

Digital Terrestrial TV in Philippines: What is in for the media consumer?

Rex Mervin P. Ramos

School of Graduate Studies

Mapúa University

Manila, Philippines

rmpramos@mymail.mapua.edu.ph

Rene D. Estember

School of Industrial Engineering and Engineering Management

Mapúa University

Manila, Philippines

rdestember@mapua.edu.ph

Abstract

The broadcast industry sector in the Philippines is mandated by the government to adopt and implement the digitization of television networks. Various networks have conducted studies on technical aspect but not on media consumer's watching preferences. This paper studied the media consumer's preference in watching television. A survey questionnaire method was used to determine and identify the preference and significant key factors of the media consumer. Socio-economic factors like age group, job specification and financial status have several considerable impacts on digital terrestrial television implementation. Preferences on television viewing are identified to come up with a socio-economic business model.

Keywords

digital television, media consumer, set-top box, socio-economic factors, business model

1. Introduction

The Philippines, with more than 14 million television (TV) households nationwide relying on free to-air (FTA) analog TV broadcast, is currently on its way towards digitalization of the broadcast sector industry officially adopting Japan's Integrated Services Digital Broadcast - Terrestrial (ISDB-T) as the sole standard of Digital Terrestrial Television Broadcasting (DTTB) services in the country. On February 14, 2017, the ceremonial Digital Switch On (DSO) marks officially the start of the comprehensive nationwide implementation of DTTB. The digital switchover will mark a new beginning of the disruptive technology that forces the restructuring of the broadcast industry and adopt to the changes (Galperin, 2002). Digital migration is a complex socio-technical endeavor (Shin, Song, 2012) that must be a mutual effort of the government and the mass media; this will create an inequality among the people in accessing the digital technology, and gives rise to the so called "digital divide" among the members of the society. It also presents a techno-analytic approach (Cambini, Garelli, 2011) in utilizing the digital frequency spectrum assessing the opportunity cost bring about by the digital dividend.

In the Philippines, since the early 2000s, studies about digital television transition has been carried out. Only in 2013 that Philippine government, through The National Telecommunications Commission, announced to adopt the Japanese DTV; "Integrated Services Digital Broadcasting – Terrestrial" as the chosen DTTB among other competing standards for digital television. The analog shut-off (ASO) is set to take effect last December 31, 2015 and was moved to year 2023 as part of migration plan, given that technical standards, implementation plan, government policies and regulations as well as fiscal considerations of the country did not materialize. The same scenario happened all over the world with the attempt to fully enforce the all-out digitalization of the broadcast sector, the government is unlikely to meet the analog shut-off target date (Bazon, 1999, Galperin, 2002) due to political, economic, social and policy issues. As per National Telecommunications Commission (NTC), DTTB in the Philippines is on the provisional

broadcast. Major television stations are broadcasting test channels in selected coverage zones, and are mostly on urban areas. Consequently, set-top box (STB), the primary equipment to receive terrestrial broadcast signal, is out in the market for consumer to experience digital TV. Generic and branded STBs are advertised to promote the technology before the full digital takes over in the future as mandated by the Philippine government.

The global popularity of digital television increases gradually from 2010 to 2015. With the advent of digital switchover, the Philippines is at the crossroads of broadcast industry evolution lagging behind other countries in advancing broadcast industrialization. The scenario leaves the burden to the stakeholders (i.e. TV viewers and station owners, shareholders, suppliers and customers which the business draws its resources), whether to embrace the technology or leave it behind. Likewise, the case of digital switchover in China creates a huge impact to the socio-economic development of Chinese media consumer due to the policy of uniform transition by compulsory starting in small cities informing of system upgrade with modest increase in charge leaving the migration process not an enjoyable experience for several urban households (Starks, 2010).

However, most studies on digital terrestrial television mostly pertains on theories, technical aspect and general standpoint of this new trend in broadcast sector industry. Meechan (2001) elaborates the importance of design process in fully-automating the digital platform in terms of control, complexity and cost. Goldsmith and Adams (1996) stresses the application of integrating video-servers with multi-channel automation. In the Philippines, the study on digital television is yet to commence, since the digital TV technology is fresh for the industry to practice. Only the government through the Department of Information and Communications Technology is conducting the study on digital TV implementation (Digital TV Summit Philippines, 2017).. However, no studies focus on the level of consumer's inclination and acceptance of the digital TV which is an important factor in business strategy formulation bring about by the digital innovation.

Therefore, the aim of this paper is to provide an in-depth perspective on the media consumer of digital terrestrial TV. The objectives of this paper are the following: 1) to determine consumer's preferences on digital terrestrial television; 2) to identify the significant key factor(s) in digital terrestrial television stakeholder experience based on the TV viewer's preferences; and 3) to propose a socio-economic business model on the digital terrestrial television switchover.

