

# 디지털전환의 미래 예측 시나리오: 퓨처스휠 기법을 중심으로

## Scenario Planning after Digital Switchover in S. Korea : The Use of Futures Wheel

오중서

동서대학교 영상매스컴학부

Jong-Sir Oh(johnsir@gdsu.dongseo.ac.kr)

### 요약

방송과 통신의 융합으로 인해, 전 세계의 TV와 라디오 방송사들은 전면적인 디지털 방송화를 위해 매진하고 있다. 이러한 흐름 속에서 우리나라는 아날로그 방송신호를 전면 중단해야만 하는 디지털 전환정책을 2012년까지 완수하여야 한다. 보고서에 따르면 현재 대략 30%정도의 디지털 전환률을 보이고 있다고는 하지만, 그 조차도 관련 기관의 공식적인 집계는 아니다. 이에 비해 우리나라와 같은 해인 2012년 디지털 전환을 완료해야 하는 영국의 경우 2008년 2분기 현재 88%의 디지털 전환률을 보이고 있는 것은 비교될 만하다. 현재 상태로 우리나라의 디지털 전환은 장밋빛 미래를 기대하기 힘들 뿐 아니라, 위태로운 지경에 놓여 있다고 볼 수 있다. 본 연구는 미래학적인 관점에서 우리나라의 디지털 전환의 미래를 예측하여 보고, 시청 행태에 영향을 미칠 수 있는 가능성을 찾고자 한다. 분석을 위해서는 미래 예측에서 유용하게 활용되는 퓨처스휠 기법을 적용하였다. 결론에서는 우리나라의 급박한 디지털 전환에 대처하는 몇 가지 시나리오를 제시하였다.

■ 중심어 : | 디지털 텔레비전 | DTV | 디지털전환 | 미래연구 | 퓨처스휠 |

### Abstract

Thanks to the circumstance of digital convergence, most of the world TV and radio stations are gearing up for digitalisation of broadcasting. In this flux, digital switchover in South Korea should be completed by 2012 when transmission of analogue broadcasting signal will be ceased. According to the report, it shows only over 30% take up roughly so far, but there is no official survey from relevant organisation. It is very comparable with British digital switchover which is same year as S. Korea and has been reported 88% take up as of 2008 Q2. Yet the digital switchover in S. Korea inferred from this current is not a rosy future and even seems to be perilous. The purpose of this paper is to predict the media future of S. Korea at the view point of futurology and draw out the possibilities which enable to affect viewing behavior. In order to analyse it applies the futures wheel which is one of useful tools for future work. Consequently it suggests a number of scenarios how to cope with the impending situation in S. Korea.

■ keyword : | Digital Television | DTV | Digital Switchover | Future Research | Futures Wheel |

## I. 서론

Although thousands of millions people in the world are watching on television in everyday, none had known the term 'television' until it had popularised in 1936. Today, digital television is airing a hundred of hundreds world wide programmes via set top box or rabbit ears. It is no exaggeration to say that television has become the greatest media strength in this planet.

In the circumstance of digital convergence there is no exception in South Korea. South Korean government is committed to switching off the analogue television service by 2012. According to the report S. Korean householders who had been switched over have already reached 15 million that accounts for 31% in 2008 rather than 26% in 2006[1]. Not only means it the statistical number but it also stands that the digital television is the inevitable future. Since the advent of Skylife D-SAT<sup>1</sup> in 2002, which is the first digital TV platform in S. Korea, new digital television platforms, such as D-Cable<sup>2</sup>, DMB<sup>3</sup>, IPTV<sup>4</sup> etc. have been appeared within a half decade.

In addition umpteen broadcasters have built up the competitive marketplace and manufacturers are gearing up the cutting edge of technology to fit in with a choosy demand of customer.

Far from evolving robustly the switchover plan of digital television is not clarified even though plenty of predictions are pouring into the newspapers and the journals. The scenario planning whether it forecasts optimistic or pessimistic is an important task to probe into the current stream and manages to come up with several alternatives in protruding problems.

