

Article

Horizontal Model for Regulatory Reform of Communications – The Layers Model, Reform in Malaysia and the UK, and Proposals for Taiwan

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ABSTRACT

After an in-depth study of the network layers model of communications regulation, the reforms in Malaysia and the UK, and the CRA Draft in Taiwan, a summary of findings are as follows: 1. The layers model theory is an analytical tool for policy considerations, not a regulatory framework; 2. Unnecessary classification of services should be avoided; 3. The separate framework of “content” and “transport” in the EU and the UK is appropriate; 4. The separation of “content” and “platform” layer in Taiwan’s CRA Draft is endorsable, but not with an “infrastructure and networks” layer. The author’s proposals for regulatory reform in Taiwan are: (1) to maintain a vertical separation of telecommunications and broadcast regulation, along with a general part of both in the macrostructure; (2) to reduce regulatory gaps in order to facilitate convergence in the microstructure.

Keywords: *Horizontal Model, Communications, Layers Model, Malaysia, EU, UK, Communications Regulatory Act*

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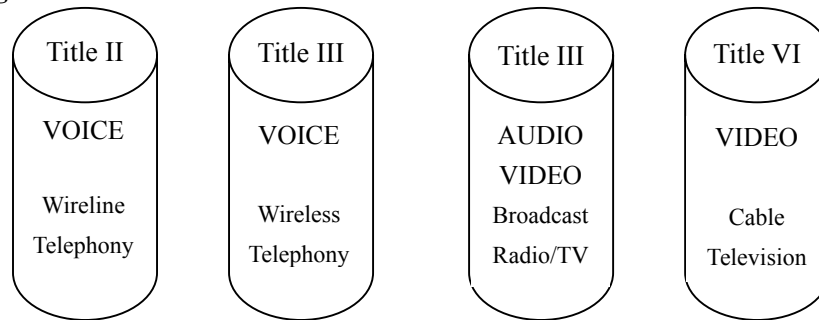
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I. INTRODUCTION

The communications sector is not a single-industry sector. In fact, it includes many industries such as telecommunications, internet access, radio, terrestrial television, cable television, and satellite television. Therefore, the regulatory framework for the communications sector in most countries comprises plural schemes which normally correspond to different industries or technologies. This mode of regulatory framework, for instance, the Communications Act of 1934 in the United States, is commonly referred to as the “vertical” framework. Richard Whitt called it a vertical system with “silos”, meaning that there are different sets of legal rules – such as Title II (telephone), Title III (television-radio and wireless communications), and Title VI (cable television) – for different “silos” (services/technologies).¹ (Figure 1)

Figure 1 The Vertical or “Silos” Model



Source: Richard S. Whitt²

Since the 1990s, thanks to technological innovations and advancements, different industries in the communications sector have “converged”. Electronic communication networks in these industries have become “neutral” conduits which are essentially capable of conveying nearly all services. The convergence of communications services blurs the boundary of silos in the vertical model, which has been severely criticized. In response to communications convergence, ideas for reforming the vertical model are largely associated with the concept of viewing the communication network transportation and service provisions “horizontally”. This article addresses two important schools of the horizontal model – the “layers model” (or layered model) theory in the United States (US) and the “horizontal

1. Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model*, 56 FED. COMM. L.J. 587, 595-96 (2004).

2. *Id.* at 597.

approach” of regulatory framework in the European Union (EU).

The two schools of the horizontal model were introduced into Taiwan starting around 2002 by academia and research institutions.³ Taiwan’s new and converged regulatory authority, the National Communications Commission (NCC), was established in 2006. Influenced by the horizontal model, NCC initiated a draft “Communications Regulatory Act” by integrating three broadcast laws⁴ and one telecommunications law⁵ in late 2007. In 2008, the Cabinet of Taiwan’s executive branch did not accept the draft, but the need for an integrated piece of legislation based on the horizontal model to replace broadcast and telecommunications statutes continued. In December 2010, the Cabinet approved the “Program for the Development of Digital Convergence (Years 2010-2015)”, in which it indicated the long-term goal should be to integrate broadcast and telecommunications statutes into horizontal-approach regulation.⁶

In the past 15 years, nations in the Asia-Pacific (including Malaysia, Japan, Korea, and Australia) and the EU have rewritten or planned to extensively rewrite their regulatory framework for the communications sector. Many of the amendments or proposals rest on horizontal models. Malaysia was the first to enact the “Communication and Multimedia Act” in 1998, a single and catch-all piece of legislation for all communications

