An Analysis of the Cable TV Digitization Policy in Taiwan

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Abstract: - This paper analyzes the causes for the sluggish progress of the digitization of cable TV in Taiwan and explains the negative policy implications of the present situation - namely, consumer sovereignty is not being effectively promoted, the user-pay concept is not being put into effect, and the channel market is not efficient. Based on the cable TV digitization policy promoted by the central authority, the National Communications Commission (NCC), this paper further discusses expected outcomes of digitization and the policy implications of reversing the current improper equilibrium of the cable TV industry.

Key-Words: - cable TV, digitization, Five Forces Analysis, digital convergence, policy analysis, incentive mechanism, Pareto improvement

1 Introduction
Digitization has become the prerequisite for the convergence of communications – the merging of telecommunications and broadcasting in the modern world. A current overview of the development of digitization in Taiwan shows that the domestic telecommunications industry has long been digitized and, as such, is poised for convergence. The broadcasting sector, on the other hand, is still in the relatively early stages of digitization despite several years of efforts. Plans for digital audio radio (DAB) have not yet even been finalized. With regards to terrestrial TV, the switchover was completed on July 1, 2012, but efforts towards the comprehensive digitization of cable TV are still taking place. With a penetration ratio of over 80%, cable TV is the largest communications platform in Taiwan, and thus actual communications convergence in Taiwan depends on the full digitization of cable TV. Although the Taiwan government’s clear objective is 100% penetration of digital cable TV service, as of April 2013, the rate stood at a lowly 26%. It is clear significantly more effort is required from the government to achieve its goal.

This paper analyzes the causes for the sluggish progress of the digitization of cable TV in Taiwan and explains the negative policy implications of the present situation - namely, consumer sovereignty is not being effectively promoted, the user-pay concept is not being put into effect, and the channel market is not efficient. Based on the cable TV digitization policy promoted by the central authority, the National Communications Commission (NCC), this paper further discusses expected outcomes of digitization and the policy implications of reversing the current improper equilibrium of the cable TV industry.

2 An Analysis of Industry Structure to Explain the Sluggish Progress of the Digitization of Cable TV
2.1 An Equilibrium Analysis of Cable TV Suppliers: Analyzing current industry profitability:

1 For details, please refer to Government Information Office, Executive Yuan (2003).
Users in Taiwan subscribe to cable system operators in order to enjoy programs offered by the upstream channel operators. Digitization of cable TV requires that system operators upgrade their network and terminal devices to the digital level so that subscribers can receive digital signals.

By adhering to Michael Porter’s framework of the Five Forces Analysis, this paper first explicates the slow progress of the digitization of cable TV in Taiwan. From the analysis, we discover that, unless new incentives change the profitability structure, cable system operators will be more inclined to hold fast with the current situation rather than invest in digitization.

2.1.1 Competitors in the Industry: No Competitions among Existing Players

Before the cable TV service areas were opened up in 2013, there was a total of 47 service areas and 63 system operators (SO) in Taiwan. Among them, 31 service areas were dominated by one single system operator, whereas the remaining areas were geographically divided into two parts and controlled by two system operators respectively. Overall, these service areas were monopolized by individual system operators without regional or interregional competition.

2.1.2 Potential Competitors: Insignificant Competition from New Entrants

The cable TV market was gradually opened up in Taiwan (1993-1996) with an expectation of instituting healthy industry development through competition. Nevertheless, as there were no regulations prohibiting merger and acquisition activities over the last 20 years, regional monopolies were created in service areas. In addition, operators evolved and transformed into multiple system operators (MSO) through horizontal integration. The conditions were made worse still when the central authority did not open up the market; new entrants therefore were unable to make any competitive challenge in the market.

2.1.3 Threat of Alternative Services: Insignificant Threats from Alternative Services

Channel program platforms such as cable TV, Internet Protocol TV (IPTV), terrestrial TV, and direct broadcasting satellite (DBS) all lack cross-sectional competition, primarily because cable system operators have entered the market, but have not been active in penetrating it or in maintaining operations to prevent the other platforms from developing; or they have adopted the “competitive strategy of differentiating program contents” to lower the substitutability of channel programs provided by other platforms or cable TV system operators, which then created barriers for them to penetrate the market.

2.1.4 Suppliers: Channel Operators Lack Bargaining Power

The number of channel licenses (about 270 in total) is currently more than the number of channels allowed (about 100), and certain system operators have become channel agents, consequently, they have obtained bargaining advantages over the channel operators through vertical integration. Similarly, channel operators have a relatively small bargaining power.

2.1.5 Customers: Consumers Lack Bargaining Power

Consumers do not have bargaining power at all, because system operators own regional monopolies and channel programs provided by other platforms lack substitutability. In other words, buyers cannot play an active role under the Five Forces Analysis framework. Rather, they may opt to cancel their subscription and leave the market, or continue to pay “unreasonable” (as they believe) flat rate fees.