Numerous scenarios have dealt with plenty of plausible survey by organisations or institutes relevant to digital television. , While it may be just one of hundreds of hundreds scenarios this paper presents another scenario relevant to the aftermath of digital switchover in S. Korea. Differently to others this paper is intended to demonstrate the future scenario with the analytic methods by means of Futures Wheel which enables to envisage the future at the flip side.

Granted that the Delphi technique and the Cross Impact analysis have chosen among many useful future analysis methods it needs a lot of time and experts to obtain satisfactory result. Unlike the Delphi and the Cross Impact analysis the Futures Wheel has a strength which requires only blank paper, a pen and more fertile mind. Despite looking as very simple the Futures Wheel is widely used by futurologists to identify potential problems and opportunities, new products and services[2]. After drawn the Futures Wheel probable five scenarios were extracted from the current issues in digital television sphere. The time horizon was determined by 2013 when South Korea will have already accomplished the switchover goal as scheduled. The opinions of expert have been collected from gazette, article and broadcast journals.

Finally having the outcomes being estimated from the Futures Wheel it is capable to depict a possible future scenario in digital broadcasting sphere. Whether this scenario might be accurate or not, it hopes to be regarded as a significant research in order to strike a note of warning against arbitrary DTV policy in South Korea.

## II. 연구배경

It is certain that the switchover policy announced from South Korean government looks a specious well

1 D-SAT: Satellite DTV Platform

2 D-Cable: Cable DTV Platform

3 DMB: Digital Multimedia Broadcasting

4 IPTV: Internet Protocol Television

drawn plan. For the reason that digital television is involved in a number of impacts, few people can assure it would be accomplished a total switchover. In contrast of uncertainty of digital switchover TV technology is gearing up robustly and the digital marketplace is ready to compete fiercely.

It is no doubt that the digital television is a viable business in the future. With regard to the feasible scenario it tends to focus on forecasting the correlation of the environmental events in digital television sphere. In addition it would rather emphasise the flexible possibility than target keen anticipation.

## 2.1 Impacts and Time Horizon

Michael E. Porter guides to a criterion in terms of the boundary for forecasting that scenarios can be selected to bound the probable range of outcomes that might feasibly occur[3]. Accordingly five scenarios were selected in the range of the probable situation based on the current issues of digital television. In terms of how to decide the time horizon Armstrong proposes that the length of time is suitable to consider the large changes in the specific circumstance as long range forecast[4]. In here the time horizon was set up 2013 when it would be already completed and unveiled the upshot of the switchover as scheduled by South Korean government. Even though the time horizon is decided on short term, it is mainly due to predict the multifarious changes in broadcasting milieu, which will affect the full operation of digital switchover.

## 2.2 Future Research Methods

Since the 1950s plenty of the forecasting techniques have evolved in the diversified realm. Schnaars states that the methods for generating scenario can be categorised as three types which are an intuitive, an inductive and a deductive approach[5]. The intuitive

approach can be used to integrate the factors into scenarios. Yet it is lack of mechanism and description in that this approach mainly relies on the intuitive judgment. While the inductive approach is to acquire the predictable outcomes from the plausible factors the deductive approach infers the stimulus from the probable outcomes.

Among a number of forecasting methods the Delphi technique and the Cross Impact analysis have still applied to generate the future scenario in preference to futurologists. The Delphi technique is a methodological analysis which needs to be inspected from public survey in various cases. In concert with the Delphi technique the Cross Impact analysis prefers a mathematical method in basis of that one event is affected by another event with interaction.

According to Michael E. Porter states 'The knowledge of each competitor's probable moves and capacity to respond to change can be summed up, and competitors can be seen as interacting with each other on a simulated basis'[3]. As mentioned above digital television entangles with a number of events which involve political, economic, technological and ethical issues.

### 2.2.1 Delphi Technique

The purpose of Delphi technique is to encourage for real polemic and personal independence. Further this technique is relevant to anonymity which is unable to recognise participants who they are. Delphi technique etymologised from Delphic Sibyl in ancient Greece eliminates communicational conflicts at face to face unnecessarily and induces the consensus of expert's opinion. Harold and Murray describe the Delphi can be designated for group communication process in order to deal with a complex problem[6]. Seemingly it looks like a very simple concept that can easily be employed. On account of this many

researchers have leapt the procedure without careful consideration involved in carrying out such an exercise. Indeed obtaining the satisfactory scenario relies on the degree of the fulfillment of the Delphi technique.