3. For example: Haojun Dai, *Oumêng Yinying Shuwei Huiliu Fachih Kêhsin Hsienk’uang* [Regulatory reform in response to digital convergence in the European Union], 14(8) K’êchi Falu T’ouhsi [SCIENCE & TECHNOLOGY LAW REVIEW] 9, 9-14 (2002); Haojun Dai, *Yinying Shuwei Huiliu Tzuhsün T’ungshên Fachih Kêhsin Chih Yenchiu* [A study of information and communication regulatory reform in response to digital convergence], in TIENSHÊN FACHIH HSINCHIYÜEN [THE NEW ERA OF TELECOMMUNICATIONS LAW] (Jiande Fan ed., 2003); Youli Liu, *Tienschên Meit’i Yü Wanglu Tê Chênghê, ho Yü Huiliu* [The integration and convergence of telecommunications, media and internet], in TIENSÜN CH’UANPO [TELECOMMUNICATIONS] 371 (2004); Renjie Chen, *T’ungshün Ch’uanpo Chipên Fachih Kuanchih Yüentsê* [Regulatory Principles in the Fundamental Communications Act], 16(3) KEJI FALÜ TOUXI [SCIENCE & TECHNOLOGY LAW REVIEW] 43, 43-51 (2004); Tianqin Zhang et al., *T’ungshün Ch’uanpo Huiliu* [Convergence of Communications], 296 LUSHIH TSACHIH [TAIPEI BAR JOURNAL] 33, 33-41 (2004); Jingning Huang & Haojun Dai, *K’aichan T’ungshün Ch’uanpo Fachih Hsinchiü—Wokuo T’ungshün Ch’uanpo Chipên Fachih Yenhsi* [Opening Up New Legal Institutions of Communications — a Study of the Fundamental Communications Act in Taiwan], 16(9) KEJI FALÜ TOUXI [SCIENCE & TECHNOLOGY LAW REVIEW] 32 (2004); Kaisheng Gao & Boli Liu, *Oumêng 2003 Nien T’ungshün Fachih Yenhsi* [A Study of New Framework of the EU 2003 Communications Directives], 35 CHINGSHÊ FACHIH LUNTS’UNG [SOCIOECONOMIC LAW AND INSTITUTION REVIEW] 319 (2005); Chun Li & Yushan Zhang, *Shuwei Huiliu Ts’ushih Hsia Tientzu T’ungshün Ch’anyeh Chih Kuanchih Pienkê Yü Ying You Ch’ühsiang* [The Development of Digital Convergence and Its Implications for Regulatory Reform], 13(4) KUNGP’ING CHIAOI CHI K’AN [FAIR TRADE QUARTERLY] 167 (2005); Zhian Li, *Kuanwu Shuwei Huiliu Tê Chipên Kuanchih Wënt’i* [Fundamental regulatory issues in the era of digital convergence], 3(1) K’ÊCHI FAHSIAO P’INGLUN [TECHNOLOGY LAW REVIEW] 163 (2006).

4. Radio and Television Act (2006), Cable Radio and Television Act (2007), and Satellite Broadcasting Act (2003).

5. Telecommunications Act (2007).

6. Hsing Chêng Yüen [The Executive Yuan], *Shuwei Huiliu Fachan Fangan (2010-2015 Nien)* [Program for the Development of Digital Convergence (Years 2010-2015)], 21-22 (2010), <http://www.ey.gov.tw/Upload/RelFile/26/75806/012916565471.pdf>.

industries and services. Malaysia's model of legislation will be presented in Part III of this article.

As early as 1997, the EU issued the "Green Paper" to invite consultations in response to the phenomenon of convergence in the communications sector.⁷ The EU later adopted a comprehensive regulatory framework model by passing a package of communications directives in 2002. By enacting the "Communications Act 2003", the United Kingdom (UK) is the first EU nation to transform EU directives into domestic law and completed its regulatory reform.

In recent years, Japan's Ministry of Internal Affairs and Communications proposed a legislative framework for the communications sector, based on the three- or four-layers model.⁸ However, after public consultation, the Japanese government decided, as the first priority, to streamline its complicated laws of broadcast media. The Diet passed the new "Broadcast Act" in late 2010, which integrated the (old) Broadcast Act, the Cable Television Broadcast Act, the Act to Regulate the Operation of the Cable Sound Broadcasting Service, and the Act Concerning Broadcast on Telecommunications Services.⁹

Korean operators began to provide "mobile television" services via satellite transmission (S-DMB) in 2005. Disputes arose from the question of whether mobile television services should be classified as broadcast media services or telecommunications services, which in turn led to discussions regarding reform of regulatory agencies and frameworks for the communications sector following convergence.¹⁰ Later in 2008, the Korea Broadcasting Commission (KBC) and Ministry of Information and Communication (MIC) merged to form the new regulatory agency – the Korea Communication Commission (KCC).¹¹ Furthermore, in 2010 the Korean parliament enacted the "Broadcast and Telecommunications Development Basic Law", which seeks to promote the convergence of communications industries by the use of industrial funding.¹²

7. European Commission, *Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors, and the Implications for Regulation: Towards an Information Society Approach*, COM (1997) 623 final (Dec. 3, 1997). [hereinafter *Green Paper*].

8. Yu-li Liu, *The Impact of Convergence on the Telecommunications Law and Broadcasting-Related Laws: A Comparison between Japan and Taiwan*, 33 KEIO COMM. REV. 43, 51-52 (2011).

9. CHIE KASAHARA, *ADVICE FOR HANDLING IP MATTERS IN JAPAN, IP CLIENT STRATEGIES IN THE ASIA-PACIFIC* (2011).

10. Dong-Hee Shin, *Convergence of Telecommunications, Media and Information Technology, and Implications for Regulation*, 8(1) INFO: J. POL'Y, REG. & STRATEGY FOR TELECOMM., INFO. & MEDIA 42, 43-46 (2006).

11. Daeho Kim, *New Regulatory Institution for the Convergence of Broadcasting and Telecommunications: A Korean Case*, 28 GOV'T INFO. Q. 155, 156-160 (2011); Seon-Kyou Choi, *Convergence in the Media Sector: Drivers, Impacts and Regulatory Challenge*, 2(2) COMM. & CONVERGENCE REV. 53, 59 (2010).

12. Choi, *supra* note 11, at 63.

In March 2011, the government of Australia established the “Convergence Review Committee” to examine the impact of convergence on the existing regulatory framework for electronic media and to make recommendations for regulatory reform. The Committee subsequently issued several reviews and discussion papers.¹³ In particular, in the report “Convergence Review – Discussion Paper: Layering, Licensing and Regulation”, the pros and cons of the principle of “regulatory parity” were analyzed based on the layers model.¹⁴

Since the regulatory reform of communications services in Japan, Korea, and Australia is still in progress, the author would like to present the new legal framework in Malaysia and the UK in this article as these are the two notable countries which have completed structural reform.

