

# Digital Literacy as the New Dimension in Measuring Advertising Literacy: Towards a “Super Smart Society”

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**Abstract.** A ‘super smart society’ is a core concept from Society 5.0 inspired by the Japanese Government which aims to develop both information and human-centered societies. Since the society, in general, is becoming increasingly digitized and technology connected- this study aims to define digital literacy as a new dimension in measuring the advertising literacy towards to one of the visual pollutants – *fly posters*. To represent the low-income society distribution, a total of 574 respondents from five (5) Public Housing Program (PHP) were selected. The study was guided by the combination of both media literacy theory and an advertising literacy model. Findings revealed that the low-income society are comprised of highly advertising literate individuals due to digital technological factors. The discussions of this study add on to the debate on how digital literacy and collaborative efforts can be crucial in developing an intelligent society, the ‘super smart society’, the Society 5.0.

**Keywords:** Digital Literacy, 21st century skills, B40, Low-income, Malaysia, Society 5.0, Fly-posters, Advertising

## 1 Introduction

The technology advancement today in the 21<sup>st</sup> century has created a media suffused landscape which enables an open access for the digital society. The ability to engage with media and technology has expanded the circle of communication among the digital society which allows them to collaborate and make individual contributions on an unprecedented scale. The interwoven nature of media and the rapid-moving pace of technology has an enormous power to influence the society in disseminating information and obtain new literacy skills. A study by [1] once debated on how literacy is not just the ability to read only ‘text’ but the question on “[w]hat does the society do with their literacy skills?” is more important. Literacy skills need to be constantly developed and in synchronised with the latest communication technologies from just a plain ‘text’ to any concrete and virtual form expressed by the means of media [2]. The three

most recent concepts of literacy which demands additional attention in today's 21<sup>st</sup> century would be media literacy, digital literacy, and information literacy [3][4][5][6].

As the world is set to be conquered by the digital era, digital literacy skills are significantly relevant and important. It is not just the skills to use a digital device or a computer software, but also the combination of several soft skills such as cognitive, motor, sociological and emotional abilities in utilizing technology efficiently in the digital environments. The role of technologies is needed in developing intellectual communities as literacy, media, and technology helps and challenge the individual to understand the current and present digital cultures and how the world is in constant flux [5][7][8][9][10]. Since this study is focused more on visual materials, a more specific skill - digital visual literacy— a combination of digital and visual is discussed. Digital literacy can be defined in three concepts: i) the ability to critically define digital visual materials (two-dimensional (2D), three-dimensional (3D), static, and moving) ii) the ability to make intellectual judgments based on the visuals; and iii) the ability to operate a device in producing effective visual communications [11].

Digital literacy skills are crucial since the technological revolution shapes how the community consumes media since it constantly evolves with technology seamlessly. This study discusses the digital literacy of the low-income society towards one of the visual pollutants – *fly posters*. Fly poster or commonly known as 'bill sticking' or 'wild posting' is an innovative, unconventional, subversive, unorthodox, and low-cost marketing technique categorized under guerrilla marketing commonly seen as a visual pollutant defacing illegal public spaces which is technically illegal [12][13][14]. Generally, the targeted spaces to be visually polluted with fly posters would be the low-cost residential areas due to the high-density population and high frequency of visibility. In the advertising landscape, this marketing strategy is proven to be most effective since the frequency of exposure is high, yet the pattern of exposures created by this medium sets up the condition as a public nuisance in the neighborhood [14][15][16]. In today's media-driven world, it is thought-provoking to define whether the low-income society are digital literate since the competitiveness and intrusiveness of these visual messages are available to lead to a clutter of information.