### 2.2.2 Cross-Impact Analysis

Stover and Gordon introduces the procedures in the use of cross impact analysis[7]. At the beginning of this analysis the events which will be happen within time horizon should be defined. In second the initial probability of each event is bound to decide the value in the range of 0 to 1 by analyst's judgment based on research data. The third procedure is to estimate the provability of interaction between events within permissible limitation. Here the number of event pair interactions is equal to  $n^2 - n$  where n is the number of events. As it has chosen 5 events to generate this future scenario, the number of event pair interactions will occur 20 times. Once the probability of event pair is estimated, cross impact odds matrix can be calculated to obtain the odds ratio which is likely to occur in the predicted future. Typically probability can be expressed as a percent how likely event is to happen and odds indicate as a ratio to extent that probable events are likely to happen. Judging from this odds ratio the future scenario can be illustrated with the correlative events. Although the Cross Impact analysis is an appropriate tool for the future study it would leave it as the future study.

### 2.2.3 Futures Wheel

The Future Wheel which was invented in 1971 by Jerome C. Glenn is a simple technique as if it seems to regard as the Mind Map. However the Futures Wheel is used to predict the future as an extremely powerful method. This tool is originated from organised thinking and questioning about the future

and resembles the structured brainstorming. The name of an event is positioned at the centre of paper and then expands the considerations drawn wheel like from the centre. Foremost impacts are declared at the edge of each spoke. Subsequently the secondary impacts of each previous impact are written on the second circle of the wheel. This ripple effect is redrawn until acquiring the embodied results. It has a number of strengths that are easy to implement, quick to analyse and useful to identify positive and negative feedback loops. In contrast the upsides of the Futures Wheel lead to the downsides as well. In advance of visualisation of the future pattern it enables to entangle with each of impacts.

Afterwards the future events have been clarified the Futures Wheel could be done on each event prior to carrying out the Cross Impact analysis. In order to compose the alternative scenario the Futures Wheel can be used as an effective method[2].

## 2.3 Rationale

It is certain that the Delphi technique and the Cross Impact analysis are powerful and pervasive methods for the sake of scenario planning. Nonetheless it needs a plenty of time and costs for collecting the viewpoints from experts and analysing the stocked spinoffs by adjunctive tools such as real time Delphi and Monte Carlo computation. In this paper it applies media research in which extracts from newspaper and journal published during definite period instead of expert questionnaire. This method is apt for implementing the Futures wheel, mentioned below, rather than Delphi technique.

## III. 디지털전환의 퓨처스휠과 미래 시나리오

### 3.1 Futures Wheel for Digital Switchover

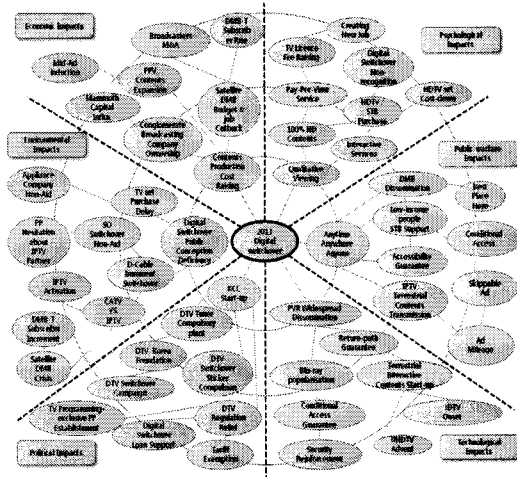


Figure 1. Futures Wheel for 2013 digital switchover

As above, [Figure 1], it shows the Futures Wheel which it forecasts 2013, the period when the digital switchover will have already done. Each of impacts has been referred to newspapers<sup>5</sup>, gazettes<sup>6</sup> and journals<sup>7</sup> which were published in Korean and English by experts from 1st April to 31st October in 2008. For the sake of article search it used 'digital television', 'digital switchover', 'analogue switch off' and 'DTV' as keywords of both Korean and English.