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2 Michael Porter’s Five Forces Analysis helps enterprises discern the interrelation between industry structure and the strength of competition. It is worth noting there are many criticisms against the Five Forces Analysis. For example, Coyne and Subramaniam (1996) stated that three dubious assumptions underlie the five forces: (1) buyers, competitors, and suppliers are unrelated and do not interact and collude; (2) the source of value is structural advantage; (3) uncertainty is low, allowing participants in a market to plan for and respond to competitive behavior. However, as analysis indicates that the cable TV market in Taiwan meets the above-mentioned three assumptions, it is thus appropriate to use Five Forces Analysis to explain the cable TV market in Taiwan, not interact and collude;

3 The central authority already re-opened the service area in 2013 and has approved the applications of 6 new entrants. For detailed information, please refer to the following paragraphs.

4 For example, some cable operators obtained DBS management rights, but did not maintain the operation actively. Cable operators and Chunghwa Telecom had disputes over the allowance issue for channel programs to be displayed on Chunghwa Telecom’s MOD (multimedia-on-demand) platform. For detailed information, please refer to Chun-Fa Chuang & Shun-Chih Ke (2010).

5 Taiwan’s cable TV subscription fees are based on a flat rate with a statutory limit of NTD600. Under the subscription fee limit stipulated by local governments (max. NTD600; the amount varies according to region), subscribers can watch around 100 channel programs. As subscribers have limited...
and watch programs (with no choice of alternative substitute programs) that they dislike.

The results of the above Five Forces Analysis show that Taiwan’s existing market structure has enabled system operators to maintain a stable profit. Plus the implementation of the “flat rate with statutory limit” system, allows system operators to maximize their profit by controlling costs (including program quality). The fact that system operators never lower their fees automatically implies that the overall situation is now in an improper equilibrium. Moreover, as the digitization process requires substantial capital and the system operators are unwilling to face unstable revenues as a result of the implementation of channel tiering, it is unlikely that system operators will actively promote digitization unless there are incentives.

**2.2 Consumer Equilibrium: Consumers May Refuse to Accept Digitization**

Consumers often complain about unsatisfactory program quality and reduced consumer sovereignty caused by the flat rate. With a market consisting of regional monopolies without substitute platforms and adequate competition, people who decide to stay with the product – even though they are not satisfied with the current status and are forced to avoid different transaction costs – tend to expect improvement if there are no other external factors. Nevertheless, as they continue to pay fees and watch programs that they do not like, it is likely that they remain in an (improper) equilibrium.

Under this improper equilibrium that lacks change, consumers may be unwilling to participate in the implementation of digitization policies and the subsequent channel tiering. Conditions that can increase their willingness to cooperate include: largely improved program quality; choices of watching diversified programs incorporated with low subscription fees based on their needs; opportunities for them to watch channels that they want to watch; minimized tangible and intangible costs derived from the digitization process.

**2.3 Welfare Analysis of Equilibrium: Negative Policy Implications of the Current Status**

The equilibrium of the cable TV market has not only impeded digitization, but has also distorted allocation of resources. In order to maximize their profit, system operators set their tariff at the statutory limit, and instead of choosing quality programs with higher costs (high authority fees), they have chosen some low-cost (e.g. repeatedly replayed) programs. As channel operators do not have substitute broadcasting platforms, they have to follow system operators’ arrangements, making it impossible for channel operators to compete in the market with their program quality or contents. This is the reason the channel market does not function normally and suppliers’ resource allocations are distorted.

For consumers, it is only reasonable for them to pay service fees for programs they want to watch. Nevertheless, as system operators own regional monopolies and flat rate is implemented in the market, there are no opportunities for consumers to make a reasonable choice. Instead, they have to accept existing service conditions for the subscription of cable TV or terminate their subscription. As consumer sovereignty cannot be justified and the user-pay concept is not carried out, demand side resource allocation becomes distorted.

**3 Analysis of Cable TV Digitization Policies**

**3.1 Digital Convergence and Environmental Changes in the Cable TV Industry**

Concerning the development of digital convergence, it is important to put digitization into practice without delay, otherwise cable TV will face the difficulty of being eliminated and the overall development of the communications and broadcasting industry will be impeded. On the other hand, digitization can enhance the overall value of the cable TV industry. The promotion of digitization policies is a must, not only for the provision of hardware, but also to establish an impartial competitive market, to introduce normal market conditions, and to offer consumers quality and reasonably priced convergence service. If efforts are only made in hardware, then an inefficient equilibrium remains. Consequently, the cable TV and related industries will not function normally.

