can help to raise awareness and enhance understanding of sustainability issues. Alagaran II suggested this media and information literacy model to examine curriculum and it includes three skills, explore, engage, and empower. According to Alagaran II, exploring meant the ability to use media gadgets to access necessary information. Engaging was to analyze and evaluate media critically. Empowering included the abilities to create media, sharing it in a reasonable way, and taking necessary action. This model also coincided with the model which Hobbs (2010) emphasized media literacy should include five important competencies: access, analyze & evaluate, create, reflect, and act.

Potter (2013) presented a more holistic model of media literacy in relation to cognition. He gave a definition of media literacy as:

> *Media literacy is a set of perspectives that we actively use to expose ourselves to the mass media and interpret the meaning of the messages we encounter. We build our perspectives from knowledge structures. To build our knowledge structures, we need tools, raw materials, and willingness. The tools are our skills. The raw material is information from the media and the real world. The willingness comes from our personal locus. (p. 25)*

Potter (2004b) advocated a cognitive theory of media literacy is necessary for two reasons. First was "individual is prime" (p. 266). As the general public and scholars often considered media harmful, the urge to change this situation often occurred on the society and institutions. However, they were "all in a much more reactive than proactive stance concerning media literacy" (p. 267). Media industries were too commercialized and profit-driven to change for condemnation from educational purposes. Potter argued only when "large numbers of individuals" demand together, a huge change

in the media environment is possible. Thus, "the individual" should be the primary focus of media literacy. Second reason was the cognition, which is the most vital part of the individual. Potter emphasized educating media literacy is a process that:

> *...it needs to build from a deep understanding about how people use the media in their everyday lives, how people come to believe that their media usage is functional to achieving their goals, and how unwanted effects accumulate as byproducts of everyday exposure. (p. 266)*

Potter (2004; 2013) specified three fundamental elements in the cognition theory of media literacy. They were "personal locus", "knowledge structures", and "skills". Potter contended people's level of media literacy was connected with their personal locus. He gave the definition of personal locus as:

> *Personal locus is a term that refers to the place in a person's mind where decisions get made about information-processing tasks. It occupies a central position in the media literacy model by drawing information from the five foundational knowledge structures, then governing the use of competencies and skills in the information-processing task. (2004a, p. 97)*

"Personal locus" determined people's mindfulness and mental strength over media content. "Knowledge structures" meant the prior knowledge, which media users must retrieve when they need to process media content. They helped to provide the meaning and give a context of the content. They included media effects, media content, media industries, the real world, and the self. For the skills, Potter (2013) stated seven skills, analysis, evaluation, grouping, induction, deduction, synthesis, and abstracting, can be used as tools separately or in combination with others while we confronted media. These elements of media literacy are concluded in the Figure 1.

TABLE 1. Media literacy lists.

Level I	Level II	Alagaran II,	Aufderheide &	Hobbs, 2010	Potter, 2013

		2015	Firestone, 1993		
Personal locus					√
Knowledge structure					√
	Media effects				√
	Media content				√
	Media Industries				√
	Real world				√
	The self				√
Skills		√	√	√	√
	Access	√ (explore)	√	√	
	Analyze	√ (engage)	√	√	√
	Produce	√ (empower)	√	√ (create)	
	Evaluate	√ (engage)		√	√
	Reflect			√	
	Act	√ (empower)		√	
	Group				√
	Induct				√
	Deduct				√
	Synthesize				√
	Abstract				√

2.6 Citizens, Media Education and Sustainability

Citizens need education in terms of sustainability. Citizens doubtlessly have duties for sustainability. On a national level, citizens are expected to involve in public affairs and fulfill duties to make the society and the country better in return for their rights to live well. On a global level, citizens have a responsibility for sustaining everything humans involve so the living system will not collapse.

Education is the most powerful and fundamental way for citizens or future citizens to understand sustainability (UNESCO, 2014). Education, which encompasses formal, non-formal, and informal formats (Livingstone, 2006), has been considered crucial for leading us to develop a

more sustainable world. However, UNESCO (2005b) pointed out education may be one of factors worsening the problem of unsustainability:

> *At current levels of unsustainable practice and over consumption it could be concluded that education is part of the problem. If education is the solution then it requires a deeper critique and a broader vision for the future. Thus, whole systems redesign needs to be considered to challenge existing frameworks and shift our thinking beyond current practice and toward a sustainable future. (p.59)*

Only existing in a short period of lifespan is the main problem that formal education should not be the only solution to approach sustainability. Instead, informal learning is the key concept but it is often neglected by the public. It is a self-driven process and it happens in daily life for every ordinary citizen (Livingstone, 2006). Most importantly, it occurs through long lifespan. Among all types of informal education, the ubiquitous and influential media undoubtedly has become a critical part to date.

Education can escalate citizens' awareness of sustainability. It can not only influence citizens' attitude toward sustainability but also enhance citizens' sustainable behaviors by implementing strategic and well-designed plans (Arbuthnott, 2009). Early on 2005, the United Nations (UNESCO, 2005a) implemented a ten-year plan 'Decade of Education for Sustainable Development 2005-2014' and aimed to make our world more sustainable through education. In addition to efforts from global institutions, there are also a myriad of different educational opportunities to achieve the goal such as integration with official curriculum, NGO advocacy, community activities, and online information sharing. Among all educational opportunities, media plays a, visibly or invisibly, vital role not only as a tool but also as learning environment. Media sometimes even has a bigger influence than formal education.

Media literacy is one of the key components of active citizenship (Kotilainen & Suoninen, 2013). Hobbs (1998) emphasized the importance of good media literacy skills for citizens to conduct the citizenship, which are rights and duties to engage in different levels of the public sphere. Media

literacy helps citizens enhance their rights to express their opinions and gain information in societies (Kotilainen & Suoninen, 2013). Scholars have indicated a considerable amount of advantages which a higher level of media literacy can bring for citizens such as broadening mindset and a better control over media usage (Potter, 2013). The various forms of media are the major content consumption for nowadays citizens and media is a vital way to shape their worldview and mindset (Hansen, 2010; Kolandai-Matchett, 2009).

However, media often develops faster and more advanced than education. Kupiainen, Sintonen, and Suoranta (2008) point out in their study about development of Finnish media education:

> *Questions of media education follow hard on the heels of changes occurring in the media environment, and these are nowadays so fast that pedagogical institutions are hard put to keep up. (p. 16)*

Hobbs and Jensen (2009) also indicates this common problem in today's media world:

> *Today, we face new and even more polished promotional propaganda from the digital culture industries who encourage both educators and students to acquire and use new media tools, but do not place a premium on critical engagement with media's changing forms and content and its impact on lifestyles, social norms, and values. (p. 5)*

Current daily media certainly presents content related to sustainability and unsustainability. As citizens have responsibilities for sustainability, implementing appropriate and sufficient media education is imperative. Furthermore, Nolet (2009) suggested a global level of citizenship for sustainability is necessary for today's citizens since citizens need to use a cross-country perspective to tackle global sustainability issues.

In this media-saturated age, we expect the scope of media education should be like media itself, over the border and not limited to content. Kupiainen, Sintonen, and Suoranta, (2008) also asserted media education should not be limited to merely "the disciplines of media and education" (p. 22).

Since the approaches of media education have shifted to a more holistic way and "evolved from a message-based model to citizen-based model" (Mihailidis, 2014), we should also expand the territory of media education in order to make better citizens on the earth. Expanding the focus of media education to a higher level, such as our living environment and our society, will also deepen media education's role for cultivating citizenship. Combining sustainability and media education together, media will help us to better sustain the world we live.

Even though the scope of media education is broad, there has been not much connection between sustainability and media education, especially from ecological stance (López, 2014). The academic discussion of integrating sustainability into media education is still in its infancy. Blewitt (2009) indicated the potentialities of new media have for building a sustainable future. Blewitt contended since people's understanding towards environment mainly comes from media, media literacy and sustainability literacy should be developed and built a relationship with each other. Sustainability literacy is defined as the knowledge and ability for taking action for sustainability (Stibbe & Luna, 2009). Blewitt (2009) stated media literacy and sustainability literacy "are both practices rooted in criticality and action (p. 111)." Both media literacy and sustainability have an emphasis on critical thinking.

López (2014, 2015) addressed the gap between media education and sustainability in a more detailed way. He assumed because studies about media education are usually influenced by media studies, which in general do not have much connection with environment, media education studies have the same deficiency. López observes an emerging trend to shift the focus of media studies towards environmental content. He advocates media education should remedy the link with sustainability as well. In addition, media education shares the same concern, technology, with sustainability. Also, "the development of media education has gone hand in hand with the development of media technology" (Kupiainen, Sintonen, & Suoranta, 2008, p. 23). It is impossible to discuss media education without technology and sustainability also has a complex relationship with technology. López indicated the possible reasons, harm, and solutions of the absence of

environmental sustainability in media education. Both Blewitt and López are the forerunners of directly linking sustainability and media together.