Questions to be addressed in this article include:

1. What is the impact of communications convergence on existing legal frameworks? How helpful is the layers model theory in communications regulatory reform? What does it mean by the “horizontal approach” of regulatory framework in the EU?
2. Does a theoretical horizontal model always confer a regulatory policy prescription? Do those reforms adopting a horizontal model effectively reduce the institutional impact of convergence? Or may a horizontal reform produce undesirable consequences?
3. After studying the reforms in Malaysia, the EU, and the UK, what lessons can be learned for Taiwan? What is the best policy or model for framework reform in Taiwan?

13. Australian Government, Department of Broadband, Communications and the Digital Economy, *Convergence Review: Framing Paper* (Apr. 2011), http://www.dbcde.gov.au/_data/assets/pdf_file/0019/133903/Convergence_Review_Framing_Paper.pdf; Australian Government, Department of Broadband, Communications and the Digital Economy, *Convergence Review: Emerging Issues Paper* (June 2011), http://www.dbcde.gov.au/_data/assets/pdf_file/0020/137270/Convergence_Review_Emerging_Issues_paper_PDF_707_KB.pdf; Australian Government, Department of Broadband, Communications and the Digital Economy, *Convergence Review: Interim Report* (Dec. 2011), http://www.archive.dbcde.gov.au/_data/assets/pdf_file/0007/143836/Convergence-Review-Interim-Report-web.pdf.

14. The principle of “regulatory parity” refers to the “principle that a media and communications policy framework should apply consistently to like services, regardless of the platform or technology used to deliver the service.” See Convergence Review, *Discussion Paper: Layering, Licensing and Regulation*, at 7-14 (2011). http://www.dbcde.gov.au/digital_economy/convergence_review. Also, two papers in Australian journals urged the adoption of the EU or layered model for reform. See Niloufer Selvadurai, *The Creation of the Australian Communications and Media Authority and the Next Necessary Step Forward*, 26(2) ADELAIDE L. REV. 271 (2006); Niloufer Selvadurai, *The Convergence of Broadcasting and Telecommunications: The Need to Shift from a Vertical “Silo” Model to a Horizontal “Layered” Model of Regulation*, 61(4) TELECOMM. J. OF AUSTRALIA 66.1 (2011).

Part II of this article will be the author's note of the generalized layers model theory with comments. Malaysia completed its reform in 1998 and will be the focus of Part III. Part IV of this paper deals with horizontal approach reform called for in the EU's directives. The UK's reform model, implementing the EU directives, is described in depth in Part V. Two proposals for framework reform in Taiwan – one by the regulatory authority, the other by the author – are discussed in Part VI. Part VII concludes the article.

II. THE LAYERS MODEL THEORY

The idea of the “layers model” originated from the multi-layer architecture in computer science, which has long been used by telecommunications and computer engineers.¹⁵ An example of a multiple layer system is the Open System Interconnection (OSI) Reference Model in the science of computer network.¹⁶ Roughly after 2000, some in academia transformed the *multi-layer architecture for technology* into a *multi-layer model for policy analysis*, and named the latter as the “layers model” or “layered model” theory.

The theory behind the layers model focuses on the “function” of the layers, and argues that like services performing like functions in each layer be treated and regulated alike, that is, the principle of equality. All layers model theorists consider the “silos” model of regulatory framework, exemplified by the US, to be a failure.¹⁷ Take the voice telephony for example, the wireline voice service is subject to legal rules in Title II of the Communications Act, while the wireless voice service is regulated under Title III. The same is the case for television service, where terrestrial television is regulated under Title III but cable television is under Title VI.

There are numerous theories for the layers model but three of the most representative are: (1) SMC model,¹⁸ (2) Whitt model,¹⁹ and (3) Werbach model.²⁰ A graphic presentation comparing the three models can be seen in

15. Martin Fransman, *Mapping the Evolving Telecoms Industry: The Uses and Shortcomings of the Layer Model*, 26 TELECOMM. POL'Y 473, 474 (2002).

16. There are seven layers in OSI: (from bottom-up) physical, data link, network, transport, session, presentation, and application.

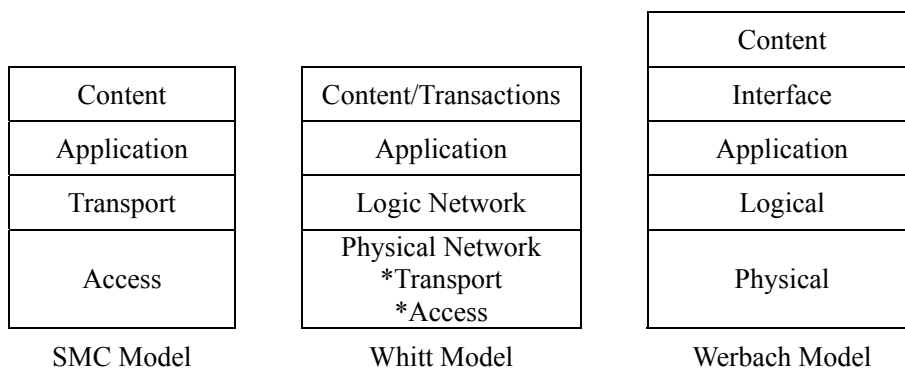
17. Douglas C. Sicker & Joshua L. Mindel, *Refinements of a Layered Model For Telecommunications Policy*, 1 J. ON TELECOMM. & HIGH TECH. L. 69, 70-71 (2002).