2. Review of Related Literature

With the implementation of DTTV around the globe, digital terrestrial TV technology is at the forefront of national policy. Policies that should be uniform, without ignoring the benefits of the consumer, enabling a healthy and sustainable development of digital TV (Xing et al, 2009). Shin and Song (2012) elaborate the importance of collaboration between social and technological entities by the industry stakeholders based on the stages of digital broadcasting development. Thus, Martinez and Andugar (2010) expound the importance of the citizen's behavior towards DTV in the likelihood to materialize the plan for digital switchover. The subsequent popularity of digital TV replacing analog TV, various issues arise from the economic perspective of the disruptive technology bringing out the digital divide in the society. Cost is a major stand point it the proliferation of digital TV audience (Quico, 2012). To pay for services that are bound to enhance the TV viewing experience, is to answer the question of digital TV acceptance among viewers. On the other hand, the rampant use of mobile technology is one solution to bridge-out the digital divide in the implementation of digital switchover (Srinuan, Bohlin, 2012). With the use of DTTB, personalization of TV listing through electronic program guide (EPG) is viable (Smyth, Cotter, 2000) distinguishing the predilection of information wanted by the consumer. On the other hand, Interactive Digital Media (IDM) can be manipulated to allow digital interaction among other DTV users, thus, broadcast TV stations using scenario planning (SP) rather than predicting the future can make use of SP approach in supporting the strategic decision making of executives in the broadcast digital industry (Sharma, Yang, 2015). In addition, Moor et al, (2014) emphasizes the application of innovation foresight towards the future of TV viewing experience in satisfying the necessities of the consumers. A further potential opportunity in the migration is the use of TV whitespace in the frequency allocation spectrum (Lawson, 2014), the legacy block frequencies can be utilized for broadband services with the growing demand for mobile internet access (Cambini, Garelli, 2011).

On the other hand, with the features and opportunities that the digital television technology is bragging about as compared to analog TV technology, the consumers should have the awareness of the disruptive technology, as the migration will impact the way traditional TV watching is done. Hence, Muvaka (2015) investigates the impact of

digital TV in Kenya. The study shows the primary role of the media consumer in the implementation of digital migration process focusing on the set-top box or digital receiver as an essential equipment for the successful takeover of digital TV further emphasizing the responsibility of the government and the function of the people's awareness to the successful digital TV execution. Consequently, digital divide is an economic and social inequality with regard to access to modern information technology and those who do not. The government plays an important role in ensuring that no one is left behind the digital exodus. Collaboration among stakeholders and balanced action plan will lessen the barriers that hinder the fast transition to digital TV, thus, taking advantage of the advanced network services at an earlier time prior to the analog shut-off (Burbridge & Maguire, 2009). Furthermore, Watanabe et al, (2003) argued that the delayed switch of analog to digital TV substitution can lead in loss of national competency.

The socio-economic roots are two distinct elements involving economic and social factors which crucially affect the diffusion of digital television where cost has an adverse effect in broadcast innovation process such factors are subjective like perceptions and interests of the media consumer (Menezes et al, 2005). Mbatha and Lesame, (2012) argued that the digitalization of broadcast industry sector in South Africa helps to accelerate economic growth and achievement of social development goals to eradicate poverty, in relation to the additional services that digital TV can offer through more choice of channels and content that promises to deliver more information and educational programming. On the other hand, the arrival of digital technology revolutionized the social practice of watching TV due to the aesthetic and spectacular extent of television in relation to the media consumer's commitment to the benefits of customization (Tay & Turner, 2010). Hence, the audience as a commodity is socio-economic perspective from the commodification of audience as a business model behind Television operation (Jennes et al, 2014). In China, the policy of uniform transition has brought a huge impact on the socio-economic dimension. The role of state funding hastens the migration process and high subscription rate but left many urban households unhappy of the experience (Starks, 2010).

3. Methodology

3.1 Data Gathering Procedures

A questionnaire survey method was used to gather the data from respondents (Malhotra, 2010). The Likert scale was used to qualify and rate the respondent's assessment on digital terrestrial TV transition using fixed choice response formats and are designed to measure attitudes or opinions (Bowling, 1997; Burns, & Grove, 1997). The rubric measures the interval from 1 to 5 by asking the extent to which they agree or disagree with a particular question or statement. The survey questionnaires consist of 35 items divided into three parts namely: background information, components of TV viewing and media consumer viewing preference. Eight questions are allotted for background information used to identify the general profile of the participants categorized by gender, age group, educational attainment, occupation, financial status, place of residency, awareness on digital TV and acquisition of digital receiver or set-top box as a primary tool for digital terrestrial TV reception. On the other hand, fifteen questions are given to the components of TV viewing divided into three parts. The first and second part refers to the preference on TV viewing and expectations on digital TV; comprising of five questions respectively. The third part of the components of TV viewing refers to the digital TV equipment composed of five questions of which two questions asked for the cost and likelihood of availing the digital TV equipment. The third and last part on components of digital TV are the questions on DTV equipment. The third part identifies the opinion on the prices of digital TV equipment such as the set-top box or digital receiver and high-definition TV sets; and the likelihood of purchasing the equipment for more added TV viewing features.