Nevertheless, neither of them conducted an examination of media content usage in terms of sustainability. Blewitt's (2009) work intended to be a theoretical exploratory between media and sustainability. López (2014, 2015) emphasized on changing the spectrum of current media education towards sustainability and providing a solution of curriculum design to remedy the present gap. Furthermore, even though they both used the term, sustainability, the definition of it was not clearly defined as the four dimensions which Nolet (2009) stated for sustainability as "environmental, economic, social, and political (p. 415). Other than these two scholars, there was a few research connecting media and environment together in the discipline of environmental communication but they also didn't address a whole concept of sustainability. Cooper (2011) requested media literacy education for enhancing the public's recognition of climate change. Maxwell and Miller (2012) indicated media has a physical and material influence to the living environment. Their work was too environment-oriented and failed to meet the scope of sustainability.

From previous research, it is undoubted that there is a huge gap to fill between media education and sustainability. As media undoubtedly shapes people's perception toward the outside world and people's perception will influence their behavior, this study's plan to start from examining our daily media content can be an initial step to remedy the gap. It was hoped that integrating concepts of sustainability into citizens' daily media usage will help citizens think and then act more appropriately to achieve a more sustainable future.

3 METHODOLOGY

3.1. Research Design

The planning phase for this study initiated in May 2016 and continued until October 2016. During the period, the researcher developed research questions, reviewed the literature, searched for possible data collecting options, and finally determined a process of data collection and a research method. The study aimed to use qualitative content analysis as the research method to explore daily media content in relation to sustainability and unsustainability. The research design entailed three steps. First step was to collect media content as data from two Snapchat Discover channels. Second step was to develop a coding frame based on the sustainability framework developed from previous literature and also the coding process of collected materials. The final step was to evaluate and interpret the developed coding frame to answer research questions of this study.

3.2. History of Content Analysis

The endeavor of analyzing communication materials had a long history even before the term "content analysis" was formally introduced (Mayring, 2014; Schreier, 2012). In 17th century, the Church was aware of possible threats of its authority from spreading of printed materials. The attempt to examine content of printed materials was initiated. In 18th century, some scholars in Sweden analyzed meanings of a collection of hymns in order to investigate if the collection was endangering the Swedish state church (Krippendorff, 2013). Since early 20th century, newspapers started to gain its popularity as a first medium. The growth of newspaper stimulated inquiries about content on newspapers. Quantitative interpretation then appeared and served the function to answer

these inquiries about media content (Krippendorff, 2013). Quantitative approaches had since continued to play an important role in the early development of content analysis.

It was during 1930s, benefiting from a growth of social-science disciplines and an emergence of new mass media such as radio and television, content analysis gradually grew and was expanded as a research method (Krippendorff, 2013). Content analysis was developed to be theory-based and applicable to not only newspaper but also other different media. Its focus was also extended from subjects of content to attitudes toward content, representations behind content, and public messages behind content (Krippendorff, 2013). In 1940s, a quantitative methodology of content analysis was refined and content analysis increased the influence in academic field (Schreier, 2012). After the 1940s, content analysis has been gradually applied to more disciplines such as political science, psychology, anthropology and history in addition to mass communication studies (Krippendorff, 2013).

While the proliferation of content analysis was increasing, the majority of content analysis was still conducted as a quantitative method, which coded explicit data into categories and interpreted data in a statistical way (Hsieh & Shannon, 2005). Kracauer (1952) was a precursor to point out the problem of purely quantitative content analysis. Kracauer argued that quantitative content analysis was a reliable approach for simple and manifest meaning. However, meaning of content was often too intricate and latent to catch by quantitative ways such as frequency counts. Kracauer stated a more qualitative approach of content analysis can dig more deeply into meaning of content although many scholars suspected there was a clear distinction between a quantitative and a qualitative approach of content analysis (Krippendorff, 2013). Several different qualitative approaches of content analysis were developed after Kracauer. Qualitative content analysis (QCA) was one of them. In the beginning, QCA was developed mainly in Germany (Schreier, 2014). It was until recently that QCA as an independent research method became famous in English speaking academic fields (Schreier, 2012). Since then, the methodology and the theory of QCA developed to be more mature and complete. The distinctions between quantitative and qualitative type of content analysis have

become clearer than before.

3.3. Qualitative Content Analysis (QCA) as a Research Method

QCA uses systematic procedures and a specific process of coding to subjectively interpret qualitative data (Mayring, 2014; Schreier, 2012, 2014). QCA has flexibility to be applied to a wide range of disciplines but it should all involve "a set of systematic and transparent procedures for processing data" (Zhang & Wildemuth, 2009, p. 310) to maintain trustworthiness. The coding process should be conducted "by assigning successive parts of the material to the categories of a coding frame" (Schreier, 2014, p170). Elo and Kyngäs (2008) contended there were two approaches, inductive and deductive, to build up a coding frame. The inductive approach allowed the coding frame to be developed from coding materials. This approach was most effective when "existing theory or research literature on a phenomenon is limited" (Hsieh & Shannon, 2005). The deductive approach was applied when there was existing theories or previous research findings, their coding frame can be used to examine different data.

Both of inductive and deductive approaches need three steps: "preparation, organization, and reporting of results" (Elo et al., 2014, p. 1). Schreier (2012; 2014) stated a more elaborate version of procedures in QCA. It generally entailed following steps: Firstly, research questions are specified. Secondly, research materials are selected. Thirdly, a coding frame is generated. It should consist of several main categories and subcategories beneath every main category. Fourthly, research materials are divided into units of coding. Fifthly, a trial is conducted to examine the reliability and validity of the coding frame and the revision may be necessary. Sixthly, all materials are coded based on the final coding frame. Finally, based on the coding frame, the findings are interpreted and presented.

Since the focal point of this study was to explore themes or concepts of sustainability and unsustainability conveyed by daily media content, adapting QCA as the research method in this study matched the study's aim to explore manifest and latent meanings and concepts related to sustainability on the media content (Zhang & Wildemuth, 2009). As the scope of sustainability was

immense, objective analyses such as counting the frequencies of words was neither effective nor sufficient. Utilizing subjective interpretation for analyzing media content was necessary for understanding multiple meanings behind media content and thereby QCA was a qualified choice for this research.

3.4. Distinction and Similarity between Quantitative and Qualitative Content Analysis

Even though the literal meaning between quantitative and qualitative content analysis seems distinctive from each other, the boundary between them is very blurred. QCA was developed from quantitative content analysis but certainly shared some quality of qualitative research. Krippendorff (2013) was one of the researchers who questioned the necessity to make the distinction between quantitative and qualitative content analysis clear since the action of reading text was also qualitative in quantitative content analysis. Mayring (2014) proposed that QCA was not a qualitative research method, but a mixed methods approach which involved "assignment of categories to text as qualitative step, working through many text passages and analysis of frequencies of categories as quantitative step" (p. 10).

Systematic is the core value of QCA which relates to the fundamental quality of quantitative content analysis. Schreier (2012) stated that "in most general terms, the aim of QCA is to systematically describe the meaning of your material" (p. 3). Furthermore, Schreier explained QCA was systematic in three facets. The first aspect was that in QCA all materials will be scrutinized for careful classification. QCA can reduce data through examination on all data. The second aspect was that QCA generally follows some specific steps (Zhang and Wildemuth, 2009; Schreier 2012). Hsieh and Shannon (2005) stated QCA subjectively judges content through a series of systematically coding procedures. Zhang and Wildemuth (2009) also emphasized the importance of using "a set of systematic and transparent procedures" (p. 3) to have valid and reliable interpretation of content. The third aspect was the emphasis of consistency. In QCA, interpretation involves strong subjective

opinions of coders toward meanings of content. However, results are able to be extended beyond individual's opinions. QCA requires either several coders analyzing same content or one coder conducting the same analysis for at least two times. Through the comparisons, the researchers are able to prove the reliability of their research (Schreier, 2012).

Two distinctions make the differences between quantitative and qualitative content analysis: interpretive and flexible. Firstly, QCA is interpretive in line with most of qualitative research. QCA strongly relies on researcher's interpretation both in coding process and analyzing results. The interpretation is not standardized and is subject to researcher's "competencies, pre-knowledge and empathic abilities" (Mayring, 2014, p.30). The characteristic of being interpretive in the analyzing process is not only different but also unsuitable for quantitative content analysis. In quantitative content analysis, objectivity is mandatory and it quantifies content based on strict rules with limited availability for interpretation. As Boyatzis (1952) argued that content is plausible to have more than one meaning, qualitative approaches were effective to explore possibilities of different meanings. However, unlike other qualitative approaches, QCA is not interpretive in a way to ascertain all the manifest and latent meanings. QCA researchers have to choose one perspective of meaning and interpret data based on the standpoint of it. QCA contends the existence of variety of meanings but focusing on only one perspective allows it to reduce enormous data to the essential and in-depth meanings which researchers inquire based on their research questions (Schreier, 2012).