Different individuals have different sets of media schemata and the spontaneous responses towards all these persuasive attempts need to be answered [17][18]. Thus, in any case, the community needs to acquire DVL literacy skills in order to recognize the visual pollution present in the digital environment today [19][20]. If Industry 4.0 demand humans to adapt technology in generating knowledge and intelligence, Society 5.0 demands knowledge and intelligence to be power-driven by digital technologies such as robotics, and artificial intelligence (AI). The concept of Society 5.0 envisioned by Japan integrates cyberspace and physical space to transform the world into a new paradigm and create a major shift in the society. The concept of Society 5.0 seems to inspire enthusiasm in every corner of the world, and it is thought provoking to discuss whether Malaysians, specifically the members of low-income society are equipped to become a 'super smart society' towards the concept of future development Society 5.0.

## 2 Objective

The main objective of this study is to define digital literacy as a new dimension in measuring the advertising literacy of the low-income society in Malaysia towards to one of the visual pollutants, the *fly posters*. The study explores the adoption and adaptation of digital technologies among the low-income society and how it plays a role in measuring the advertising literacy. This study focuses on the increasing need to add digital literacy as the new dimension in measuring advertising literacy to fit the needs, wants, and desires of twenty-first century society specifically the low-income society. A proposed new model of advertising literacy is introduced in this study.

## 3 Methodology

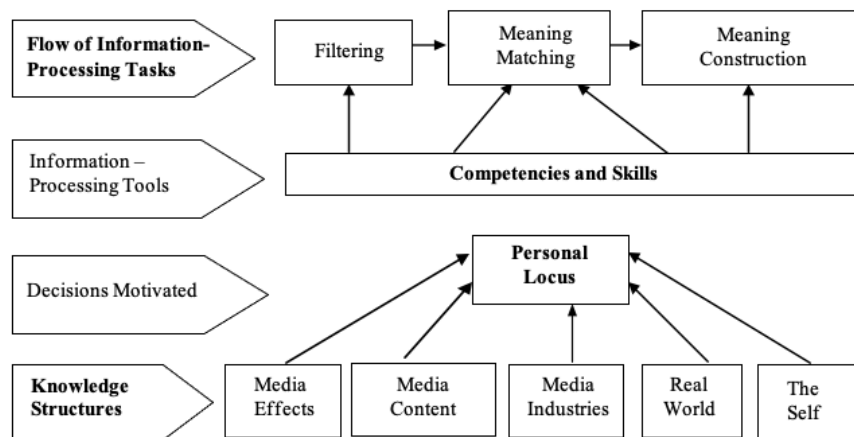
Malaysian citizens are classified in three household income groups: Bottom 40% (B40), Middle 40% (M40) and Top 20% (T20). Based on the official portal Ministry of Housing and Local Government (2020) [21], the low-income category refers to households with an average monthly income of less than RM 4,360 or about USD 1,048. This also includes poor households with monthly income less than the Poverty Line or *Pendapatan Garis Kemiskinan (PGK)* income. The current national PGK value is RM 620.00 or USD 150 per month. According to the official portal of Department of Statistics Malaysia (2020) [22], the total population in 2019 is approximately at 32.58 million. The population in Kuala Lumpur, the capital city Malaysia, alone is estimated to be at 1.78 million. To represent the low-income or locally known as the B40 (Bottom 40%) distribution, respondents from the Public Housing Program (PHP) located in the Klang Valley, Kuala Lumpur were selected. The PHP or *Projek Perumahan Rakyat (PPR)* is a program by the Malaysian government for squatter re-settlements to fulfill the needs for the low-income community. A total of 574 respondents from five locations of the Public Housing Program (PHP) located in the Klang Valley, Kuala Lumpur Malaysia were selected. According to the statistics by the Ministry of Urban Wellbeing, Housing, and Local Government (2015) [23], the total population of PHP residents in Malaysia is 60,291 and of which, 30,276 of them are in the Federal Territory of Kuala Lumpur. In relation to this study, an instrument based on the theory of media literacy [24] and an advertising literacy model (Malmelin 2010) was developed to define the literacy of the low-income society.

### 3.1 Theoretical Framework

The study was guided by the combination of media literacy theory [24] and an advertising literacy model [20].