### 3.2 Scenario Planning for Digital Switchover

From the above Futures Wheel it manages to encapsulate a number of probable scenarios in 2013. Whereas each of events has an influence on each other it needs to scrutinise them by the Cross Impact methods. With regard to the Cross Impact analysis it will carry out the future study and it

5 Dong-A Ilbo, Hankookilbo, Hankyoreh, Korea Herald, Kukmin Ilbo, Kyeong-In Maeil, Kyunghyang Newspaper, Maeil Business Newspaper, Munhwa Ilbo, Nail Shinmoon, Segye Ilbo, Seoul Newspaper, Yonhap News

6 Asia Today, Digital Times, Electronic Times, Eye News 24, Financial News, Media Today, Money Today, Newsis, News Prime, Weekly Media

7 PD Journal published by Producer Association of Korea

presents a number of scenarios based on the Futures Wheel.

#### 3.2.1 Scenario - 1 The platform of digital television will be dominated by IPTV

According to the report from Korean Cable TV Association D-Cable has reached at 1,680,062 subscribers in 2008 Q3[8]. Although D-Cable is undoubtedly recognised as the strongest DTV platform in S. Korea System Operators where transmit Programme Provider's contents even terrestrials are not ready to digitalise their broadcasting system. Most of SO<sup>8</sup>s are petty broadcasters ,but MSO<sup>9</sup> such as CJ media, Throad, C&M etc. The most competitive platform of D-Cable will be IPTV which broadcasts digital contents via high speed Internet network. From September, 2008 IPTV enables to retransmit terrestrial's programmes as like D-Cable.

1,000 subscribers

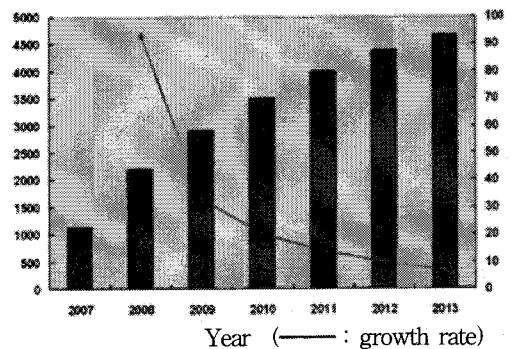


Figure 2. Prospect IPTV distribution rate presented by Frost & Sullivan

As [Figure 2] which is shown prospect of dissemination IPTV householder share would be reached at 26.9%, 4,670,000 subscribers in 2013. Even

8 SO: System Operator

9 MSO: Multiple System Operator

though SO as a bullish platform in S. Korea monopolises the digital TV market at 70.6% take up in 2006[8], none can predict whether PP<sup>10</sup> will betray SO in order to provide their contents to IPTV.

### 3.2.2 Scenario 2 - In 2013 it will not had been accomplished the total switchover

A recent survey from the master plan proposal of digital switchover[1], which has reached 31% penetration in the third quarter of 2008, suggests the insufficient probability enabled to complete 100% by 2012 as scheduled by the South Korean government. What is worse it would be faced with the unexpected obstacles such as economic crisis, recession of global market, a threat of terror and so on. The switchover policy would be sensitively affected by these obstacles. Despite Catch 22 South Korean government is strongly propelling DTV policy such as establishment of DTV Korea which is organised by DTT<sup>11</sup> alliance for the sake of realising the digital switchover by 2012.

### 3.2.3 Scenario 3 - A number of conglomerates will take over broadcasting stations

So far the large enterprise was prohibited from possessing the broadcasting company and investing the media industry. As early as 2009 Q2 it will be released the regulation and allow both conglomerates and newspapers company to conduct media business. Aside from terrestrials the beneficial platforms are DMB-T<sup>12</sup>, IPTV and D-SAT. For the purpose of this mitigation it is to bankroll and support economically troubled platforms such as D-SAT and DMB-SAT<sup>13</sup>. If mammoth companies buckle to undertake the

digital platforms terrestrials will be difficult to survive in the competitive media arena without specific strategies.