Secondly, QCA is flexible for reasoning in research. Quantitative content analysis mainly uses deductive reasoning to examine hypotheses or answer research questions developing from previous studies or theories (Zhang & Wildemuth, 2009). In contrast to it, QCA is able to include both inductive and deductive reasoning in research (Patton, 2015). According to Hsieh and Shannon (2005), there were three different approaches of QCA. Conventional QCA directly developed from raw data. It was highly inductive and data-driven without prerequisite of previous theories or burden of preconception. Directed QCA applied existing frameworks, theories or previous research findings in initial coding but later let the coding frame evolve with the coding of data. Summative QCA

quantified content in the beginning as quantitative content analysis and then extended to include "the contextual meaning of specific terms of content" (p. 1286). Both directed QCA and summative QCA used mixed inductive-deductive reasoning.

3.5. Procedures

The procedures of this study were generally based on steps which Schreier (2012; 2014) defined for QCA (see section 3.3). Some revisions were applied due to the specific nature of this study. The procedures were revised as below: Firstly, research questions were specified. Secondly, research materials were collected and scrutinized. Unnecessary materials was also identified and removed. Thirdly, a coding frame was generated and it should consist of several main categories and subcategories beneath every main category. Fourthly, segmentation of materials was conducted. Fifthly, instead of a trial run of coding, the first round of coding was conducted. The reason to remove the trial run was because of the immensity of sustainability. As the purpose of this study was to develop codes to explore sustainability and unsustainability on media content, it was impossible that conducting a trail run would provide all the codes. The first run of coding developed new codes and allowed revision. Sixthly, a second run of coding was conducted. All materials were coded based on the coding frame which was developed from the first run of coding. Finally, based on the coding frame, findings were presented and interpreted.

The following subsections will further describe the above procedures.

3.5.1 Data collection

The daily media content was collected from Snapchat's Discover section, in which several prominent media publishers operated their own channels. The media publishers were able to put text, images, and videos on their own channels and the content were available to be seen for 24 hours. The old content was replaced by new content every 24 hours. The data collection was conducted in

Finland. Even though Snapchat's Discover section included local media companies in some countries, at the time when the data was collected, no Finnish media publisher had joined it. All channels were international channels and all content were presented in English. Figure 2 shows an example of layout of Snapchat's Discover section.

Snapchat was first released in 2011 and rapidly gained its popularity as a revolutionary messaging app and as a new form of social media (Colao, 2012). Since the release of Snapchat, the influence of Snapchat has been increasing. The foremost feature of Snapchat was its temporary accessibility. After users delivered their messages on Snapchat, which can be photos or videos, the messages would permanently disappear in seconds. Snapchat had an especially enormous popularity among teenagers and young adults (OfCom, 2017; Smith & Anderson, 2018). Snapchat also stated "the majority of our users are 18-34 years old" (Snapchat, 2018). In a report about social media use in United States, Smith & Anderson (2018) found Snapchat attracted more female users than male users. Snapchat had very active users and a lot of users visited the app several times a day (Smith & Anderson, 2018). This characteristic of Snapchat users made Snapchat a propitious option to explore people's daily usage of media content in the present.

As the aim of the study was to explore sustainability and unsustainability on daily usage of media, two channels in Snapchat's Discover section, Buzzfeed and Daily Mail, were chosen. Content of Buzzfeed and Daily Mail was chosen as the data to be analyzed in this study because of the position of their brands. Most of channels in Snapchat's Discover section had a specific focus of topics such as food, gaming, sports, fashion and technology. They had less possibility to include a diverse range of topics. In contrast, Buzzfeed and Daily Mail had the potentiality to include a broad range of topics because they both had roots in news. Buzzfeed aimed to provide both news and entertainment, which are considered deserving to share with other people ("BuzzFeed," n.d.). Daily Mail positioned its brand as a mid-market newspaper ("Daily Mail," n.d.), which contains serious news and tabloid content such as scandals and entertainment (Tulloch, 2009).

The researcher collected headline articles of two channels, Buzzfeed and Daily Mail. Headline

articles were articles, which first presented after clicked into the two channels. The data was collected every day from 1st November 2016 to 30th November 2016. The researcher collected 60 files in total, which included text, images and videos. During the period, headline articles were collected every day in screenshots to include text and graphs. Video content was collected but was later excluded in the study. Fifty-one copies of collected data were eventually coded in coding process.
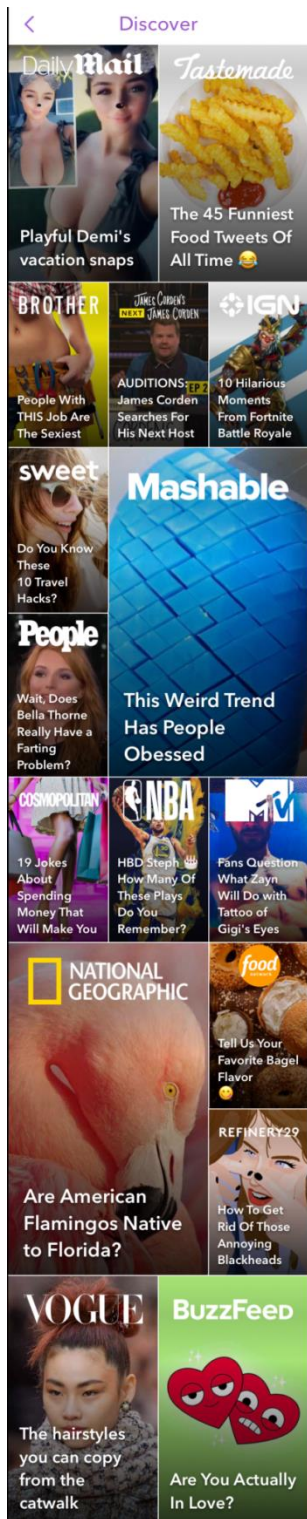
FIGURE 2. Layout of Snapchat Discover section

Note: Retrieved March 15, 2018, from Snapchat app

3.5.2 Segmentation

The units of analysis of this study were collected headline articles. Schreier (2014) explained what the coding units are in qualitative content analysis:

> *These coding units are those parts of the material that can be interpreted in a meaningful way with respect to the subcategories, and their size can vary from an entire book to a single word. (p. 178)*

Schreier also stated that a criterion for unit of coding is needed in order to separate materials. One way was to use a thematic criterion which divides materials based on a theme, not actual length. The other way was to divide materials according to its physical structure. This study used formal criteria rather than thematic criteria because formal criteria provided a clearer standard for separation (Schreier, 2014). The unit of coding for text was a paragraph, rather than words or other formal units. Since the focal point of this study was to explore themes or concepts of sustainability and unsustainability conveyed by current daily media content, extending to semiology was beyond the purpose of this study. Therefore, using one word as the unit of coding was not taken into consideration. Also, using other formal units may cause the problem of not fitting the definition of the categories (Schreier, 2012). The unity of coding for graph was one graph.

3.5.3 Development of an initial coding frame

In this study, the implementation of building up a coding frame mostly followed QCA's sequence of steps (Schreier, 2012). Some changes had been adapted to suit the nature of this study. In the beginning of the study, an initial coding frame was built to filter irrelevant information and provide a structure for answering research questions (Schreier, 2012). The initial coding frame was developed based on prior research about sustainability because it can "help focus the research question" (Hsieh & Shannon, 2005, p.1281). The coding frame had a hierarchy of three levels, which were "main categories", "subcategories" and "further categories". Subcategories were subclasses of main

categories. Subcategories also had their own subclasses, which were named further categories. The function of main categories was for researchers to explore more information of a chosen aspect and the function of subcategories was to identify relevant information in connection to a chosen aspect (Schreier, 2014, p.174).

In this study, main categories and subcategories of the coding frame were developed based on the scope and the features of sustainability, which was derived from previous literature (see Figure 1). Main categories were derived from the four dimensions of sustainability, which Nolet (2009) stated as "environmental, economic, social, and political" (p. 415). Each main category in this study indicated one dimension of sustainability. Subcategories were developed from previous research: "poverty", "governance", "health", "education", "demographics", "natural hazards", "atmosphere", "land", "oceans, seas and coasts", "freshwater", "biodiversity", "economic development, "global economic partnership", "consumption and production patterns", "global citizenship", "citizenship" and "gender". First fourteen of them were from United Nations (2007) which served as indicators of sustainable development. In addition, three more themes were added to the subcategories. One subcategory, "gender", which United Nation (2015) promoted in their latest agenda was added. The other two subcategories were "global citizenship", which Nolet (2009) especially emphasized in the scope of sustainability, and also "citizenship", which was created to echo global citizenship. After these seventeen themes were developed, they were sorted into four main categories. The subcategories under main categories were themes that were "mutually exclusive" to each other (Schreier, 2014, p.175).

After the themes of main categories and subcategories were decided, definitions of them were given. A definition generally included a name, a description for what the name means, examples and optional decision rules which would be added, if necessary (Boyatzis, 1998; Schreier, 2014).