18. The SMC Model is comprised of three scholars: Douglas Sicker, Joshua Mindel, and Cameron Cooper. The literature includes: *Id.*; Joshua L. Mindel & Douglas C. Sicker, *Leveraging the EU Regulatory Framework to Improve a Layered Policy Model for US Telecommunications Markets*, 30 TELECOMM. POL'Y 136 (2006); Douglas C. Sicker & Lisa Blumensaadt, *Misunderstanding Layered Model(s)*, 4 J. ON TELECOMM. & HIGH TECH. L. 299 (2006).

19. Whitt, *supra* note 1.

20. Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. ON TELECOMM & HIGH TECH. L. 37 (2002) [hereinafter *Layered Model*]; Kevin Werbach, *Breaking the Ice: Rethinking*

Figure 2.

Figure 2 SMC Model,²¹ Whitt Model,²² and Werbach Model²³

Source: The author

A. *The Greatest Common Denominator of the Three Models: Four Layers*

It is not feasible to explain the three models at length in this article. A brief introduction into the models will be made by discussing the greatest common denominator among them: a four-layer model consisting of physical, logical, application, and content layer. (*See infra* Figure 3)

1. *Physical Layer*

The physical layer includes the physical infrastructure facilities for network “transportation” and “access”, such as wireline (line, trunk, coaxial cable, copper wire, and fiber) and wireless (satellite and terrestrial radio) transmission. The “transport” network contains the long-haul or backbone networks for transportation of massive data, while the “access” network (the “last mile”) reaches the end-users.²⁴ Since infrastructure deployment involves heavy fixed costs, only one or few firms exist in the physical layer. The regulatory policy in this layer should focus on opening up the incumbent’s platform-network for its competitors.²⁵

Telecommunications Law for the Digital Age, 4 J. ON TELECOMM & HIGH TECH. L. 59 (2005) [hereinafter *Breaking the Ice*].

21. Sicker & Blumensaadt, *supra* note 18, at 310.

22. Whitt, *supra* note 1, at 624.

23. Werbach, *Breaking the Ice*, *supra* note 20, at 71.

24. Mindel & Sicker, *supra* note 18, at 139.

25. *Layered Model*, *supra* note 20, at 60.

2. *Logical Layer*

In the logical infrastructure, management or routing systems function to ensure data on physical networks will be sent to the correct destination or address. The logical layer is mainly composed of transport protocols, including DNS, TCP/IP and telephone addressing systems.²⁶ In this layer, smooth communications and co-ordination between hardware and software (numerous protocols) are essential. It is therefore public policy for this layer to promote standards, compatibility, interoperability, and interconnection.

3. *Application Layer*

The application layer provides communications services to general end-users (consumers). Examples are telephone service, internet access, VoIP, e-mail, instant message, and video programming.²⁷ The layers model theory argues that, by and large, the application layer does not need heavy regulation. As long as the physical and logical infrastructures beneath the application layer remain open, new comers are free to provide (new) application services to compete with the incumbent.²⁸

4. *Content Layer*

The content layer refers to the content and information delivered to, and received from, end-users over communications networks. It includes radio and television programming, website texts, music and video clips, and telephone conversation. Owing to the constitutional protection of free speech, the government may regulate the content layer only under limited circumstances.²⁹ Most of the regulation is seen in public broadcast, seldom in communications between private parties. With high penetration, mass broadcasting media are prohibited from providing unlawful or indecent content, such as obscenity and violence.

Next, the author would like to point out three contributions of the layers model theory, namely: 1. matching physical features of modern networks; 2. identifying deficiency and drawbacks of the vertical model; and 3. the layers model as a good tool for policy analysis. But there is one major limitation with the general theory: no solid proposal for reform.

26. Whitt, *supra* note 1, at 609; *Layered Model*, *supra* note 20, at 61-62.

27. *Layered Model*, *supra* note 20, at 63; *Breaking the Ice*, *supra* note 20, at 72.

28. *Layered Model*, *supra* note 20, at 63.

29. *Layered Model*, *supra* note 20, at 63-64; *Breaking the Ice*, *supra* note 20, at 73.

B. *Contributions and Limitation of the Layers Model*

1. *Matching Physical Features of Modern Networks*

It is thought that modern internet, telecommunications, and cable television networks are conceptualized and built on horizontal architectures.³⁰ Richard Whitt suggests that the layers model, as a mirror, reflects how networks actually operate. It is hence logical to adopt a multi-layer framework for policy consideration.³¹

2. *Identifying Deficiency and Drawbacks of the Vertical Model*

As far as the increasing convergence is concerned, advocates for the layers model see the vertical regulatory model with isolated silos inadequate to cope with new and converged services. As Professor Kevin Werbach eloquently contended, there are four drawbacks of this model. First, the vertical scheme assumes each silo is separate and distinctive, but a contemporary IP-based network is converged and virtually capable of carrying all types of data. Secondly, most legal rules in each silo are applied in an “all-or nothing” manner. Thirdly, the service in each vertical category is not isolated, and the network in each silo is increasingly interconnected or works in co-operative ways. Finally, the vertical model is concerned with services provided to consumers, while ignoring intermediary services rendered by behind-the-scenes network architectures.³²

One of the most notable cases was the DSL broadband service. As provided by telecommunications carriers, the DSL service was deemed by the US Federal Communications Commission (FCC) a “telecommunications service” *regulated* in the Title II. However, the cable modem service supplied by cable television systems has been classified by the FCC as *unregulated* “information service” since 2002. It resulted in such an obvious inconsistency that two functionally equivalent services were legally treated in contrary ways.³³ Professor Rob Frieden, a proponent of the layers model, further criticized that the vertical model would create “regulatory arbitrage”

30. Tim Wu, *Why Have a Telecommunications Law? Anti-discrimination Norms in Communications*, 5 J. ON TELECOMM. & HIGH TECH. L. 15, 21 (2006).