### 3.1.1 The Media Literacy Theory (Potter 2004)

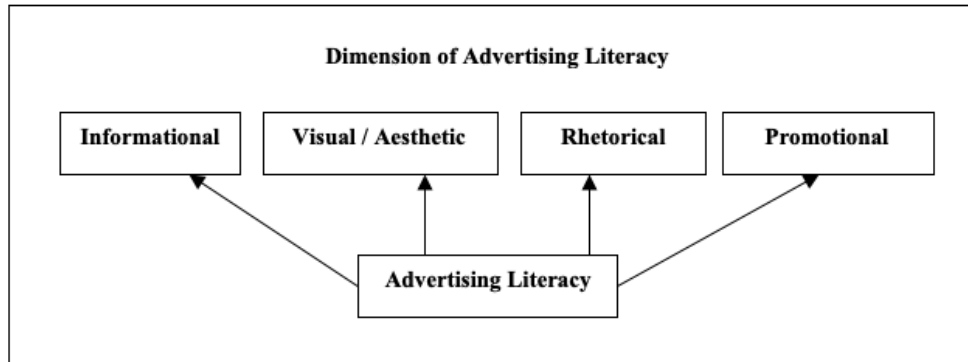
The Media Literacy Theory [24] as shown in **Figure 1** argues the importance of being media literate in the media-driven world due to primarily the umpteen of media information available. [24] defines that a media literate individual should fulfill these four dimensions: i) knowledge structures ii) personal locus iii) competencies and skills and iv) information processing. Each dimension is equally important to measure the media literacy of an individual.



**Fig. 1.** Theory of Media Literacy (Potter 2004)

### 3.1.2 Advertising Literacy Model (Malmelin 2010)

This study also adopted the dimensions from an advertising literacy Model by Malmelin [20]. This model as shown in Figure 2 specifies the four dimensions – i) information literacy ii) visual literacy iii) rhetorical literacy and iv) promotional literacy. These dimensions are interrelated in defining the advertising literacy of an individual person. The model provides a framework on how to measure advertising literacy as [20] defines advertising literacy as “the consumer’s ability to understand advertising and to recognize various types of commercial phenomena in the media”. In relation to this study, the advertising literacy of the low-income society are measured towards one of the commercial phenomena, the visual pollutant, *fly posters*.



**Fig. 2.** Advertising Literacy Model (Malmelin 2010)

### 3.2 Research Instrument

The development and validation of the research instrument (questionnaire) was constructed based on the dimensions extracted from two theories: the theory of media literacy [24] and the advertising model [20]. The reliability of the research instrument applied the Cronbach's alpha as a statistical treatment to establish reliability coefficient [25][26][27][28]29][65]. The reliability analysis of the constructs in the instrument used in this study as shown in **Table 1** below indicates that all constructs are accepted in terms of reliability.

**Table 1.** Reliability Analysis of Research Instrument

Theory	Dimensions	Cronbach Alpha Value ( $\alpha$ )
<i>Theory of Media Literacy</i>	Knowledge Structures	.752
	Personal Locus	.777
	Competencies and Skills	.767
	Information Processing Tasks	.725
<i>Advertising Literacy Model</i>	Informational Literacy	.770
	Visual / Aesthetic Literacy	.730
	Rhetorical Literacy	.782
	Promotional Literacy	.755

Primarily, it is essential to measure the collection of meanings discussed within the concept. The content and construct validity of the research instrument for this study were determined according to the advertising literacy indicators generated from the combination of theories. The validity demonstrates the importance of the construct to explain the relationships of the research outcomes and predict future relationships.

All the dimensions involved had to be related and covered thoroughly [30]. Thus, a direct measurement is achieved by asking a group of experts in the research field to examine a measurement instrument to judge its merits [31]. Hence, the instrument was constructed and modified with the help of eight (8) experts in the field of media and communications.

## 4 Findings and Discussion

Table 2 shows the demographic background analysis of the low-income society, while Table 3 displays the digital technologies engagement among the low-income society.