3.5.4 Main coding process

The main coding process was the process to develop further subcategories based on both initial

coding frame and materials. This study utilized what Schreier (2014) suggested to use a combination of both concept-driven and data-driven categories. Schreier suspected "concept-driven categories alone, however, may leave part of this material unaccounted for" (p.176). Because of abundance and diversity of sustainability as a concept, main categories and subcategories were remained the same through coding process and no more themes was added during coding process. By contrast, further subcategories were open for developing more new themes. It was expected that by developing further subcategories from collected materials, the research questions of this study would be answered.

The main coding process was conducted through following steps. Firstly, each article, which was considered a unit of analysis in this study, was read thoroughly to understand the context of an article. This was to help the coder make a proper decision for future classifying. Secondly, each paragraph, which was the unit of coding in this study, was evaluated and interpreted to decide if it was relevant to sustainability. If it was not, it would be categorized as "neutral." Thirdly, if it was relevant, the coder would decide which main category and subcategory it belonged to. After that, the coder would check if it fell to any existing further category. If it did not, the coder would create one further category based on the theme of the paragraph. This coding process would continue until all collected materials were coded.

Unlike what Schreier (2014) pointed out that every segment in materials needs to be coded "only once under one main category" (p.175), in this study every paragraph would be coded only one time under one subcategory. In other words, a paragraph might be assigned more than one main category and one subcategory because it suited the diversity of media content.

In this study, the coding process was conducted two times by the same coder. The second time was around six months after the first time was conducted. The results of second time provided consistent further subcategories with the first time.

3.6 Trustworthiness

Research needs to be evaluated and tested on its quality (Golafshani, 2003). Terms such as reliability and validity were often taken into consideration for examination. However, several researchers have argued qualitative and quantitative research should use separate criteria due to their different roots and aims (Golafshani, 2003; Stenbacka, 2001; Zhang and Wildemuth, 2009).These terms came from the tradition of quantitative research and they were no longer considered suitable for qualitative research. Stenbacka (2001) stated validity, which checks if "the intended object of measurement actually is measured" (p.551), cannot be evaluated in qualitative research since the purpose of qualitative research was to generate understanding, not measure any quantity. Reliability in quantitative research referred to evaluate the possibility for replicating same research results. It separated researchers from their studies. It required researchers to be independent of research results. This concept of reliability in quantitative research was irrelevant in qualitative research since researcher played a vital role to interpret data in qualitative research.

Instead of reliability and validity, the term "trustworthiness" was provided by Lincoln and Guba (1985) to evaluate if "the finding of an inquiry are worth paying attention to" (p. 290) in qualitative research. According to Lincoln and Guba, there were four criteria to evaluate the value of qualitative studies: credibility, transferability, dependability, and confirmability. These four criteria were essential for unfolding both quality and methodological problems of this study.

3.6.1 Credibility

Credibility, which Bradley (1993) defined as "the adequate representation of the constructions of the social world under study" (p. 436), is to present research design and procedures as transparent as possible. Therefore, future researchers "should be able to arrive at similar or comparable findings" (Noble & Smith, 2015, p. 34). Choice of data, inclusion of complete themes from the data, and accurate presentation of data determine the credibility of the research. This study tried to acquire

credibility by providing as detailed as possible about data collection, building up the coding frame, and also coding procedures.

3.6.2 Transferability

Transferability refers to the extent to which the results can be applied or generalized to other contexts (Anney, 2014). Since the data collection was through a specific media platform and based on the content produced by a few media brands, this study's transferability would be certainly limited. However, this study did guarantee a certain level of transferability by using a combination of data-driven and concept-driven codes. The concept-driven codes provided a framework of sustainability which can be applied to different media platforms and outlets. Data-driven codes were generated from media content which was collected everyday during a month. They represented the possible themes of sustainability and unsustainability which users may face on their everyday media usage. The shortcoming of this study was the duration of the study, one month, may not be comprehensive to collect sufficient data. Also, the content flowing on media was diverse and unpredictable. Thus, conducting the same research in different contexts may not lead to the exact same findings but a certain level of similarity can be expected.

3.6.3 Dependability

Dependability refers to "the stability of data over time and under different conditions" (Elo et al., 2014). To ensure research results are consistent, Schreier (2014) stated coding consistency is an important quality in qualitative content analysis. Coding consistency can be evaluated by providing two different rounds of coding results. The differences can occur "either by two independent coders or by one coder at two points in time" (p. 178). If the coding consistency is high between two different rounds of coding, it means codes are well-defined and they will not cause a great amount of misunderstanding for coding. Hence, results are guaranteed to be stably produced. In this study, the

coding consistency was conducted by replicating the coding process again after a certain period.

3.6.4 Confirmability

Confirmability indicates objectivity in qualitative research. Bradley (1993) referred it as "the extent to which the characteristics of the data, as posited by the researcher, can be confirmed by others who read or review the research results" (p. 437). The main way to ensure confirmability is to conduct audits of research data's "accuracy, relevance, or meaning" (Elo et al., 2014, p. 2). Unfortunately, this study did not include any procedure to ensure confirmability.

4 FINDINGS

4.1. Introduction

In this chapter, the researcher intends to only present coding results in a relatively objective way compared to the next chapter. The results in this chapter are found directly from the data. They are presented and summarized without further analysis and interpretation from the researcher. The discussion and analysis about meaningfulness of these results will be left to fifth 'Discussion' chapter. The next chapter will discuss the results from a more qualitative perspective in terms of previous studies and theories.

To answer the first research question, "What are the characteristics of sustainability and unsustainability on current daily media content?", a coding frame was built up through coding collected materials. As shown in table 2, in addition to the initial four main categories and seventeen subcategories, which developed from previous literature, the final coding frame presented twenty-two further subcategories. These subcategories represented the sustainability and unsustainability themes appeared in collected materials. The data included fifty-one copies of collected media content and videos were already excluded from coding process.

4.2. Results

The first main category, "social", had five subcategories. They were "poverty", "health", "education", "demographics" and "gender". Among them, only subcategory of "poverty" and "demographics" were not developed into any further subcategories. It meant there was no theme appearing in selected materials about "poverty" and "demographics" themes. The subcategory of

"health" included two further categories, "neglect of impacts on sustainable health" and "promote sustainable health". Both of them were themes about general health and no other further category was developed into specific health theme. The subcategory of "education" included two further categories, "present untrue information" and "present assumption". Both of them were in relation to function of media on education. However, no further category was connected to themes in educational field. The subcategory of "gender" were developed into ten further categories, "present certain female body figures", "praise certain female body figure", "praise certain female appearance", "degrade certain female appearance", "sexual objectification of women", "gender stereotypes of women", "positive discussion about gender equality", "present certain male body figures", "praise certain male body figures", and "degrade certain male body figures". It was the most developed subcategory compared to all other subcategories in the coding frame. Seven out of ten were themes in relation to appearance and body figures. Six out of ten were related to women and other three were related to men. There was only one positive further subcategory, "positive discussion about gender equality", among all further subcategories of "gender".

The second main category, "political", had three subcategories. One subcategory, "governance", was not developed into any subcategories. It meant there was no theme in the selected materials about government, parliament, policy making or policies. The other subcategory, "global citizenship" also did not develop into any further subcategory. Only one subcategory "citizenship" developed into four further subcategories. Two of them, "non-white race representation" and "lesbian, gay, bisexual and transgender (LGBT) representation", were related to human rights. They were developed because non-white race and LGBT themes appeared in materials but no specific theme about them were addressed. The other two further subcategories were "present action in public affairs" and "present discussion about public affairs". Both were about citizenship on individual's level.

The third main category, "economic", had three subcategories. Two subcategories, "economic development" and "global economic partnership", were not developed into any subcategories. The

last one, "consumption and production patterns", was developed into four further subcategories. Three of them were actions related to unsustainable consumption, which were promoting, presenting, and praising. Only one further subcategory, "present sustainable consumption", had a positive link with sustainability.

The last main category, "environmental", had six subcategories, including "natural hazards", "atmosphere", "land", "oceans, seas, and coasts", "freshwater", and "biodiversity". There was zero further subcategory developed under these six subcategories. It meant no environmental-related theme was found from the selected materials in this study.

TABLE 2.   The final result of the coding frame.

Main category	Subcategory	Further Subcategory
Social	Poverty	None
	Health	Neglect of impacts on sustainable health
		Promote sustainable health
	Education	Present untrue information
		Present Assumption
	Demographics	None
	Gender	Present certain female body figures
		Praise certain female body figure
		Praise certain female appearance
		Degrade certain female appearance
		Sexual objectification of women
		Gender stereotypes of women
		Positive discussion about gender equality
		Present certain male body figures
		Praise certain male body figures
		Degrade certain male body figures
Political	Governance	None
	Global citizenship	None
	Citizenship	Nonwhite race representation

		Present action in public affairs
		Present discussion about public affairs
		LGBT representation
Economic	Economic development	None
	Global economic partnership	None
	Consumption and production patterns	Praise unsustainable consumption
		Present unsustainable consumption
		Promote unsustainable consumption
Environmental	Natural hazards	None
	Atmosphere	None
	Land	None
	Oceans, seas, and coasts	None
	Freshwater	None
	Biodiversity	None

The following chapter will then discuss and analyze the above further subcategories in terms of previous studies and theories.