31. Whitt, *supra* note 1, at 590, 621.

32. *Layered Model*, *supra* note 20, at 58; *see also* Whitt, *supra* note 1, at 615.

33. Rob Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 FED. COMM. L.J. 207, 221, 225 ; Whitt, *supra* note 1, at 653-61. In 2005, FCC finally classified DSL service as “information service”. Federal Communications Commission, *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Universal Services Obligations of Broadband Providers*, Report and Order and Notice of Proposed Rulemaking, FCC 05-150, Aug. 5, 2005.

by providing opportunities for operators “to migrate to less-burdensome classifications”.³⁴

3. *The Layers Model as Tool for Policy Analysis*

The layers model may work as a good tool for policy analysis, for each layer has its own (and different) policy concern. The physical layer involves policies concerning universal service obligations, spectrum policy, or cable television franchising. In the logical layer, public issues focus on open access and IP peering. For the content layer, regulations include intellectual property protection, gambling, taxation, or libel laws.³⁵

The layers model is a reflection of the market structure of communications services – different layers entail different levels of market. The model helps to define markets, clarify issues and target solutions.³⁶ As in Professor Lawrence Solum’s view, rephrased by Richard Whitt: “[A]pplying the layers analysis (by identifying the layer of the problem conduct and the layer where the regulation operates) provides a more concrete analysis of the issues by placing the disputed function at a proper layer and providing a correct focus on the relevant operation of the Internet”.³⁷

Furthermore, the layers model helps to identify market power in one layer and its extension to another layer. A particular emphasis provided by Richard Whitt is known as “the principle of leveraging lower layer control”. This means that a firm may be able to leverage its market power at the lower (physical) layer into the higher layers that rely on the lower one.³⁸ Consequently, an antitrust action on “leveraging monopoly power” could possibly be invoked in the worst scenario. All these are important contributions that have been made by the layers model theorists.

4. *Does the Layers Model Entail the Model for Regulatory Reform?*

This article would like to make an important yet interesting inquiry: Does the layers model entail the model for regulatory reform? In other words, do the layers model theorists propose to reform the regulatory structure for communications services according to the layers model? The answer, which is perhaps surprising to readers, is no. Richard Whitt claimed

34. Frieden, *supra* note 33, at 221.

35. Whitt, *supra* note 1, at 617.

36. *Id.* at 617-18.

37. *Id.* at 627.

38. *Id.* at 647; David P. Reed, *Critiquing the Layered Regulatory Model*, 4 J. ON TELECOMM. & HIGH TECH. L. 281, 283-84 (2006).

that his model should not “be transformed by some into a rigid and inflexible mandate. At its core, the layers principle is a pragmatic tool, based on a close analysis of technological and marketplace realities”. Policymakers should not enshrine the layers principle as definitive or dispositive norms.³⁹ He further added that the Whitt model is “not to fashion a rigid horizontally-inclined version of the current vertical legal silos”.⁴⁰

The SMC model urged that the idea of the layers concept is an “analytical policy tool” in which providers’ power on networks is assessed in a technically neutral way.⁴¹ The model functions as a “structured lens” through which relations between providers (either telecommunications service or information service) could be evaluated and is not all about creating a new model for regulation.⁴² Apparently, neither the Whitt nor the SMC model claims that the vertical model should be amended or reformed as a model of horizontal layers. Though the layers model theorists called for a major revision of the US Communications Act in the long run,⁴³ they have never suggested a solid proposal about how the existing silos model could be reformed. This has become the most fatal limitation of the layers model, in the author’s opinion. But what happens if a country extensively rewrites its legal framework for communications based on the idea of the layers model?

III. REGULATORY REFORM BASED ON THE IDEA OF LAYERS MODEL – MALAYSIA

A. *Communications and Multimedia Act and the Layers Model*

Malaysia began its regulatory reform of communications industries in 1996. In July 1998, Malaysia enacted the very first converged legislation in the world, the Communications and Multimedia Act (CMA), whilst repealing the Telecommunications Act of 1950 and Telecommunications Service (Successor Company) Act of 1985. Meanwhile, a new and converged regulatory agency, the Malaysian Communications and Multimedia Commission (MCMC), was established under the Ministry of Energy, Water, and Communications.⁴⁴ The scope of the CMA covers

39. Whitt, *supra* note 1, at 619; *see also* Richard S. Whitt, *Adaptive Policymaking: Evolving and Applying Emergent Solutions for U.S. Communications Policy*, 61 FED. COMM. L.J. 483, 563 (2009).

40. Whitt, *supra* note 1, at 646.

41. Sicker & Blumensaadt, *supra* note 18, at 302.

42. *Id.* at 312; Mindel & Sicker, *supra* note 18, at 137.