Subsequently, the item on digital TV viewing preference is the last part of the survey questionnaire primarily aimed to know the predilection of the consumer in digital TV viewing experience, hence, the question on this part is a combination of selecting which applies, ranking from highest to lowest. Thus, the result on the last part of the survey questionnaire is the basis in coming up with a proposed business model upon identification of significant key factors in digital terrestrial TV technology.

3.2 Respondents

The respondents are chosen randomly who reside within National Capital Region particularly in Quezon City since it is one of the primary target markets prior to the provisional test broadcast of digital terrestrial TV in the Philippines. The respondents are categorized by (Williams, Page, 2011) consumer generation as shown in table 2. The stratified population is clustered by gender; male or female and are classified per age group; ages 15 and older. The age group focuses on four consumer generations and five distinct groups namely “trailing millennials” ages 15 to 25. The “leading millennials” ages 26 to 31. “Generation X” which are classified from ages 32 to 48. Born between 1965 and 1947 are the “baby boomers”; ages 49 to 67 and lastly are the “matures” ages ranging 68 and older.

3.3 Sample Size

A stratified random sampling was used to get the sample size of respondents (Mendenhall et al, 2012). Hence, the Slovin’s formula was used to determine the sample size of the respondents as shown below:

$$\text{Slovin's Formula: } n = N / (1 + Ne^2)$$

where: n is the sample size, N is the total population, and e is the percent margin of error

Table 1. Stratified Random Sampling with Percent Difference

Generation	Female: Male % Diff. in the Pop.	400 Samples by % Pop.	Male	Female
Trailing Millennials	12	120	46	74
Leading Millennials	6	104	46	58
Generation X	5	108	49	59
Baby Boomers	13	56	21	35
Matures	40	12	1	11
Total	76	400	163	237

Therefore, the computed sample size from the target mother population of 2,066,367 will be 400 respondents with a margin of error of 5% at a confidence level of 95%. The sample size exhibits a projected distribution of four generations in five distinct groups representing the entire population. Hence, the research covers 400 respondents taken from male and female of each age group. There are more females than males in each age group, hence, calculating for the percent difference of the ratio between female to male using the 400 samples and come up with a total of 163 respondents for male and 237 respondents for female respectively as shown in table 1.

3.4 Statistical test

The use of descriptive statistics was employed to analyze the collected data from the survey questionnaire. Chi-Square test was used to evaluate the consequence between the significant impact of analog and digital terrestrial TV for the TV viewers on socio-economic factors. The descriptive statistical test answers the research question. Hence, the dependent and independent variables are identified accordingly. The total sample population classified per gender and age group, job specification and financial capability are the dependent variables. Likewise, preferences of the media consumer on digital terrestrial TV viewing are the independent variables.

4. Results and Discussion

4.1 Awareness on Digital Television According to Gender, Age Group, Set-top Box Acquisition, and Financial Status

The survey questionnaires of 400 respondents were administered in Quezon City who are either aware or unaware of Digital TV and whether the respondents may or may not have a set-top box or digital receiver. Based on the results, 91.8% of the respondents were aware and only 8.3% of the total respondents were unaware of the Digital TV technology. Moreover, it indicates that majority of the population are aware of the Digital TV technology. Gender is statistically not significant in the aspect of Digital TV awareness with a value of 0.592 which is greater than the alpha

value of 0.05. The result indicated that gender is notably not a factor regardless whether male or female when it comes to the level of Digital television technology awareness on the sample population. With respect to gender distribution on Digital TV awareness among age groups namely Trailing Millennials (15 – 25 years old), Leading Millennials (26 – 31 years old), Generation X (32 – 48 years old), Baby Boomers (49 – 67 years old), and Matures (68 – older) showed that age group is statistically not significant on Digital TV awareness with a value of 0.068 which is greater than 0.05. The result showed that between ages 15 and above Digital TV awareness is not a factor. However, the value of 0.068 is close to 0.05 which is 26.47% difference this only suggests that age group might be a factor when performed to a different age group sample population.

Respondents showed that 66.3% of the respondents already acquired set-top boxes, while 33.8% does not have set-top box or digital receiver. The relationship between Digital TV awareness and Set-Top Box acquisition indicated that there is a significant association between the two with a Pearson Chi-square significance of 0.000 a value less than the alpha of 0.05 level. The result suggests that awareness on the technology is a factor. A media consumer who knows Digital TV technology is more likely to buy a set-top box as compared to a media consumer who does not know the change in broadcast technology. Moreover, the financial capability of the sample population to acquire Set-Top Boxes is categorized into five identities; these are very poor, poor, neither poor or rich, rich and very rich. Hence, Pearson Chi-square value of 0.013 indicates that financial status significantly affects the capability of the media consumer to purchase a digital receiver.