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6 In a system operator’s cost structure, the authority fees paid to channel operators are relatively high. Although choosing programs with low license fees can lower the cost, the program quality is relatively low. It is the most controversial factor of the flat rate policy. Please refer to Government Information Office, Executive Yuan (2003).
Steven Denning believes that “The business reality of today is that the only safe place against the raging innovation is to join it. Instead of seeing business—and strategy and business education—as a matter of figuring out how to defeat one’s known rivals and protect oneself against competition through structural barriers, if a business is to survive, it must aim to add value to customers through continuous innovation and finding new ways of delighting its customers. Experimentation and innovation become an integral part of everything the organization does.”

The above paragraph states the value of Five Forces Analysis and the predicament suffered by Michael Porter. Based on Porter’s Five Forces Analysis, this paper analyzes the framework of the cable TV industry and also explains the predicament of Five Forces Analysis as it occurs within the cable TV industry in Taiwan. It is therefore crucial for cable system operators to not focus on regional profits, but rather to add value for customers and to themselves.

3.2 Policy Analysis
3.2.1 Basic Policy Principles and Measures
The basic policy principal declared by the central authority, NCC, is to rebuild market order in the cable TV industry while implementing digitization policies. To achieve this goal, it mainly executes legal adjustment, administrative behavior under the current legal system, and an establishment of an incentive mechanism that helps lead both supply and demand sides to cooperate with and promote digitization policies.

3.2.2 Analysis of Policy Means
3.2.2.1 Legal Adjustments (Cable Radio and Television Act and Satellite Broadcasting Act)
Legal adjustments include: listing digitization as a requirement for new market entrants as well as existing system operators that wish to expand their business and to renew their license; establishing channels in a system platform that provides fair, reasonable, and unbiased slotting allowance in order to offer licensed satellite broadcasting businesses the same bargaining power and to enhance the development of cable TV’s upstream and downstream industries; and opening up pay channels to broadcast advertisements and make it a real open platform, where all channels have to satisfy consumers’ choices under the same conditions. Apart from listing digitization as the basic requirement for entering the market, the implementation of legal adjustment also has a policy target - in other words, to open the market and, even more, to create an environment that helps the development of digital convergence.

3.2.2.2 Administrative Measures
Regarding the application of administrative measures, NCC in 2011 promoted the “Digital Cable TV Switchover Policy” that agrees system operators, whose digitization status has already reached 60% in a designated service area, to totally switch over to digital broadcast in order to lower costs and accelerate digitization. To speed up digitization, NCC in June of 2013 promoted “The Digital Cable TV Subsidy Program for Highlight Areas” to subsidize targets, whose “digital interactive service for disadvantaged people and other welfare purposes” or digital penetration is over 60% or increased over 30% annually so as to fasten the process of digital penetration. Having “digitization” and “channel tiering” as requirements, NCC re-opened the service area applications in 2013. Currently (July 2013), there are 6 operators, which have committed themselves to implement the above conditions and have entered the market as a new entrant or as a cross-regional player.

This policy can be considered as the detonator of digitization policies, where the new entrants have shown a business opportunity for convergence. As for consumers’ digital dividend to be brought forth through digitization and channel tiering, it will push existing system operators to follow their steps in order not to be replaced by new entrants. This demonstrates that the policy is now heading in a suitable direction.

3.2.2.3 Designing an Incentive Mechanism
An incentive mechanism is mainly based on the tariff regulation incorporated with a tiering system and the sharing of digital dividend that help lead the supply and demand sides to promote digitization. The design of the tariff regulation has two principles of management: prior to digitization, tariff rationality will be implemented to accelerate digitization; after digitization, the channel tiering (pay packet) system that satisfies the principle of Pareto improvement will be implemented under the consideration of new competition brought about by

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7 Please refer to Denning (2012). Michael Porter’s co-founded consulting company was forced to file for bankruptcy protection in November 2013. Is it true that Porter’s management framework including the five-force analysis no longer works?

8 Please refer to National Communications Commission (NCC; 2012); The Proposed Amendment for Cable Radio and Television Act and Satellite Broadcasting Act.
digital convergence. Digital dividends created under this system then become an expected incentive that helps to speed up digitization and improve market conditions.

Prior to digitization, system operators, whose digitization promotion plan complies with the central authority’s plan, can maintain their current statutory tariff limit until 2017. As for the others, whose status is far behind schedule, their tariff will gradually decrease to NTD350 every year. 9

According to the Executive Yuan, they will reach the target of having a 100% penetration rate by 2015 and those that complete the schedule on time will win more digital dividends than those running behind.