43. Sicker & Mindel, *supra* note 17, at 94.

44. For the CMA and MCMC, *see* P. S. Sangal, *Malaysia: Communications Law – Multimedia Technology*, 9(12) INT’L COMPANY & COM. L. REV. N102 (1998); Angeline Lee, *Convergence in Telecom, Broadcasting and IT: A Comparative Analysis of Regulatory Approaches in Malaysia, Hong Kong and Singapore*, 2001 SINGAPORE J. OF INT’L & COMP. L. 674; Cassey Lee, *Telecommunications Reforms in Malaysia*, 73 ANNALS OF PUB. & COOPERATIVE ECON. 521 (2002); Safinaz M. Hussein,

telecommunications, radio and television broadcasts, and internet services. Although the 1998 CMA was drafted a little earlier than the publication of academic papers advocating the layers model in the US, the CMA shows a striking similarity with the layers model. Hence, the CMA represents a reform based on the principles underlying the layers model.

In the communications sector, there were 31 types of licenses in Malaysia before the reform.⁴⁵ The CMA systematizes all communications services into four categories⁴⁶ – network facilities (NF), network services (NS), application services (AS), and content application services (CAS). The details of these categories are given below.

1. *Network Facility Providers (NFP)*

“Network facilities” (NF) mean any element(s) of physical infrastructure used principally for, or in connection with, the provision of network services.⁴⁷ In the Licensing Regulations,⁴⁸ it is said that NF include earth stations, broadband fiber optic cables, telecommunications lines and exchanges, radio communications transmission equipment, mobile communications base stations, and broadcasting transmission towers and equipment. NFP own the facilities or infrastructure upon which services in three other categories (network services, applications services and content applications services) rely.⁴⁹ With reference to the layers model, NF belong to the “physical layer” in the model, since the physical layer includes the physical communications networks and facilities. (See Figure 3)

2. *Network Service Providers (NSP)*

The CMA defines “network services” (NS) as services for carrying communications by means of guided and/or unguided electromagnetic radiation.⁵⁰ NSP provide basic network connectivity and transportation, such as bandwidth services, broadcasting distribution services, cellular mobile

Service Provider Licensing System in the Malaysian Communications and Multimedia Industry, 3 J. OF INFO., L. & TECH., Mar. 2004, at 1; Mudiarsan Kuppusamy & A. Solucis Santhapparaj, *Cyber-Laws in the New Economy: The Case of Malaysia*, 5(8) ASIAN J. OF INFO. TECH. 884 (2006); Sharon S. Tan, *Malaysia*, in 2 INTERNATIONAL TELECOMMUNICATIONS LAW 345 (Dennis Campbell ed., 2007); Richard Wu & Mohd Yazid Zul Kepli, *Malaysian Communications and Multimedia Commission: A Model of Unified Communications Regulator for Hong Kong?* 2 MALAYAN L.J. 89, 89-109 (2010).

45. International Telecommunication Union, ICT Regulation Toolkit, *Section 4.5.3 Malaysia, Table 4-8: Licensing in Malaysia*, <http://www.ictregulationtoolkit.org/en/PracticeNote.2554.html>.

46. Tan, *supra* note 44, at 356-57.

47. CMA, section 6.

48. Communications and Multimedia (Licensing) Regulations 2000, as amended in 2005.

49. Hussein, *supra* note 44, at 5.

50. CMA, section 6.

services, access application services, and gateway services.⁵¹ For the layers model theory, both SMC and Whitt see the physical layer with two primary functions – access and transport (*See supra* Figure 2). NSP in the CMA fulfill the “transport” function of networks and therefore are a component of the “physical layer.” (*See* Figure 3)

3. *Application Service Providers (ASP)*

“Applications services” (AS) are services provided by means of one or more network services.⁵² In other words, AS provide particular functions or capabilities delivered to end-users via “network services”.⁵³ ASP provide services to general consumers, including public switched telephony, cellular services, IP telephony, pay telephone, data services, internet access services, messaging services, and directory services.⁵⁴ In comparison with the layers model, AS are equivalent to the “application layer” in the model (*See* Figure 3).

4. *Content Application Service Providers (CASP)*

In CMA, a “content applications service” (CAS) simply means an applications service which provides “content.” In turn, “content” is defined as any sound, text, still or moving picture, or other audio-visual or tactile representation, which is capable of being processed or communicated electronically.⁵⁵ The category of CAS contains broadcast services (terrestrial radio and television, satellite broadcasting, and subscription broadcasting) and content services on the internet. For the layers model, the “content layer” is the counterpart of the CAS in the CMA. (*See* figure 3)

In summary, the four-layer model in the CMA is by and large equivalent to the layers model. As Figure 3 shows, the “logical layer” is the only layer missing in the CMA structure. The logical layer deals with the management and routing systems ensuring smooth transportation. It is mainly involved with communications software and protocols used *within* operators, and thereby do not require a service category. The CMA model even matches exactly to the four-layer SMC model (*See supra* Figure 2).

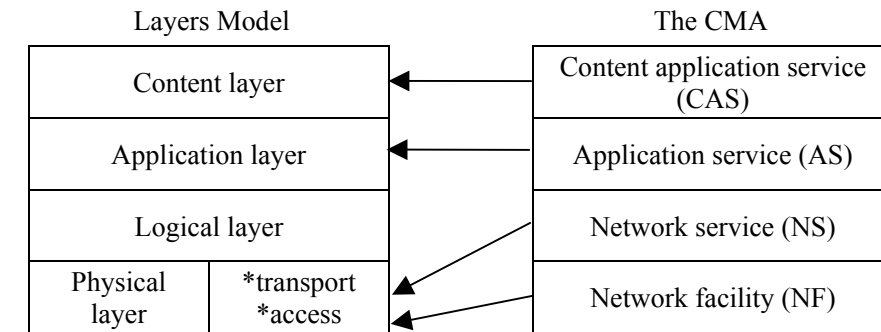
51. Tan, *supra* note 44, at 360.