### 3.2.4 Scenario 4 - Hundreds of thousands TV programmes will be provided customer with pay-per-view service

South Korean customers are being confronted with a great number of viewing choices. On the other hand broadcasters are a burden on developing new formats and programmes. However new format means new opportunities to digital marketplace. Forrester claims 'whether movies, or news broadcast, or datacast or Internet access, the rule remains that content - in whatever form is still king'[9]. Looking back the collapse of ITV Digital in the UK there were the lack of contents among a number of reasons.

### 3.2.5 Scenario 5 - The competitive marketplace in digital television will be in full operation

Although the problematic realm it has proved that digital television is a viable business. Currently a market leaders are DTTs which have an initiative to the whole digital television market. De facto DTT contents is mainly provided by SO due to a poor TV signal and over 60% viewers watch on terrestrial programmes by dint of cable TV network[8]. At a glance it looks like a stable marketplace but there will be the arena of competition within a few years.

Certain sections of digital television industry are faced with relatively uncertain future owing to the fact that the digital television is not yet matured. For instance interactive service on digital television set is not enough to fulfill the customers and there is no choice a set top box by the customers due to providing as a bundle from a platform company. In a short time it is expected to enter into rivalry within digital television marketplace in order to occupy more

10 PP: Programme Provider

11 DTT: Terrestrial DTV

12 DMB-T: Terrestrial DMB

13 DMB-SAT: Satellite DMB

lucrative position.

### 3.3 Future scenario for digital switchover in South Korea

In basis of the outcomes in Figure 1, it is possible to draw up the future scenario of digital television. It needs to pay attention to the correlation between each of impacts. Interestingly diffusion of the digital telly set and activation of the competitive marketplace are closely related each other. If the competitive marketplace is preceded, it will give a great effect on digital television sales. Contrary to expectations a walkover of cable platform such as SO and MSO does not impact on the competitive marketplace and stimulates the providers to develop various contents with usability and accessibility. It seems that digital television platform have not an effect on most impacts. If many services on digital television are prepared to provide, it will be naturally escalated the number of DTV sales market. Consequently it is revealed that the contents of digital television would be a crucial factor being influence on other impacts.

## IV. 결론

As declared above the forecasting is not to predict like a prophet but to analyse the present time and to seek the alternatives. Although innumerable events exist on the future of digital television, a number of probabilities were examined in this research so far. As a result the future of digital television depends on the cooperation between the government, broadcasters, organisations and marketers.

Foster suggests 'Whether in the end we welcome a digital world or say goodbye to TV, the aim has been to ensure that we will have been better informed about the changes on the way and the strategic and

policy decisions that have to be made'[10]. It is crucial that digital television should be considered at the viewpoint of customers. DTV platforms should deem the mutual compatibility with each platform. At the same time South Korean government and organisations have to make an effort to penetrate digital television through assorted promotion and show the coverage solution. Furthermore the manufacturer is bound to provide the digital TV set and set top box for subscribers at lower price. Meanwhile many broadcasters strive to develop new contents and worthwhile services for digital television. Digital marketplace has to compete with the spirit of fair play.

Fortunately many broadcasters in digital television are gearing up forward the optimistic future, the government is also promoting actively through diverse strategies and many capitals are pouring into digital television market. If the optimistic situation at the present is not overestimated, the future index of digital television is not '0' but '1'.

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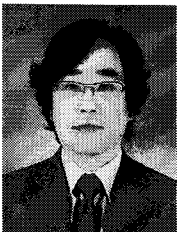
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저자 소개

오 종 서 (Jong-Sir Oh)

정회원



- 1994년 2월 : 고려대학교 전자공학과(공학사)
- 1994년 10월 ~ 1997년 4월 : MBC 문화방송 교양제작국 프로듀서
- 1997년 5월 ~ 2004년 6월 : iTV

경인방송 편성제작국 예능제작팀 프로듀서

- 2005년 11월 : University of Brighton(UK), Digital TV Management and Production 전공 (이학석사)
- 2006년 3월 ~ 현재 : 동서대학교 영상매스컴학부 방송영상전공 조교수

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