5 DISCUSSION

5.1 Introduction

In this chapter, firstly the findings of this study are discussed separately in four dimensions of sustainability. Every further subcategory is scrutinized to explain meaning of appearance. Developed further subcategories or subcategories without further subcategory are both examined and compared with previous research accordingly.

After the discussion of further subcategories in all dimensions, a general discussion of the results is given to answer the research question: What are the characteristics of sustainability and unsustainability on current internet media content? In this part, three main characteristics are drawn from the findings. In the end of this chapter, the following research question, "what skills are imperative to confront the nuanced daily media content in terms of sustainability?", is discussed here as implications for media education.

5.2 Social Dimension

The social dimension, which is the category of "social" in the coding frame of this study, includes five themes. These five themes are subcategories "poverty", "health", "education", "demographics" and "gender".

5.2.1 Poverty and demographics

Both subcategory of "poverty" and "demographics" had no development of further subcategories. They reflect that there was no content in the coding materials to allow to develop themes. According

to previous research, poverty is not a popular topic in media. Bullock, Wyche, and Williams (2001, p.231), indicated that mainstream media tends to depict stories from the perspective of the middle class, not from the poor. Media presents a glamorous and prosperous part of society rather than poverty. McKendrick et al. (2008) analyzed news media in terms of poverty in UK. They also pointed out a deficiency of coverage of poverty exists in media.

The subcategory of "demographics" which dealt with population in relation to sustainability also had no development in this study. This coincides with two trends in previous research. One is the decreasing concern of population issues from the public (Coole, 2013; Maher, 1997). The other one is the amount of exposure of population issues in media. Maher (1997) once conducted a study of how often do the media frame the relationship between population growth and environmental degradation. Based on a random sample of 150 stories about topics of endangered species, urban sprawl and water shortages, only 16 (10.7%) samples referred population growth as a cause of environmental problems and only 1 (0.6%) sample referred stabilizing population as a solution. While Maher especially chose these three topics as they were considered as "three common population-influenced environmental problems" (p. 344) which might enhance appearance of population issues, the results still presented a low exposure of population issues in media. Maher's research shed some lights on how rare population issues are in media and how much population issues are ignored.

5.2.2 Education and health

Even though both subcategories of "education" and "health" were developed into a few further subcategories, the results only present a small-scale and rather general level of themes. The subcategory "education" in relation to sustainability has a wide range of possibilities to link with various aspects. It can serve educational purposes for sustainability. It can be discussed about how to sustain education in terms of social justice. However, the results of this study revealed that further subcategories of "education" were developed in a fairly weak link with sustainability. Both further

subcategories, "present untrue information" and "present assumption", connect to sustainability only in respect of education's general function which is to provide learning information. To some extent, the results can also be taken as merely media's educational purpose, not the link with sustainability. The subcategory "health" has similarly limited results with the subcategory "education". Both of its further subcategories, "neglect of impacts on sustainable health" and "promote sustainable health", only focus on a general level of human health. As Robinson (2004) suggested, unlike the human-centered nature of sustainable development, sustainability should be "an integrative concept across fields, sectors and scales" (p. 378). Corvalán, Kjellstrom and Smith (1999) also emphasized the importance of "a more holistic perspective on health" (p. 656). The further subcategories of "health" reveal a lack of links with broader aspects of sustainability. For example, public health, which encompass both societal and environmental factors, is completely absent from the further categories.

5.2.3 Gender

The subcategory of "gender" thrived to an abundance of further categories but out of ten further categories, only one appeared to be a positive theme. Over half of further subcategories of gender were related to body figures or appearance, especially of female.

This result accords with a long-lasting criticism that female body figures and appearance have too much exposure in society, especially in media. Kaschak (1992) affirms women have been facing involuntarily attention on their body and appearance in society and among all forces, media have an extremely strong influence on women to define themselves by their appearance and body. Nemeroff, Stein, Diehl, and Smilack (1994) examined content of magazine articles over a 12-year period with body-relevant categories. They not only found that all categories of magazines have more or less body-relevant articles but also women-targeted magazines have significantly more body-relevant articles than men-targeted magazines. Cusumano and Thompson (1997) conducted a research to investigate the relationship among magazine exposure, body satisfaction, and eating disorder. The

research didn't find any significant relationships among them but its coded images, collected from chosen magazines between May and June 1995, revealed ubiquity of women's body on the media content. All 33 magazines included either images of body shape or breast shape on the content.

Although there is no exact measuring how much body-relevant media exposure women have, a myriad of research have shown researchers' considerable concern over this tremendous exposure. A majority of research has investigated the relationship between body-relevant media exposure and its negative physical and psychological effects (Grabe, Ward & Hyde, 2008; Stice, Schupak-Neuberg, Shaw & Stein, 1994; Stice & Shaw, 1994; Tiggemann, 2003; Utter, Neumark-Sztainer, Wall & Story, 2003). Furthermore, media is not merely over-presenting content related to body figures and appearance. The developed further subcategories such as "praise certain female body figures", "praise certain female appearance" and even "degrade certain female appearance" indicate that media utilizes an internal standard of body figures and appearance to comment, evaluate and criticize female. Even men face similar situations in media like women. Further subcategories such as "degrade certain male body figures", "present certain male body figures", and "praise certain male body figures" prove that both genders are under similar threats.

Apart from providing neutral content, media sometimes adds unnecessarily biased and subjective messages on their content. Whether media helps to shape the public's opinion about beauty or the public prefers to consume certain content and influence media, but in either case, what media acts on body-relevant content harms gender equality in the long term. There are two worse further subcategories presenting even more negative media content. One is "gender stereotypes of women." This further subcategory was developed because of disadvantages of stereotypes. Gender equality is built on freedom for both men and women. Either gender should have full freedom to do any feminine or masculine action without any external judgment. There should be no necessity for what people should do and behave in terms of their gender. Therefore, applying any stereotype to either man or woman certainly leads to a limitation of freedom.

The other one is "sexual objectification of women". In this study, media content was

categorized into "sexual objectification of women", not other further subcategories, when the focus of media content was only on female body, appearance or sexual attractiveness and when women were treated as objects for sexual use. Objectification theory (Fredrickson & Roberts, 1997) is an extension of an extreme focus of female body and appearance. Objectification occurs when bodies of women become women's only value, not themselves as people, and also "women are treated as bodies- and in particular, as bodies that exist for the use and pleasure of others" (Fredrickson & Roberts, 1997, p.175). This further subcategory represents one of the most unsustainable actions on gender issues.

The last code is also the only positive further subcategory within "gender" subcategory. It is the further category "positive discussion about gender equality". There was no much content which were categorized into this further subcategory, but some important themes appeared in relation to gender equality. Appeared themes include body satisfaction, attitude toward nudity, women's autonomy, slut shaming, and male gaze. To date, these themes are still in the central focus in gender issues and there are many arguments about their definitions and what the rightful corresponding actions are. No absolute agreement has been made for the arguments. However, rather than avoidance and disregard, as long as there are still positive discussions about gender issues, they can attract more various voices and bring more dynamics on the topic. Appearance of this kind of positive theme in media is vital to sustain gender equality.

5.3 Political Dimension

The political dimension, which is the category of "political" in the coding frame, includes three themes. These three themes are subcategories "governance", "global citizenship" and "citizenship".

People's exposure of government and political content were relatively average before fragmentation of media because of limited "content preferences" (Prior, 2005). Since media environment has been becoming more fragmented and diverse, it allows people to attain governmental and political content from a myriad of sources (Hollander, 2005). Newspaper or news

programs are no longer the only source. Instead, television talk shows, websites, and even social networking websites become major ways in the present. However, more choices do not guarantee that people will attain more governmental and political content. On the contrary, some people abandon news, which is full of governmental and political information, for entertainment (Prior, 2005). Although Prior states this preference for entertainment undoubtedly has negative impacts on political knowledge, how much these impacts are still uncertain. Several studies presented different results on the relation between political content and different forms of entertainment media. Some scholars reported that people can still gain governmental and political information from entertainment media (Kim & Vishak, 2008; Hollander, 2005). A survey also presented that people identified entertainment media as an important source for political information (Rainie, Cornfield, & Horrigan, 2005). At the opposite end of spectrum, Bennett (2002) found that exposure to entertainment media has no significant relation to political knowledge. Since materials of this study were collected from entertainment-oriented media, the results are discussed in the following sections and hope to complement previous studies.