52. CMA, section 6.

53. Hussein, *supra* note 44, at 4.

54. Tan, *supra* note 44, at 361.

55. CMA, section 6.

Figure 3 The Layers Model and the CMA

Source: The author

However, in order to understand how the four categories in the CMA actually work to enhance convergence, we need to look into some solid facts, in addition to the law. Close examination of the communications and multimedia facts report by the MCMC⁵⁶ shows that:

- There is a clear distinction between telecommunications operators and broadcasters

In fact, CASP is the very license for radio and television broadcasters, while NFP, NSP, and ASP are telecommunications licenses. A clear distinction between telecommunications operators and broadcasters remains in the CMA, and it did not eliminate the boundary between the telecommunications and broadcast industry. (See Figure 4)

- There are three new categories (NFP, NSP, and ASP) for telecommunications licensing

NFP, NSP, and ASP are actually licenses for telecommunications operators in the CMA and have become the new telecommunications licensing categories. Three categories are horizontally situated which means that, for some operators, they need more than one license. (See Figure 4)

56. Malaysian Communications and Multimedia Commission (MCMC), *Q4 2008 Communications and Multimedia Selected Facts & Figures*, at 47-52, http://www.skmm.gov.my/index.php?c=public&v=art_view&art_id=186.

Figure 4 Four Categories in the CMA and Telecommunications-Broadcast Distinction

Telecommunications services	Broadcast services
ASP license	CASP license (radio, terrestrial television, satellite television)
NSP license	
NFP license	

Source: The author

B. *The Structure and Contents of the CMA*

In terms of its structure, the CMA contains 11 sections regulating telecommunications, broadcast, and the internet.⁵⁷ For our interest, the primary sections are: economic regulation (Part VI), technical regulation (Part VII), social regulation (Part IX), and consumer protection (Part VIII). A summary of the contents of Parts VI to IX is provided below.

Part VI Economic Regulation

- Chapter 1. Licensing (Sections 126-132), for NFP, NSP, and ASP (telecommunications)
- Licenses are required for telecommunications operators.
 - Standard conditions or special conditions may be attached to a license.
- Chapter 2. General competition practices (Sections 133-144), for all types of licensees
- Licensees shall not engage in conduct which substantially reduces competition.
 - Competition guidelines are to be published by the MCMC.
 - The MCMC determines the “dominant position” and publishes guidelines for the test of “dominant position”.
 - Exemptions in the name of national interest.
- Chapter 3. Access to services (Sections 145-156), for NFP and NSP (telecommunications)
- Access obligations for NFP and NSP.

57. Lee, *supra* note 44, at 532-34.

- Access to services of equal technical standards and quality on equitable and non-discriminatory basis.
- Written access arrangements between operators are to be registered with the MCMC.
- Model access code is to be made by the industry.

Part VII Technical Regulation

- Chapter 1. Spectrum assignment (Sections 157-178), for all types of licensees
- Spectrum assignments are needed for licensees using spectrum.
 - Spectrum assignments may be transferred to a third party only in accordance with rules to be made by the Ministry.
 - The MCMC may develop a spectrum plan (defining the methodology for assignment) and make it available to the public.
- Chapter 2. Numbering and electronic addressing (Sections 179-181), for NSP and ASP (telecommunications)
- The MCMC shall develop a numbering and electronic addressing plan.
 - The numbering and electronic addressing plan shall include rules for assignments.
- Chapter 3. Technical standards (Sections 182-186), for all types of licensees
- Use of technical equipment or systems shall not hinder network interoperability and public safety.
 - A technical code is to be prepared by the industry or the MCMC.

Part VIII Consumer Protection

- Chapter 1 Quality of service (Sections 187-191), for NSP and ASP (telecommunications)
- Adequately address consumer complaints.
- Chapter 2 Required applications services (Sections 192-194), for all types of licensees
- Emergency
 - Directory assistance

- Operator assistance
- Disabled consumers

Chapter 3. Resolution of consumer disputes (Sections 195-196), for all types of licensees

- Procedures or guidelines for handling complaints of consumers are to be established by the MCMC.

Chapter 4. Rate regulation (Sections 197-201), for all types of licensees

- All providers shall publish rate-tariffs.
- Rates must be fair, non-discriminatory, and oriented toward costs.
- The Minister may intervene freely in determining rates for good cause or as the public interest may require.

Chapter 5. Universal service provision (Sections 202- 204), for NSP and ASP (telecommunications)

- Regulations of universal service provision are to be made by the Minister.
- Criteria for the definition of “underserved areas” and “underserved groups”.
- Universal service provision fund is to be operated by the MCMC.

Part IX Social Regulation

Chapter 1. Licensing (Sections 205-210), for CAS (broadcast)

- CAS providers are required to hold individual licenses.
- Standard or special conditions on the license are to be made in the Schedule or by the Minister.

Chapter 2. Content requirements (Sections 211-213), for CAS (broadcast)

- Indecent, obscene, false, menacing, offensive contents are not allowed.
- A content code is to be prepared by the industry or the MCMC.

C. *Comments on the CMA*

The CMA with four licensing categories is enacted based on the idea of

the layers model, and makes no reference to either telecommunications or broadcasting services. However, how workable the CMA is in implementation and how helpful it is to enhance convergence, remain to be closely examined.⁵⁸ The author provides the following comments.