4.2 Components of TV viewing

From the survey questionnaire, the components of TV viewing, is a way to measure how the mother population perceived the on-going process of digitization of the broadcast industry sector. The section was divided into three (3) parts, namely: preference on TV viewing, expectations on Digital TV and Digital TV equipment.

4.2.1 Preference on TV viewing

Preference on TV viewing is a way to gauge on how a TV consumer relates their interests or selection to express their choice in watching TV. The questions are composed of essential topic in assessing TV viewership. Table 2 shows the relationship of preference on TV viewership on the three socio economic factors.

Table 2. Preference on TV Viewership on Socio-Economic Factors

Preference on TV Viewership	Age Group		Job Specification		Financial Status	
	P – value.	Remarks	P – value	Remarks	P - value	Remarks
More selection of television channel(s)	0.018	Significant	0.255	Not Significant	0.561	Not Significant
More selection of television programs(s)	0.001	Significant	0.674	Not Significant	0.404	Not Significant
High-quality video on TV viewing	0.003	Significant	0.038	Significant	0.239	Not Significant
Sound clarity on TV viewing	0.000	Significant	0.004	Significant	0.104	Not Significant
Excellent TV signal reception	0.000	Significant	0.098	Not Significant	0.007	Significant

The table showed that age group have a very significant impact on TV viewership preference followed by job specification and financial status which only has one significant value

4.2.2 Expectations on Digital TV

Expectations on Digital TV is the anticipation on how the on-going evolution of TV technology will differ from the conventional viewing habits. Table 3 shows the expectations on Digital TV in relation to the three socio economic factors. Results showed that age group consistently have a very significant impact while financial status gives more significant values as compared to job specification for having no significant values from the statistical test.

Table 3. Expectations on Digital TV on Socio-Economic Factors

Expectations on Digital TV	Age Group		Job Specification		Financial Status	
	P - value	Remarks	P - value	Remarks	P - value	Remarks
Digital TV has more to offer than Analog TV	0.000	Significant	0.142	Not Significant	0.004	Significant
Enhance TV viewing experience	0.003	Significant	0.120	Not Significant	0.000	Significant
Watch more TV programs(s)	0.054	Significant	0.202	Not Significant	0.015	Significant
Watch more TV channel(s)	0.015	Significant	0.318	Not Significant	0.327	Not Significant
Likelihood to Digital TV	0.003	Significant	0.430	Not Significant	0.013	Significant

4.2.3 Digital TV Equipment

Digital TV equipment is the most important component of the Digital TV technology. Without the proper tools and use of the equipment the consumer may not experience the benefits and features of Digital TV. The questions are set to identify how the consumer will react to the options and prices of the existing Digital TV equipment in the market. Table 4 shows the correlation between the three socio economic factors and the digital TV equipment. Financial status has the most number of significant values followed by age group and job specification.

Table 4. Digital TV Equipment in Socio-Economic Factors

Digital TV Equipment	Age Group		Job Specification		Financial Status	
	P - value	Remarks	P - value	Remarks	P - value	Remarks
Price(s) of Set-Top Box or Digital Receiver	0.141	Not Significant	0.608	Not Significant	0.007	Significant
Buying a Set-Top Box for more added features	0.020	Significant	0.214	Not Significant	0.167	Not Significant
Buying a “branded” Set-Top Box or Digital Receiver	0.035	Significant	0.754	Not Significant	0.433	Not Significant
LCD TV, LED TV and Smart TV pricing	0.342	Not Significant	0.982	Not Significant	0.002	Significant
New TV set purchase	0.097	Not Significant	0.019	Significant	0.000	Significant

4.3 Media Consumer Viewing Preference

Media consumer viewing preference measures the inclination of the TV viewers in relation to the time slot, TV programming and channeling, content and subscription.

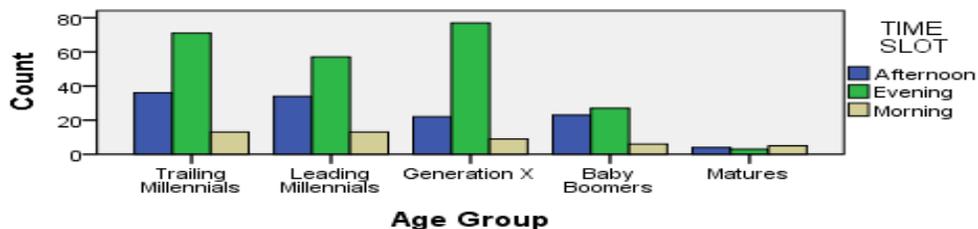


Figure 1. Age Group on Time Slot

Figure 1 shows that more people are watching television during prime-time hours at 58.8% as against the combined percentage of morning and afternoon timeslot. Moreover, the cross-tabulation result between age group and time slot on watching TV is significant having a Pearson chi-square value of 0.003. The results showed that majority of the sample population among the Millennials and Generation X age group tend to watch television during evening. While Baby Boomers and Matures may slightly vary since the tabulated result from the three-time slots are close from each other.