5.3.1 Governance

Subcategory "governance" was defined as content in relation to government, parliament, policy making and policies and the result showed no further subcategory was developed from it. The no development of subcategory "governance" shows that a macro level of political content is absent. Baek and Wojcieszak (2009) examined late-night comedy, which they defined as a combination of entertainment and politics, and stated that it can only increase a relatively easy level of political knowledge. It seems reasonable to propose that some political content might be considered too difficult or too abstract for media users to process and absorb them. Nevertheless, from the result of this study, another possible reason can be proposed. Macro-level political content is often considered difficult because of its nature. Macro-level political content means it focuses on institutions, not daily personal interests. Also, it needs to present abstract and complicated concepts. If there is no

enough macro-level political content on daily media content, citizens will gain either relatively easy and simple political content or even worse, only entertaining content. It is possible that the scarcity of a macro level of political content on citizens' daily media may hinder acquisition of harder political knowledge.

5.3.2 Global citizenship and citizenship

Subcategories, "global citizenship" and "citizenship" sheds some light on a relatively lower level of the relation between daily media content and political knowledge. These two subcategories focus more on a non-institutional level. "Global citizenship" was developed into two further subcategories, "nonwhite race representation" and "LGBT representation". "Citizenship" was also developed into two further subcategories, "present action in public affairs" and "present discussion about public affairs". They are all positive themes for promoting media users' different levels of citizenship. Both "present action in public affairs" and "present discussion about public affairs" focus on individuals' behaviors on civic duties. Presenting people involving in public affairs in media draws users' attention to political content. It may invoke people to participate more in civic affairs by themselves. Furthermore, since most of individuals who these two further subcategories coded about were celebrities, several studies have shown that celebrities expressing political opinions in media have positive influences on media users (Austin, de Vord, Pinkleton and Epstein, 2008; Loader, Vromen & Xenos, 2016).

Further subcategories "nonwhite race representation" and "LGBT representation" demonstrate the dynamics of diversity, which is also an essential part of social sustainability. The emergence of these two further subcategories presents a humane concern of media. Media have long been criticized to disfavor minorities. The majority of race in media is white people, not color of people. The majority of sexual orientation in media is heterosexual, not lesbian, gay, bisexual and transgender (LGBT). The common phenomena of disfavoring minorities include a lack of appearance, discrimination and vilification. However, the results in this study differ from the general

criticism. As the focus of this study was to provide a qualitative interpretation of media content, there was no quantitatively counting of frequencies of these themes. This study is incapable of discussing how scarce the appearance and representation of minorities in media. However, the results at least indicate they were not completely absent in coded materials. Firstly, further subcategory of "nonwhite race representation" was developed from media content which referred to color of people. Further subcategory of "LGBT representation" was developed from media content which included LGBT themes. Secondly, there was no negative further subcategory developed about minority group of people. Although no specific political issue about minorities was found, it is certainly reassuring that minorities did appear in citizen's daily media content. Furthermore, they were presented in an ordinary way.

5.4 Economic Dimension

The economic dimension, which is the category of "economic" in the coding frame, includes three themes. These three themes are subcategories "economic development" "global economic partnership" and "consumption and production patterns".

5.4.1 Economic development and global economic partnership

Although United Nations has been advocated the concept of sustainable development since 1987, it is still widely recognized that the dominant opinion in the society is still favoring economic development. López (2014) contends the reason why media have been disconnecting with living systems is the long-lasting belief of economic growth. At a national level, countries make maximum use of resources and produce maximum amount of goods to seek for the highest national income. At a global level, countries cooperate with others and build partnership to maintain economic supremacy.

In this study, although there is a common worry that media usually reflects the dominant

opinion in the society and in the world, all the above concepts did not appear in the coded materials. Both subcategories "economic development" and "global economic partnership" were not developed into any further subcategory. On the positive side, no content consolidates the dominant position of economic development in media. On the negative side, there is no content promoting development with respect to sustainability. However, there is also a high possibility that because these two subcategories represents too huge concepts, they are merely rare themes on entertainment media.

5.4.2 Consumption and production patterns

The last subcategory "consumption and production patterns" was developed into four further subcategories. Three further subcategories, "praise unsustainable consumption", "present unsustainable consumption" and "promote unsustainable consumption" are negative and one further subcategory, "present sustainable consumption", is positive. Media has been often blamed for overflowing with too much materialistic messages and it has influenced users' value toward unsustainable consumption. Materialism is a value which "a consumer places on the acquisition and possession of material objects" (Burroughs & Rindfleisch, 2002, p. 349). Richins and Dawson (1992, p.304) indicated there are three important elements of materialism: acquisition centrality, acquisition as the pursuit of happiness, and possession-defined success. As media usually present a more affluent world than reality (Hirschman, 1988), frequent media users often perceive the concept of affluence as what they see in media (O'Guinn & Shrum, 1997). This concept of affluence also influences media users to tend to expect a high standard of living and the feel dissatisfied with their possessions (Richins, 1992). Shrum, Burroughs and Rindfleisch (2004) also found that people's level of materialistic is positively linked with the amount of television viewing. In other words, people become more materialistic because of media. Since consumption is the major way of acquiring and processing materials, materialistic messages in media surely encourage as much consumption as possible. What this study found under subcategory, "consumption and production

patterns" is mostly consistent with the general belief that media is full of messages about unsustainable consumption. The results under this subcategory are similar to other further subcategories mentioned above. Media do more than just presenting unsustainable themes. In addition to presenting unsustainable consumption, two further subcategories were developed to refer to praise and promote unsustainable consumption. Besides, one rare theme appeared in the coded materials. This study found a positive theme, "present sustainable consumption". This theme is another proof that media do have positive content in terms of sustainability.

5.5 Environmental Dimension

The environmental dimension, which is the category of "environmental" in the coding frame, includes six themes. These six themes are subcategories "natural hazards", "atmosphere", "land", "oceans, seas, and coasts", "freshwater", and "biodiversity".

Environmental content has been acknowledged for its low exposure in media. In an examination of network TV news, even the most newsworthy environmental acute events such as disasters earn much less exposure than air crash accidents (Greenberg, Sachsman, Sandman, & Salomone, 1989). Greenberg et al. also found that manmade environmental issues only account for 1.7% of total news coverage in a period of 26 months. Sartor and Page (2010) tracked environmental coverage on US news media and showed that environmental content formed a minor part of the overall coverage. It stayed under 2% of all coverage in 2007-2009. As news media is commonly expected to provide serious media content for citizens, its value has been under threat of commercial market forces. Terms such as "infotainment" (Thussu, 2008, p.7) and "soft news" (Patterson, 2000, p.8) have appeared to prove some marked shifts in news media's focus towards entertainment. In a growing entertainment-oriented news media industry, environmental content is hardly possible to increase exposure in media. In addition to news media, McComas, Shanahan and Butler (2001) tried to explore appearances of environmental content in entertainment television programs. They stated that "environmental topics are largely absent" (p. 533) and, moreover, they found a generally

descending trend of appearances of environmental content.

The results of this study are consistent with the scarcity of environmental content in media which previous research identified. There were six subcategories , "natural hazards", "atmosphere", "land", "oceans, seas, and coasts", "freshwater", and "biodiversity" in this dimension but none of them was developed into any further subcategories. It means no environmental content in relation to sustainability were mentioned in the coded materials. The environmental dimension is often considered the foremost part in sustainability. Nevertheless, the empirical evidence in this study presents an apparent indifference of it in media.

5.6 Sustainability and Unsustainability in media

The research question of this study was to explore the characteristics of sustainability and unsustainability on current internet media content. Based on the results of this study, three main characteristics concerning sustainability and unsustainability on current daily media content are found to answer the main research question. Three characteristics includes a scarcity of content related to environmental sustainability, dominance of unsustainability and a few positive exceptions of content related to sustainability.

5.6.1 A scarcity of content related to environmental sustainability

Firstly, the media content in relation to environmental sustainability on current internet media is still scarce. In the study, no environmental theme was found from the coded materials. It is not a surprising result since media often to some extent reflects real situations in current society. Environment or nature has never been a high priority on most of issues. Even the most widespread concept related to sustainability in the global world, sustainable development (WCED, 1987), which United Nation has been promoting for decades, has its roots in development. Sustainability is not its primary focus. Robinson (2004) criticized sustainable development was too human-centered and

development-centered. Also, this characteristic coincides with what López (2014) contends that media has been "disconnected from living system (p. 35)" and human's history of industrialism forms this ignorant of environment and nature. As media has been shifting to be more commercialized and more fragmented, entertainment starts to gain more exposure on media. Media users also gain full power to choose what type of media they want to use. Sustainability has been known as a too vague, huge and serious topic. It is highly questionable and worrisome that how much media content related to environmental sustainability future media users will encounter.

5.6.2 Dominance of unsustainability

Unsustainability still dominates daily media content but there are several positive exceptions. In social dimension, most of developed themes present unsustainable content about gender, education and health. The subcategory "gender" was the most developed theme and the results present an over-focus on body and appearance, especially on women. Along with the over-focused themes on female body and appearance, worse themes such as applying stereotypes and objectification of women were found. Although themes about men were fewer than women, it is clear that men are also victims of media exposure about body and appearance. These negative themes show how media demolish the autonomy and uniqueness of individuals and consolidate wrong standards in society. They harm gender equality in a long term.