**Table 2.** Demographic Background Analysis of Low-Income Society

Demographic	Details.	Frequency (F)	Percentage (%)
<i>Age</i>	Below 20 years old	68	11.8
	21 years old – 30 years old	175	30.5
	31 years old – 40 years old	108	18.8
	41 years old – 50 years old	117	20.4
	Above 51 years old	106	18.5
<i>Education</i>	High School (SPM / SPVM)	232	40.4
	Middle School (SRP/PMR)	104	18.1
	Diploma	79	13.8
	Others (e.g. Primary School / Certificate )	238	27.7
<i>Occupation</i>	Private Sector	175	30.5
	Unemployed	106	18.5
	Self-Employed	108	19
	Government Sector	68	12
	Others (e.g. Retiree)	117	20
<i>Monthly Income</i>	Below MYR3000	468	71.6
	Above MYR 3001	106	28.4

**Table 3.** Adaptation of Digital Technologies by the Low-Income Society

Digital Technology	Digital Items	Percentage (%)
<i>Digital Devices</i>	Smart Phone	79.6
	Tablet (e.g. Ipad)	8.7
	Laptop / Desktop	12.9
<i>Digital Communication Platform Social Media</i>	WhatsApp	76.0
	Facebook	56.6
	YouTube	31.5
	Others	10.6
	(e.g. Twitter, TikTok, Line, Telegram )	
<i>Internet Usage</i>	Less than 6 hours per day	61.7
<i>Technology Updates</i>	Awareness / Alertness on current and new trend of technology (e.g. New gadgets, softwares, AR/VR, apps)	92.2

N = 574

#### 4.1 Digital Device

Based on the analysis, despite the lower education background and minimal monthly income, the low-income society proved to be able to adopt and adapt with digital technologies. The Internet and advances in digital technologies fundamentally are transforming the current communication [32][33]. As regards to mobile technology, evidently, the adoption of smartphone seems to be a necessity amongst the respondents in the low-income society. This is primarily because smartphones are designed as the most convenient technological device which has thoroughly shifted the cultural norms and societal behaviors. A total of 79.6% are more likely to be smartphone-dependent, in which one's only means of accessing the Internet. This suggests that smartphones have been justified as a vital hub especially its latest incarnation, which has provided digital convergence to a new level [32] and act as both a bridge and barrier to overcome the digital divide [34]. The umpteen smartphone mobile applications or commonly referred to as an app are available depending to the users' preferences. The plethora of applications available via smartphone is usable and functional for multitude of purposes in an individual's daily life. Smartphone applications can be categorized into communication, entertainment, informational, social media, educational or even utility as each apps developed are different depending on the types and technologies.

#### 4.2 Digital Communication

Findings of this study also reviews the low-income society's in digital and social media communication settings. Undoubtedly, using the Internet, social media, smartphone and other digital communication technologies has become part of the low-income society's daily lives. Despite the majority monthly income of RM 3000 and below (approximately USD 722), the adoption and adaptation of digital communication are indeed a necessity. With an average usage of the Internet of less than six hours daily, findings shows that the low-income society

are actively on social media apps, specifically on WhatsApp with 76% of the respondents using it. WhatsApp, a cross-platform instant messaging application tends to be the most active application amongst the low-income since it allows users to communicate and connect locally and even internationally by sharing and receiving information utilizing text, voice messages and video conference calls. Facebook is also a popular social networking platform among the low-income society with a total of 56.6% followed by YouTube, 31.5% and other social media platforms such as Twitter, TikTok, Line and Telegram. All these are open access platforms, which is open to all layers of society, and most of the population are social media users. The thought-provoking question is no longer “are you on social media?” but rather “why are you on social media?”