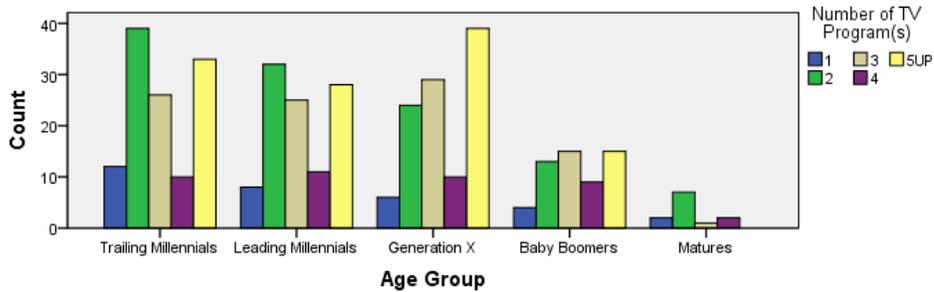


Figure 2. Age Group on Number of TV Program(s) Watched Regularly

Figure 2 shows the respondent's preference on the number of television programs watched regularly with respect to the age group distribution. The preference is based on the tabulated frequency of programming on the survey questionnaire, based on the results media consumer watched television at an average of two to five or more programs regularly with a Chi-square significance level of 0.231 a value that is not significant denoting that the preference on the number of programs watched may vary depending on the sample population at a large-scale level or the attitude or behavior of the media consumer at a specified place.

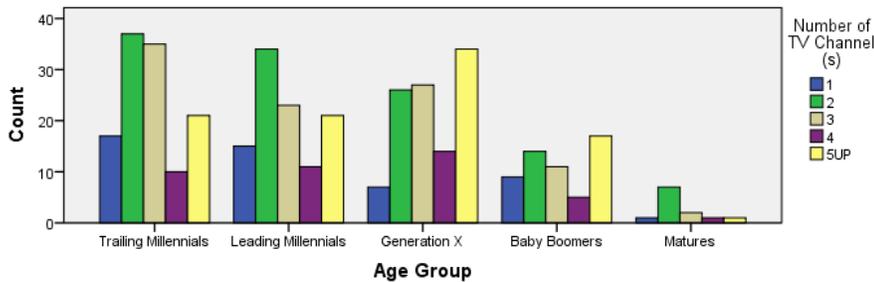


Figure 3. Age Group on Number of TV Channel(s) Watched Regularly

On the other hand, Figure 3 shows the media consumer's preference on the number of television channel watched regularly with respect to the age group distribution. Based on the results, media consumer from the sample population watched television at an average of two channels regularly, majority of the contributing age group are the trailing and leading millennials. However, based on the Chi-square test the value is not significant, indicating that the result may be true to the sample population but differ if the test would be conducted at a different platform of mass audience

With respect to TV viewing characteristics, respondents have preferences on higher resolution video content followed by better sound/audio and more TV channels. Other characteristics for improving TV viewing are larger screen, simpler way to search and find contents and lastly interactive media. Pay-tv subscription is one of the added features of Digital TV technology enabling the broadcast network to further its business subject to a set of fees. Respondents rating on their willingness to pay for TV viewing subscription is 3.19 which indicated neither, unlikely or likely. The relationship showed no significant relationship between media consumers in relation to paying subscription fee(s) to watch program(s) or TV channel(s). Furthermore, most of the media consumers watch television by their own preference of choice with a rating of 3.84 and not based on popularity. However, the Chi-square test indicated not significant ($p = 9.246$)

Documentary, news, travel, films and history are among the top five while factual, soap opera, makeover, shop TV and user generated content has the least preference for media consumer. Among the top 5 selections of TV

programming, documentary ($p=0.478$), news ($p=0.063$), and travel ($p = 0.467$) showed no significant difference while film ($p=0.000$) and history ($p = 0.017$) showed significant difference. This means that the top three TV programming may still vary from all age groups. Digital television technology has other forms of medium. It can be IPTV and cable or satellite TV to name a few. Media consumers indicated that they are very likely to view (mean = 3.49) other DTV platform.

4.4 SWOT Analysis

SWOT analysis is a way to evaluate the environmental characteristics of an organization in a micro or macro level.