In economic dimension, most of developed themes were about unsustainable consumption pattern. As there are only limited materials on the earth, unlimited consumption pattern is implausible. Consumption is not merely related to sustainability in terms of materials. It brings environmental damages. It needs a great deal of energy to have production. It amplifies differences between countries, classes, and even races. Consumption is not a simple purchasing behavior. Unfortunately, this study still found that several themes on media encourage materialism (Richins, 1992; Shrum, Burroughs and Rindfleisch, 2004). Presenting, promoting, and even praising consumption definitely play a major role in the unsustainability on media content.

In sum, themes about gender inequality and unsustainable consumption are the most salient issues about the unsustainability on media.

5.6.3 A few positive exceptions of content related to sustainability

Although media users do encounter a myriad of different kinds of unsustainability content on media, there are still a few exceptions. They were found from all dimensions except for environmental dimension, which was not developed into any further subcategory. In subcategory "health", a theme was found to "promote sustainable health". In subcategory "gender", one theme was about "positive discussion about gender equality". In subcategory "consumption and production patterns", despite the fact that several themes were found about encouraging unsustainable consumption, one theme was developed to show that sustainable consumption also appeared on media content. Moreover, in political dimension all four themes were developed from positive sustainability content such as discussion about citizenship, non-white race and LGBT representation. These exceptions prove that to some extent users encounter positive content related to sustainability on media.

5.7 Implications for media education

In the previous section 5.6, the main research question to explore the characteristics of sustainability and unsustainability on current internet media content was answered. Three characteristics of sustainability and unsustainability on daily media content, which were concluded from the collected media materials, were presented. In this section, the intention is to answer the following research question: "what kind of media literacy is imperative to confront the nuanced daily media content in terms of sustainability?" Two theories of media literacy were chosen to answer the above research question. First was W. James Potter's cognition theory of media literacy (2004a, 2004b, 2013). This theory addresses the internal cognitive process of an individual. It is hoped that this theory can help to find what kind of media education is necessary to encounter daily media content in terms of

sustainability. Secondly, the "Explore, Engage and Empower Model" (Alagaran II, 2015) was chosen to supplement the cognition theory. Alagaran II takes exploring, engaging and empowering as "three practical applications" (p.33) of media literacy. Potter's cognition theory provides some practical skills but it lacks the empowering concept which Alagaran II defined as:

> *create or produce, share or communicate, and use information and media content ethically, safely, and responsibly for decision making and taking action. (Alagaran II, 2015, p. 33)*

The empowering concept is important for citizens in the present media saturated world. Alagaran II (2015) emphasizes it as an important "exercise of our universal rights and fundamental freedoms" in our daily life (p. 34). Therefore, model of Alagaran II was applied because of its practical function. In addition, some López's (2014) recommendations for linking media education and sustainability together are discussed here.

5.7.1 The enhancement of personal locus

Personal locus and knowledge structures are two of important elements of media literacy which Potter states in his cognitive theory of media literacy (2004a; 2013). Personal locus is acted as the central hub of media content processing. It decides how much control people want to put on the media content. It is believed if people try to exercise more control on their daily media usage, their media literacy will also be higher (Potter 2004a, p.97). It also decides how much mindfulness people want to put on their processing of media content. One side of the spectrum is "a state of automatic processing where people employ default routines without thinking about them" (p. 98). The other side is a state that people are conscious of what they are doing and even monitoring themselves in the process of processing media content.

The operation of personal locus is based on "goals and drives" (p. 69) of people. Potter describes them as:

The goals shape the information-processing tasks by determining what gets filtered in and what gets ignored. The more you are aware of your goals, the more you can direct the process of information seeking. And the stronger your drives for information are, the more efforts you will spend to attain your goals. (2013, p. 17)

Sometimes, media might share the same goal as media users but, most of times, media and media users have different goals. Therefore, it is necessary for media users to escape from their "media-conditioned habits" (2013, p. 29) and develop new habits to follow their own goal. Since this study found a great myriad of media content related to unsustainability, it is clear that the goal of most media is against sustainability. To counter unsustainability on daily media content, it is necessary for media users to merge concepts of sustainability to their goals or set up a new goal towards sustainability. Potter (2013) states there are two reasons for people to examine their own goals. One is to clearly understand exactly what goals are. If goals are not clear, they will be hard to achieve. The other is to "to determine whether what you think are your goals really are your goals" (p. 426). As previously discussed, goals might be led by external factors, for example, media. It is vital to ensure what goals people desire. People need to set up a clear goal about sustainability. Since the scope of sustainability is broad and complex (see section 2.2), people should explore what kind of sustainability they believe. Also, they need to examine if their vision of sustainability is influenced by media or even provided by media. Only after determining goals can people actually evaluate the amount of "drive energy" (2013, p. 426) which is needed to consume to achieve goals. If people put enough drives to consciously control and be aware of what they use on daily media content, a stronger personal locus is definitely helpful to encounter the unsustainability on daily media content.

5.7.2 The enhancement of knowledge structures

Personal locus counts on "accurate and elaborate knowledge structures" (Potter, 2004a, p. 75) to maximize its potentiality. Knowledge structures are defined as "sets of organized information in

your memory" (Potter, 2013, p. 17). Knowledge structures include knowledge in five areas: media effects, media content, media industries, the real world, and the self. They are all beneficial for improve media literacy but here in this study only two related to this study are addressed in this section.

Media content is the first one deserved to be discussed. Potter states content formulas, aggregate figures, and values in the content are three kinds of information for constituting the knowledge structure about media content. The last one, "values in the content" is to urge users to investigate underlying values which are embedded in the media content (Potter, 2004a, p. 77). The analysis which this study did was very similar to the investigation of values in media content. It is essential to know what kind of value of sustainability and unsustainability people face on their everyday media. From this study, it was found that content related to unsustainability was still the majority on daily media content. Users should build up their knowledge structure by applying their own goals of sustainability to comprehend these values in the content.

The other knowledge structure is the self. Potter (2004) contends people cannot develop knowledge structures without knowing themselves. Developing awareness of finding people's own relationship with media create a unique knowledge structure. This knowledge structure about the self is very similar to personal locus but it extends more than it. It means in addition to setting up goals, people need to be aware of what their own styles of processing information are. In terms of sustainability, people can try to find out what are their ways to process content related to sustainability. They can also identify what are their advantages and disadvantages of the process. Furthermore, they should also scrutinize their media habits. They need to examine what kind of media they often use in their daily life. Do they prefer to use media which mostly provide entertainment content and might promote concepts and values of unsustainability such as what we found in this study? By doing it, people can explore and investigate if they have the needs to diversify and expand their choices of media usage. This awareness is directly connected with the quality of personal locus.

5.7.3 Practical skills

In addition to enhancing cognitive aspect of media literacy, skills are physical actions people can do to tackle sustainability and unsustainability on daily media content. In Alagaran II's (2015) model of media literacy, it includes three skills, exploring, engaging and empowering. Exploring is defined as "identify, access, and retrieve information and media content skillfully" (p. 33) and it emphasizes on the familiarity with the utilization of technology. Alagaran II defines the action of engaging as:

> *...critically analyze and evaluate media and information content in terms of media language through codes and conventions, and representations of gender, ethnicity, race, sexuality or religion. (p. 34)*

The results of this study showed media content in relation to sustainability encompassed an enormous complexity of values and concepts (see section 5.6). For example, gender played an important part in the findings. It was found to link with a myriad of topics such as appearance, body figures, sexual objectification, stereotypes and gender equality. This complexity correlates with what the action of engaging requires to be able to analyze and evaluate diverse content. It is imperative for media users to understand a great amount of topics in relation to sustainability and education should aim to remedy the possible gap.

The final skill is "empowering" which is defined as:

> *...create or produce, share or communicate, and use information and media content ethically, safely, and responsibly for decision making and taking action. (Alagaran II, 2015, p.33)*

At the present time media users are no longer in a passive role. Even though the media content examined in this study was mainly for one-way interacting, not two ways, it does not mean media users have to passively process the content, which might be mainly related to unsustainability and unrelated to environmental sustainability. Media users have enormous possibilities of acting in a more proactive way to confront sustainability on their daily media content. They are able to produce

media content promoting sustainability, boycott media outlets which provide content harming sustainability, share content involving positive content towards sustainability or communicate through media to execute citizenship in terms of sustainability. Potter (2004b) emphasized the importance of individuals for media literacy. He stated if a big change for media literacy's role in society and education happens, it will be "in response to a shift in demand for different messages from large numbers of individuals" (p. 267). This principle applies to the relationship between media content and sustainability as well.