After digitization, in 2017 NCC will establish the preliminary tiering (pay packet) mode. In other words, “subscribers can, based on their demand, choose the Basic Option (NTD200) or add to the Basic Set Package (with at least 3 sets, where each set is NTD130 each with a total amount of no more than NTD500) / pay channel / pay-per-view program”. This policy will return the digital cable TV dividend back to consumers: they will be able to enjoy watching diversified programs, have low subscription fees based on demand, and watch the channels that they want to watch due to a sound slotting allowance mechanism in the cable TV industry. All of these digital dividends shall attract consumers towards the digitization policy.

As for the system operators, according to the authority’s document, over 80% of users are willing to continue their existing viewing behavior under the current flat rate tariff structure.10 In other words, if system operators improve some of the existing program content, they can maintain at least 80% profit after implementing tiering. If the design of tiering is appropriate and the program quality and content are further improved, then they will be able to increase the revenue of pay channels or pay-per-view programs to add to their profits. Digitization will enhance the overall value of the network, whereby digital convergence will bring operators even more room for profit11 by running cross-industry businesses such as telecom firms.

For the whole cable TV industry, the purpose of the central authority’s policies is to improve the current slotting mechanism of channels, system operators’ planning for channel tiering, advertising agencies’ pricing model, channel operators’ positioning strategies, etc.

Channel operators can take this opportunity to adjust their system and to create industry value. As for further development, fair bargaining power for slotting allowance must be set up in order to establish a complete channel market, where channel operators will face consumers’ choices fairly and quality can be enhanced. Therefore, channel operators will be able to ascertain consumer targets, which helps them obtain even more profits by negotiating advertising fees with advertisers or by settling authorization with system operators. All of these will attract even more financial resources to produce and broadcast better programs and to offer services to even more subscribers. Aside from maintaining the current 80% profit, channel operators can generate even more profit by attracting the other 20% of consumers who are looking forward to the implementation of the tiering system.

4 Conclusion
This article has analyzed the causes for the slow progress in the digitization of Taiwan’s cable TV industry and has explained the negative policy implications of the present inefficient equilibrium: consumer sovereignty cannot be justified; the user-pay concept is not carried out; there is an incomplete channel market, etc. Moreover, this paper has examined the central authority’s policies in response to the digitization of cable TV. Such policies lead system operators to establish a digitized network, with the aim of obtaining benefits from the introduction of a channel tiering

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9 The growth rate in digitization for 2013 Q3 is forecasted to be 4.5% compared with 2012 Q4; the digital penetration rate of 2014 Q3 is forecasted to be 45%; the digital penetration rate of 2015 Q3 is forecasted to be 75%. The service fee will be maintained at the statutory tariff limit every year. For operators that do not comply with the above planned schedule, they will have their subscription fees adjusted to NTD350 every year.

10 Chih-Hong Tsai et al. (2011), NCC Commissioned Research Report. This research indicates that, after excluding specific channels such as religious, shopping, or stock-related channels, around 80% of users are willing to maintain their previous viewing behaviour.

11 Ever since NCC promoted measures that support digitization in 2013, Taiwan’s proportion of digital TV has already reached 50% (until October 31, 2013). With an increase of 24% compared with 26% in March of 2013, it shows the effect of having system operators attracted to cooperate with the digitization policy.

12 Channel operators’ revenues mainly come from advertising fees and system operators’ authorization fees. According to Chih-Hong Tsai et al. (2011), over 80% of users are willing to continue their viewing behaviour. In other words, channel operators can maintain at least 80% of their advertising fees, authorization fees, and profit.
mechanism. Overall, all of these steps can help to realize the nation’s digitization goal. On the other hand, as the tiering mechanism has been implemented in other countries for several years, it is possible to learn from their experiences in channel transformation. Furthermore, as digitization will be completed and as competition increases, one can expect to constitute Pareto improvement for the existing industry and move the existing industry from an improper equilibrium to a new equilibrium where consumers, cable system operators, and channel operators are all better off.

During the process of promoting digitization policies, the introduction of the channel tiering mechanism is changing cable TV industry’s operation mode, which has been carried out for many years. Therefore, the central authority has announced its scheduled plan earlier in order to help operators respond to the policies and to adjust their businesses appropriately. As for the measures that support this scheduled plan, NCC has collaborated with the Ministry of Culture to assist local quality channels to produce and broadcast programs that satisfy subscribers’ needs and to also continuously discuss relevant regulations (e.g., product placement and program naming right) to boost the industry. All of these can assist the cable TV industry in its long-term development.

References:


[8] Government Information Office, Executive Yuan, report of the “Measures of Supporting the Management of Basic Cable TV Channels and Promotion of Pay Channels” (5th Legislative Yuan, 3rd Session and Education and Culture Committee), 2003.*


[12] National Communications Commission, the 537th, 541st and 546th NCC Meeting Minutes, “Resolutions of Applications for the Cable TV Cross-Sectional Operation”, 2013/05/08, 06/05, 07/10.*


* in Chinese