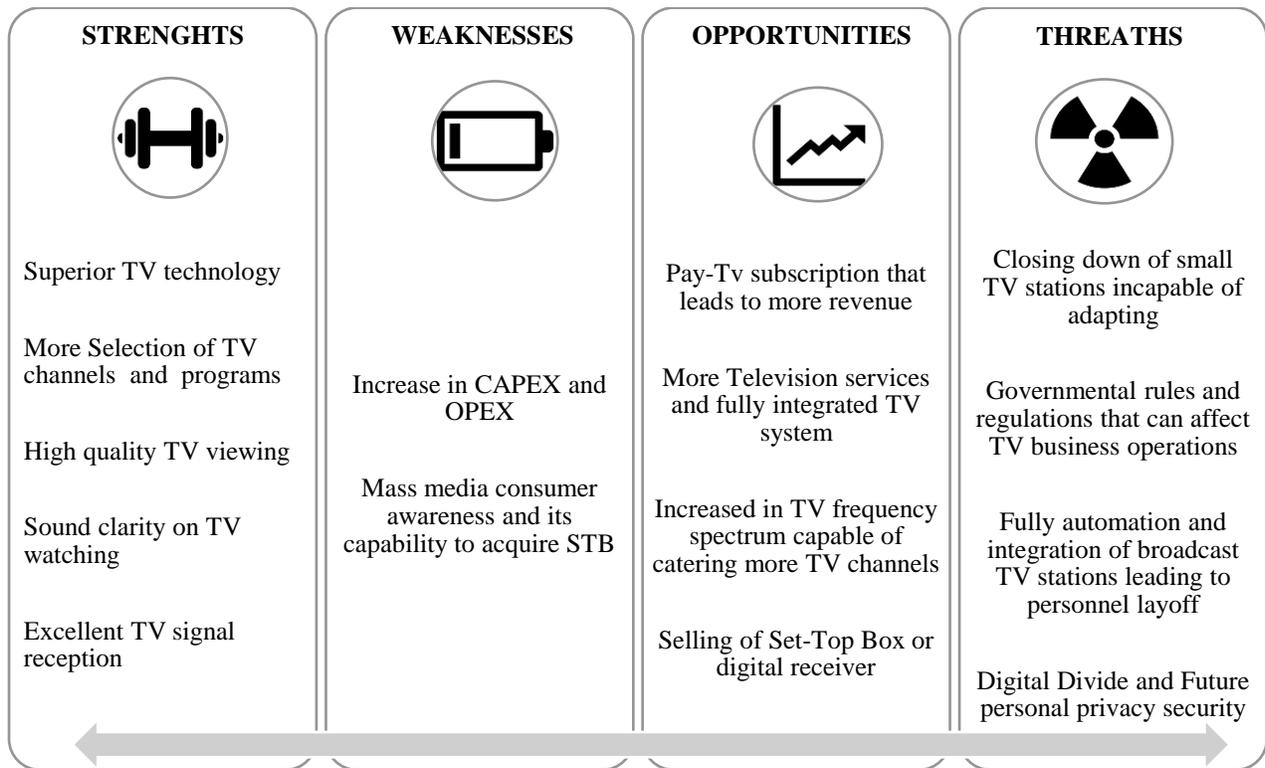


Figure 4. SWOT Analysis for Digital Terrestrial TV Platform

4.5 Socio-Economic Business Model

The transition from analog to digital terrestrial TV only demonstrates that the broadcast industry sector is no longer vertically integrated. The change in technology is substantial for restructuring a business and gain advantage from its operations. However, the issue of digital divide creates a gap between those “who have” from those “who have not”. It is important to balance the equation of a business in terms of social and economic perspective. Hence, age group, job specification and financial status are among the factors identified for economic aspect.

Key Partners

The role of the government together with the help of the local government units in deploying and disseminating of information about the mandatory change in television systems technology is vital to the successful integration of digital TV to the mass media consumer households. The government is the primary consort for the development and full implementation of the broadcast migration plan enabling the awareness and “*know how*” of the mass population. On the other hand, broadcast television network also has a key role in public awareness of digital TV where collaboration among the government and various television stations could come up with a unified digital TV migration plan in order to attain the target analog shut-off date by year 2023 or earlier. Likewise, the government and broadcast

TV stations can tie-up with a set-top box manufacturing company to supply the growing demands of the consumer electronic equipment in the dawn of digital terrestrial TV era.

Key Activities

The government can utilize a “*Digital TV mascot*” and initiate road shows to spread the digitalization of the broadcast industry sector and promote the technology in relation to the digital switch. Digital terrestrial TV broadcast is a free-to-air platform that can bring a realized potential to an emerging media consumer market where mass production of digital receivers and various TV subscription will take an important role in the broadcast industry business.

Value Proposition

The growing demand of media consumer’s satisfaction for enhanced TV viewing is worth the value on how TV watching is perceived. “*Going digital*” boils down to the senses where evolution in image perception has changed from black and white to color TV and from mono to stereo sound. The change in viewing experience clearly depicts the human’s search for aesthetic value. On the other hand, branded set-top box not only purports prestige but also quality that can withstand the test of time.