There are many purposes to this question. [35] stated that one of the reasons they are on social media is their role as consumers. On social media, consumers seek new and current information about products, communicate knowledge and experience about certain products (e.g. reviews, testimonials) which leads to their purchase decision making [35]. Their participation in such activities is a great reflection and expanded set of ways in which they may demand to represent themselves to others [35][36][37]. This is also supported by [38] how technology empowers the consumer to use all the social media and/or networking platforms to verify products or services, and to criticize them in equal measure. Social media has transformed the way a consumer communicate since the Internet as well as the virtual communities have broad access to information, improved social networking, and enhanced communication abilities [38][39][40]. The power of social networking platforms also justifies playing a significant role in influencing a consumer’s behaviour in the virtual environment specifically in purchase decision-making [38][41]. Since the low-income society are highly aware of digital technology updates (92.2%), the flexibility of communicating using technology and digital communication platform, with productive features using Internet connectivity certifies that technology has permeated the life of the low-income in today’s 21<sup>st</sup> century.

### **4.3 Advertising Literacy Level of the Low-Income**

The indicators extracted from the theories were addressed to measure the advertising literacy of the low-income society in relation to the consumption of fly posters. The literacy level is measured by defining the mean scores [42]. Findings justified that the low-income society are defined as highly advertising literate individuals based on the dimensions tested. The findings are in sync with the 21<sup>st</sup> century skills requirement which demands the society to acquire the abilities and skills to assess, analyse, evaluate, and be critical analysts of the various media available today [43][44][45][46][47][5][24]. Thereby, this study revealed that the low-income society have justifiably met the requirement. In the context of the visual pollutant – *fly posters* dominating the neighborhood, the study has proven that the low-income society are advertising literate individuals, and are able to make intellectual judgments and purchase decisions towards this particular medium. Table 4 below displays the mean scores of each dimension.



**Table 4.** Mean Score (Advertising Literacy Level)

<b>Variable</b>	<b>Mean</b>	<b>Literacy Level</b>
<b>Theory of Media Literacy (Potter 2004)</b>	<b>4.195*</b>	<b>Very High</b>
Knowledge Structure	4.104*	
Personal Locus	4.234*	
Competencies and Skills	4.205*	
Information Task	4.235*	
<b>Advertising Literacy Model (Malmelin 2010)</b>	<b>3.468*</b>	<b>High</b>
Information Literacy	3.128*	
Visual Literacy	3.143*	
Rhetorical Literacy	3.705*	
Promotional Literacy	3.899*	

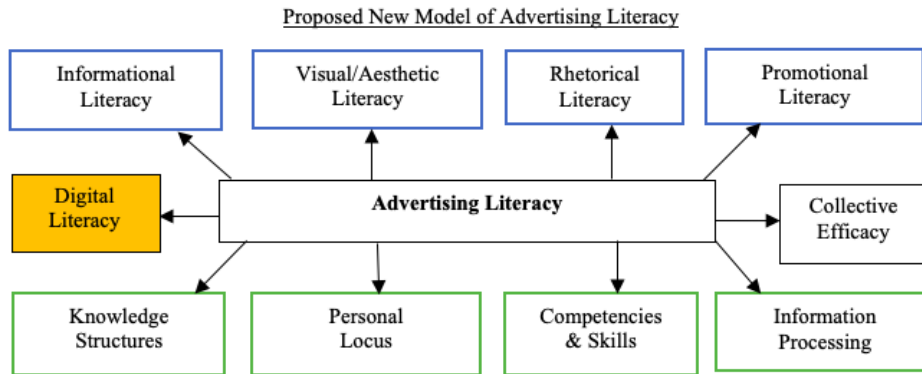
N=574

\*Mean scores:

1.00 -2.00 (Low), 2.00-3.00 (Average), 3.00-4.00 (High), 4.00-5.00 (Very High)