It is worth mentioning a remarkable media literacy program in United States, Project Look Sharp, has been promoting the practical skills, which Alagaran II advocates, between media and sustainability. Project Look Sharp is a non-profit project which is initiated and aims to "promote and support the integration of media literacy and critical thinking into curricula at all grade levels and across instructional areas, as well as to evaluate the effectiveness of media literacy education in the schools" ("Project Look Sharp," n.d.). To achieve the goal of the project, they have been providing curriculum kits, lesson plans, trainings, and workshops to teachers and educators. Their free online lesson plan kits involve media and various topics such as culture, history and health. Among them, there are a series of kits connecting media and sustainability issues, which are similar to the scope of sustainability defined in this study (see section 2.2), together. For example, addressing social dimension of sustainability, a kit, *Media Constructions of Social Justice*, intends to help students to learn:

> *…how social justice movements have been perceived by the people in the United States and how the U.S. media has constructed that public perception. The subject areas covered include U.S. history, African-American studies, criminal justice studies, immigrant studies, labor studies, Latino studies, LGBT studies, media studies, peace studies, sociology, and women's studies. (Sperry, 2010, p. 3)*

Addressing environmental dimension of sustainability, there are several other kits to explore how media construct water, natural resources, biodiversity and climate change. Table 3 lists the names

of available kits Project Look Sharp provided in May, 2018. Taking the kit "*Media constructions of sustainability: Middle School*" for example, its aim is to help students to learn "how sustainability has been presented in the media with a particular focus on issues related to energy, biodiversity, climate change and water" (Sperry, 2015, p. 3). Through learning, students are expected to learn knowledge about sustainability in relation to these topics, develop critical thinking about how media present these topics, and shape their own opinions toward these topics. Project Look Sharp applies constructivist approach to design their materials (Sperry, 2015, p.13). With the proper guidance, they believe learners will be able to construct "their own meaning from the interaction between the document (video clip, web page, print article, etc.) and her/his own unique identity (age, experience, views, etc.)" (p.7). In terms of the perspective of lifelong learning, it is essential that education can help learners develop their own ability to use media, analyze media and interpret media messages in the future.

Project Look Sharp provides learners sufficient learning support in one kit. In a kit, it first has an overview for introducing the kit and an instruction for guiding how to use the kit. There are several units in one kit covering different issues related to the topic of the kit. It might differs slightly between different kits and units but generally each unit has its own lesson plan, student learning materials, teacher guide, PowerPoint and sometimes even supplemental resources. They have reading materials to ensure learners have enough background knowledge about each topic. They also choose not only authentic media materials but various types of media content for the process of decoding, discussion and construction. In addition to those, they also have units to help learners to produce their own media. The organization of these kits corresponds to Alagaran II's (2015) model of media literacy, which includes exploring, engaging and empowering. On a practical level, they also help to enhance personal locus and knowledge base towards both sustainability and media.

TABLE 3.   **The list of kits Project Look Sharp provided in May, 2018.**

Name of Kit
Causes of the American Revolution
Creativity & Aging Through the Lens of Film
Critical Thinking & Health: Nutrition and TV Commercials
Economics in U.S. History: A Media Literacy Kit
Global Media Perspectives
Introducing Africa: Critical Thinking and Media Literacy
Media Constructions of Global Warming
Media Constructions of Martin Luther King, Jr.
Media Constructions of Peace
Media Constructions of Presidential Campaigns
Media Constructions of Social Justice
Media Constructions of Sustainability: Fingerlakes
Media Constructions of Sustainability: Food, Water, and
Media Constructions of Sustainability: Lower Elementary
Media Constructions of Sustainability: Middle School
Media Constructions of Sustainability: Upper Elementary
Media Constructions of the Environment: Chemicals in the
Media Constructions of the Environment: Endangered
Media Constructions of the Environment: Resource
Media Constructions of the Middle East
Media Constructions of War: A Critical Reading of History
Soviet History Through Posters: A Visual Literacy Kit

6.7.4. How to enhance relationship between media literacy and sustainability

López's (2014) some recommendations in his book, *Greening Media Education*, can be used to optimize Alagaran II's (2015) model of media literacy, especially on engaging and empowering. López gives specific instructions concerning how to enhance relationship between media literacy and sustainability. His some concepts relevant to this study are extracted and discussed to prevent

future pitfalls here.

López points out the importance of reconceptualizing language. Language shapes how people "formulate their worldview and constitutes the primary meaning design of the media literacy ecosystem" (p.119). At present, the dominant language keeps reinforcing "the industrial-era communication model that approaches communication as a process of transferring self-contained packets of information from one autonomous mind to another" (p.119). It does not encourage people to become active, critical and independent media users. López affirms language is an organic system and it has the potentiality to "respond to our changing world and evolve our practices by repurposing ecological language" (p.125). Shifting the ideology behind language can help to connect media and sustainability on a cognition level and on a practical level.

Also, López advocates media users should view media "as a place" from an ecosystem perspective, not from a mechanic perspective (p. 126). According to his analysis, he indicates the problem as "the media as a whole is conceived as a separate place to which none of us are native" (p.118). In traditional theory of media literacy, the role of media users is sometimes passive and it is usually situated externally outside of the system. It lies at the root of mechanic perspective. Instead of that, López promotes media users should be "viewed as inhabited members" (p.126) in media system. Because media users are inhabitants in media system, they will have more need and desire to actively get involved in it. They might be more willing to commit themselves to acting in different aspects of media system and therefore they can "go beyond the acquisition of technical skills". López concludes how to view media as a place from an ecosystem perspective as:

> *I suggest that media be thought of as a kind of augmented reality with affordances, rather than a place that exists elsewhere. This would shift the emphasis of media literacy from the analysis of messages to include a broader discussion of the impact of media on our sense of time, place and space. Moreover, learners would be encouraged to connect the relationship between media and their particular local environment. (p.126)*

In addition, like Potter (2004), López also mentioned the necessity of a thorough examination of

ideologies on media (p.128). Ideologies behind different media can vary hugely, for example, from technocentrism to ecocentism. The former one believes technology can save human from all environmental problems and the later one thinks environment should be human's primary concern compared to economic growth. Taking this research for example, if users just browse photos of celebrities without identifying the objectification of women, as time goes by, users might take it as a norm. It is important for media users to investigate what ideology meets the goals of sustainability and what they can choose to believe in to improve the connection between sustainability and media. On a practical level, if it is too difficult to dig out the ideologies behind all the media people consume, it is imperative that people should diversify the media content they consume. By processing various media content, people are not limited to one specific ideology which one media gives. Also, as sustainability is an evolving concept and the definition of sustainability has been changing, increasing the diversity of people's media content usage is undoubtedly significant.

6 CONCLUSION

This study intended to explore sustainability and unsustainability on daily media content. A coding frame was developed to answer research questions. The final coding frame was developed from previous literature, which was related with the scope of sustainability defining in this study, and also collected media content from Snapchat Discover channels. Three characteristics were indicated. A scarcity of content related to environmental sustainability was found. It meant no content related to environmental sustainability was found from the collected media content. Coinciding with the review of previous media research and the public's prejudice, dominance of unsustainability on media content was obvious from the result. Media content in relation to "gender" and "consumption and production patterns" were the frequent themes in terms of unsustainability. Surprisingly, there were also a few positive exceptions of content related to sustainability. For example, positive themes in relation to sustainability were found both under the categories of "gender" and "consumption and production patterns". It indicated media content did not merely include content in relation to unsustainability.

From the results of this research, it is clear that media do reflect the real world. Sustainability has been promoted by United Nations and other institutions for decades (UNESCO, 2005a, 2014; United Nations, 2007, 2013, 2015; WCED, 1987). It is a term people often use and hear. However, it is still not in the mainstream place of our society. Unsustainability still prevails. Moreover, the significant element of sustainability, environment, was totally absent from media content. To some extent it reflected the insignificance of environment in our society.

This study was hoped to contribute to the gap between media education and sustainability and provide implications for media education. As sustainability is undoubtedly indispensable for our

society, world and even the earth, it links with everything. Media including all kinds of forms should be taken into consideration. Especially, media is so ubiquitous in the present. As the results in this study indicated generally unsustainability overwhelmed sustainability in our daily media content, media users need to be mindful about what they use on media. On a cognitive level, this study suggested users can set up a personal goal towards sustainability, raise their awareness towards media content and also learn as many concepts related with sustainability as possible. On a practical level, the model of exploring, engaging and empowering was suggested (Alagaran, 2015). López's (2014) some concepts were also taken to suggest how to enhance the connection between media education and sustainability. In sum, media users should learn to criticize and examine media content on different topics in relation to sustainability. Furthermore, they should adapt the empowering skill and proactively involve in the creation and production of content.

This study was conducted as an exploration study to connect media and sustainability. Hence it certainly has limitations and deserves following examinations in the future. Because of a limited scope of a master thesis, this study could not conduct a longer period of time for data collection and did not include media in some forms. Since nowadays people are deeply saturated with media, examinations on different media are believed to be able to provide other aspects of insights. As sustainability and media education are both on-going evolving concepts, it is expected sustainability will link with media education in various ways. It is hoped the missing link between media education and sustainability will be further remedied in future research.

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