Customer Relationship

Digital TV technology is an evolution of analog TV following the development of modern science in the field of communications technology. It is through the creation of able and reliable broadcast infrastructure in state of the art technology that people can value the customers or media consumer. Likewise, a one to three years set-top box warranty on parts and labor can be offered by an STB manufacturing company to address the “*value for money*” and after sales customer service guarantee. In preference, a digital TV station can broadcast a High-definition (HD) and Standard definition (SD) video, these two modes of video transmission are clear enough to satisfy the demands of what the eyes can see. Technically a digital TV network can broadcast a maximum of seven standard definition channels simultaneously, this will vary if a high- definition channel is added to the 6Mhz frequency allocation depending on the demands of the mass media consumer or management decision. Informative shows like documentaries, travel and history are among the top-rated interests in programming. Films, comedy, sports and music shows rated better. Hence, media consumers have preferences to watch TV on evening timeslot in which a broadcast TV station could make use of this time to advertise and offer various services and products.

Customer Segment

Mass media consumers can be classified according to societal classes and generation profiles. Each generation represents a specific “*market niche*” in terms of TV programming and channeling. Younger generations tend to like more on films, cartoons, travel, music shows while the latter generations prefer drama, documentaries and news. Hence, the mass market is rapidly emerging into media convergence where STB manufacturers can offer an STB with standard functionality or with value-added features in which the access of information and communication can be carried solely with the set-top box. Digital TV promises convergence, various medium like mobile phones, I-pad, laptop and desktop can be integrated into a unified platform breaking barrier in mass communications network. Hence, broadcast TV station can provide a selection of packages on channeling and programming which can be customized in accordance with the media consumer’s preferences and financial budget.

Key Sources

Key sources play an important role to the full deployment of digital terrestrial TV technology. The government can tap the help of its neighboring countries who are into Digital TV for economic and technical assistance, likewise, the government can make use of very-high frequency (VHF) spectrum as an opportunity for broadband services while exploiting the capacity of wide range ultra-high frequency (UHF) spectrum allocation for Digital TV. On the other hand, broadcast TV stations can form or outsource a technical working group (TWG) to study the cost-efficient technical parameters for digital TV implementation and migration that leads to “*brand awareness*”. Thus, set-top box manufacturing company could heavily rely on its patent document in ensuring its rightful claim towards copying, reproduction and falsification of its technological invention.

Cost Structure

Capital expenditure is the consequence of media evolution. The purchase of new broadcast equipment and facility expansion is necessary to cope with the change in technology as the former equipment can no longer support and compete with the existing “*state of the art*” digital technology devices. Hence, it is also necessary to train professional individuals and talents to learn and acquire knowledge and be familiar with the technological advancement that digital technology can offer. Strategically, a broadcast stations can tie-up with the digital broadcast equipment manufacturers to train its technical personnel for free. A contract that can be organized in exchange of buying equipment that can save cost for operating expenditures on personnel training. On the other hand, the government’s fund on DTV awareness campaign and STB subsidy program for those who are poor, will heavily rely on taxes. Likewise, STB manufacturing company could sell STBs at an affordable price in the media consumer market benchmarking on the current retail price of STB at ₱1,500 for a STB with standard functionality and more so with value added features.

Channels

It is through channels that the customer segments can be reached. Infomercials, road shows and DTV mascot are ways to promote and inform the media consumers on digital terrestrial TV broadcast with the initiative of National Telecommunications Commission (NTC) and Department of Information and Communications Technology (DICT) as the primary governmental agency for DTV implementation plan. Based on the survey, majority of the sample population already have an idea and are aware about digital TV. Likewise, broadcast TV network’s channel allocation *i.e. Channel 2, Channel 7* is a valuable tool to reach the mass media consumer through TV “*channel recognition*”. Hence, set-top box equipment can be purchased in an outlet store or digital consumer market.

Revenue Streams

Television ratings is one of the primary considerations in advertising. It is through advertisements that a broadcast TV company can gain profit by spending an ample amount of TV airtime to sell and promote its businesses gaining an awareness on products and services. With the introduction of digital terrestrial TV technology, pay-tv is already a big equation in the profit revenue stream of a broadcasting company. From the results, media consumers are willing to pay for ₱300 for TV subscription. Moreover, the ease of payment and availability of services will encourage media consumer to make use of the offering. Hence, marketing and advertising is a way to encourage and gain the mass media market demographics that will eventually gain revenue upon full implementation of digital TV technology. In addition, partnership between a TV station and STB manufacturer will gain profit by selling branded set-top box with the station’s logo, loaded with sim card or smart card as the set-top box enables TV viewers to watch and pay for the channel subscription with access code on some TV channels. It is an opportunity that the TV networks can offer various services, to cater the need and demands of the media consumers. Hence, based on the results media consumers are willing to pay for “*value-added*” features. A good sign that the media consumers will most likely to avail various services that they want. Likewise, broadcast stations can offer a set of Digital TV package: STB on Standard Definition, STB on High Definition or a combination of the two. The package can come up with an array of programs, channels and services flexible enough to cater the watching preference of the media consumer. On the other hand, the government will earn revenues upon lease of radio frequency allocation spectrum from a broadcast station company. This is a government’s intangible natural asset that is worth millions in value to be leased in a specified time frame.