Source: Mohd Hasril et al. 2016

Since being media literate is a necessary skill in this time and age, the technological factor could be the contribution in determining the literacy level as literacy scholars are aware of the technology's significant role in literacy development [5][48][49][50][51][52][53]. The role of technologies is vital in developing intellectual communities as literacy, media, and technology help and challenge the individual to understand the current and present media patterns and how the world is in constant flux [5][9][10]. In fact, the low-income society's maturity in implementing technologies could generate contributions towards digital economy [54]. A study by [10] even produced a merged term 'literacy-media-technology' to explain how technological factors are related to literacy and media. According to [4], "the role of an individual towards technology is a skill" is referred to as digital literacy. In depth, it is the ability to understand, analyse, assess, organize, and evaluate information using technologies. In fact, the study discussed that one of the advantages of being a digitally literate person is it helps to improve the communication skills with the society as well as increase an individual's efficiency. It is a survival skill in today's media driven world as the skills involve a diversity of intense cognitive skills, motor, sociological, and emotional abilities which produce problem solvers and literate-manner individuals [55]. Findings have revealed that digital literacy is highly relevant, important, and should be added on to the current dimension in measuring advertising literacy level in today's digital environment as shown in Figure 3. This is supported by [48][49][50][51][56] who posit that digital literacy is one of the components of life skills which can be used as an indicator in "measuring the information society".



**Fig. 3.** Proposed New Model of Advertising Literacy

#### **4.4. Visual Pollution – Fly Posters**

This study justifies the low-income society as a highly advertising literate individuals. However, it is not satisfactory to justify why the visual pollutant – *fly posters* are still dominating and contributing to the poor reputation of the low-income community neighborhoods. Scholars have agreed that collective efficacy has a significant relation with the reputation of a neighborhood as one of the factors of neighborhood’s reputation would be the collective efficacy [57][58][59][60][61]. This study defines that the low-income society are measured as highly advertising literate individuals, with high self-efficacy, and yet with very low collective efficacy. [62] states that the low-income community are expected to have lower levels of collective efficacy due to the lower social cohesion and control in the community. Self-efficacy is not a skill, but it is more on the “what can be done with that skill” [63] and collective efficacy is the social unity among the community (social cohesion and trust) in achieving common goals [64][65]. These two elements are incorporated in determining the advertising literacy level as it provides a good indicator in clarifying media issues happening in the low-income neighborhoods today. Thus, self-efficacy and collective efficacy is incorporated along with the literacy level as a measure of the low-income community’s perception and connection amongst themselves. It is important that the low-income society have strong social unity within the society in achieving the common mission and vision. In fact, these components are critical in shaping the future of low-income society in moving towards digitalisation.

## 5 Conclusion

A large part of the media landscape consists of advertising. With the expansion of communication, the society in the digital era today are influenced by the diversity of messages that persuade as well as intoxicate us through the most varied forms of media. This study justifies that how visual pollutants – fly posters, use its strategic maneuvers, aimed at the low-income society demands attention and taking advantage of the socio-economic status in order to sell essential products and services. The discussion in this study clearly defines how advertising literacy skills for critically adapting with incalculable advertising are indispensable and *collectively, shed light on how the low-income society are influenced by the digital environments*. The study also emphasizes an increasing need to add on digital literacy as the new dimension in measuring advertising literacy. In the light of the above analyses, the study addresses the subject of digital literacy and define how it has been updated to fit the needs, wants and desires of twenty-first century society specifically the members of the low-income.

Digital literacy is defined as an essential skill as the society is living in an era of unprecedented change. Being digital literate plays a crucial role in transforming the low-income society towards becoming a ‘super smart society’ in the Society 5.0. Since the world is moving forward towards the concept of digitalisation, the low-income society needs to grasp a broader understanding of digital literacy by utilizing the skills to collectively adapt and adopt digital technologies by transforming the same interests and concerns to solve societal issues in parallel. Being digital literate is not just about navigating technology for personal satisfaction, but the quest of maximizing the skills for the society so it will be a shared value that is beneficial for the society. The social unity of the low-income should be strengthened in order to implement technology wisely to meet the demands and challenges of living in a digital society. To grasp the concept towards the ‘super smart society’ of the low-income is possible, however transforming the future society towards digitalisation in ensuring the stability, reputation, and social environment of neighborhood is a collaborative effort. Since the future is expected to be a new era of digital innovation, digital transformation, and social unity are crucial in defining intelligent society, the ‘super smart society’ or the Society 5.0. Several directions for future research are advanced to encourage researchers to consider a broader range of phenomena specifically in the field of consumer research in digital environments.

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