5. Conclusion

Digital terrestrial television technology is now the on-going trend for broadcast communications industry. The evolution has an impact in the aspect of socio-economic for the media consumers. Based on the statistical test conducted using chi-square test there is a significant impact between analog terrestrial TV or digital terrestrial TV for tele-viewers. The assumption points toward the enhanced capabilities of digital television technology to cater the demands of the media consumer and satisfying the preference for TV viewing experience. Significantly, media consumers thought that Digital TV has more to offer in terms of value added services and enhanced viewing experience as compared to analog TV. The result is reflected based on the statistical test conducted above where the media consumers are expecting more with the change in TV medium. Likewise, set-top box or digital receiver is the primary equipment to receive and experience Digital TV in which media consumers based on the age group are willing to buy set-top box to avail the value-added services offered by Digital TV. Based on the results, in the aspect of

awareness, gender and age group may not be a significant factor but the age group has a strong significant evidence on components of TV viewing that lead towards Digital TV experience. On the other hand, financial status is highly significant in both awareness and viewing preference since income greatly affects the capacity of the media consumer to avail the technology, sooner or later. While set-top box acquisition is an important factor in digital TV awareness and implementation. Furthermore, results from the gathered data showed that age group on time slot is a factor to consider but the preference on TV programming and channeling may not be a factor. On the other hand, among the characteristics of TV viewing high resolution video content produced a greater inclination among all other TV watching characteristics indicating that the media consumer of the modern age is inclined to visual details giving importance on what the eyes can see in reproducing a virtual reality.

Hence, the socio-economic business model for digital terrestrial TV has a great impact in the aspect of age group and financial economic status. The model proposes a simplified approach in digital terrestrial TV awareness for media consumers and implementation for the government and broadcast TV stations based on capital investments, media consumer viewing preferences and set-top box acquisition.

In general, based on the results of the statistical analysis of significant relationship among the factors on Digital TV awareness and watching preferences; showed a promising future in the TV broadcast industry since the modern media consumers are looking for something new to experience where entertainment will be at its finest. Likewise, socio-economic aspect on financial capability is significantly a factor in digital TV implementation. Efforts from the government and various TV networks who already into digital broadcast are needed to fully utilize the emerging technology that is capable of upbringing the realized potential of the dynamic television market industry.

6. Recommendation

Digital terrestrial TV technology is only at the early stages of operation in the Philippines. The study only represents a portion of the total nationwide population with stratified sampling in Quezon City. Further studies for large coverage areas can be conducted when partial to full digital TV implementation is observed to know the progress of the migration plan and when to “analog-shut off “. As mentioned, the study only identified three (3) socio-economic factors namely: age group, job description and financial status. Further study can include other economic factors which are relevant to the deployment of the digital TV technology. Independent variables can also be modified prior to the subject of the study. Media consumer preferences can also be modified. The study can focus from one to two or more preference(s) which can be crucial to the operations of a broadcast TV station, to know if it is a significant factor(s) to attest. Finally, since digital TV has other platform aside from digital terrestrial TV, further studies can include IPTV, cable TV and satellite TV. The study can make a comparison among all other platforms, but since the technology is at the embryonic stage, these other platforms are yet to be fully experienced by the media consumers.

7. References

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Biographies

Rex Mervin P. Ramos is a graduate of M.S. in Engineering Management from the Mapua University in 2017. He finished his bachelor’s degree in Electronics and Communications Engineering from the Mapua Institute of Technology in 2011. He is a registered Electronics Engineer duly licensed by the Professional Regulation Commission (PRC) of the Republic of the Philippines. He is a regular member of the Institute of Electronics Engineers of the Philippines (IECEP). He has 5 years of work experience in broadcast communications technology and currently works at GMA Network Incorporated as Systems Engineer in the News TOC section. He is a regular resource speaker of student’s activities from various colleges and universities.

Rene D. Estember is currently a Professor in the School of Industrial Engineering and Engineering Management at the Mapua University in Manila City, Philippines. He earned his B.S. in Management and Industrial Engineering from Mapua Institute of Technology in 1979, Master in Business Administration from Ateneo de Manila University in 1994, Master of Science in Industrial Engineering from the University of the Philippines in 2008. He is also a Professional Industrial Engineer certified by the Philippine Institute of Industrial Engineers in 2008. He has 17 years of work experiences in the industry from 1979 up to 1996 while teaching part-time from 1992 up to 2000 in various schools. He is also providing consultancy services and conducting technical trainings. His research interests include human factors and ergonomics, manufacturing, risk management and optimization. He has also presented research papers in local and international research conferences where one of his papers was awarded as best track paper in Human Factors and Ergonomics Track. He is an active member and Board of Director of the Operations Research Society of the Philippines (ORSP), active member of the Philippine Institute of Industrial Engineers (PIIE) and the Mapua Alumni of Industrial and Service Engineering Association (MAISEA).