1. *Provisions for Telecommunications and Broadcast Are by and Large Separable, yet some Chapters Work for Both*

Chapters in Parts VI to IX of the CMA are drafted based on subject matter jurisdiction. Some chapters apply only to telecommunications services, some exclusively to broadcast services, yet others to both services. A close look at the CMA found that:

- a. “Part IX Social Regulation” contains licensing and content law exclusively for broadcast services. Therefore, “social regulation” is the new label for the regulation of broadcasting media under the CMA.
- b. “Part VI Economic Regulation” is mainly for telecommunications services. In particular, Chapter 3 “Access to services” (interconnection) only applies to telecommunications carries.
- c. Since both telecommunications and broadcast services depend on electronic networks and transmission, “Part VII Technical Regulation” generally works for both, with the exception of Chapter 2 “Numbering and electronic addressing”, which is only for telecommunications operators.
- d. Both telecommunications and broadcast licensees need to address matters regarding consumer protection, and thereby provisions in “Part VIII Consumer Protection” in principle work for both.

2. *An Overlapping and Burdensome Licensing System for Telecommunications Operators*

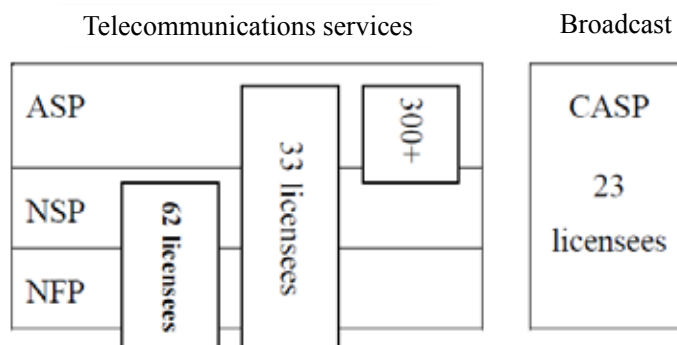
According to the 2008 facts report issued by the MCMC,⁵⁹ there were 78 facility operators with NFP licenses and 85 transmission operators with NSP licenses. Nevertheless, it was found that a significant number of operators, 62 in fact, overlapped on the list of NFP and NSP, that is., 62 carriers needed to obtain both the NFP and NSP licenses. (See Figure 5)

58. As early as in 2001, a law professor in Singapore has questioned the efficacy of the CMA. See Lee, *supra* note 44, at 684.

59. MCMC, *supra* note 56, at 47-52.

Furthermore, in order to provide telecommunications services to consumers, ASP licenses are required. As a result, 33 operators (including four major carriers: Maxis Communications, Celcom, DiGi, and Telekom Malaysia) had to acquire three licenses – NFP, NSP and ASP (See Figure 5). For major operators, it is a heavy burden and cost to maintain three licenses. For each license, there is application fee of 10,000 Ringgit (US\$ 3,300), approval fee of 50,000 Ringgit (US\$ 16,400) and annual license fee of 0.5% of the sum of gross turnover.⁶⁰ The CMA actually provides an overlapping and burdensome licensing system for telecommunications operators.

Figure 5 Number of Overlapping Licensees and Number of ASP and CASP Licensees



Source: By the author based on the information in MCMC, *Q4 2008 Communications and Multimedia Selected Facts & Figures*, at 47-52.

3. *The CMA Helps to Organize Licenses but Does not Contribute Much to Convergence*

The CMA did make some contribution in Malaysia. The four licensing categories in the CMA helped organize the previously existing 31 communications licenses in a systematic way. Furthermore, the horizontally-oriented licensing scheme avoids the defects of the vertical “silos” model, for instance, the unequal treatment of DSL and cable modem services in the US. However, how much does the CMA help to enhance convergence? This deserves a further analysis.

“Convergence” refers to the merging or overlapping of information technology (IT), telecommunications, and broadcast fields. The network platform in each field has the ability to carry essentially similar kinds of messages, such as data, voice, or video.⁶¹ To enhance convergence, the task

60. Tan, *supra* note 44, at 363, 365, 375.

61. *Green Paper*, *supra* note 7, at vii, viii; BEN MARTIN IRLE, CONVERGENCE OF COMMUNICATIONS: IMPLICATIONS FOR REGULATING MARKET ENTRY 19 (2009).

of regulatory authorities would be to (re-)examine and reduce the legal barriers of market entry among branches, that is, to adjust structural regulation (such as licensing schemes) in each branch.

Since operators in IT face little or no licensing requirement in most countries,⁶² legal barriers for licensing exist mainly between the telecommunications branch and broadcast branch. But if further classifications (for instance, classification X, Y, or Z) are made *within* the telecommunications or broadcast branch, legal barriers may be present among classifications. In effect, the CMA, with multiple licensing classifications for telecommunications operators (NFP, NSP, and ASP), happens to increase regulatory burdens.

Professor Tim Wu at Columbia Law School called for a reexamination of whether a classification system, either vertical or horizontal, is necessary. When asked if the right answer is a complete make-over of the silos, Professor Wu answered, “[I]t may be classification itself that is the problem.” The reason behind his response is that the creation of regulatory classifications often leads to delays, litigation, and high costs of administration.⁶³ Professor Wu’s view is that the classifications or licenses of communications services should only be limited as *necessary* – following the “principle of proportionality” in public law. In other words, improper classification or over-classification itself may cause a problem.

The layers model is an *analytical tool* for issues relating to communications regulation, and is not a model of classification for licenses or services. A classification of licenses based on the layers model seems to be a misconceived construction. Professor Wu concludes that the layers model is “most important in the minds of the regulators... [and] that FCC regulators understand modern networks and use a *de facto* layered model in their analysis”.⁶⁴ The author strongly agrees with Professor Wu. The layers model reflects the *de facto* network layers, and was not intended as a proposal for a *de jure* classification for communications services.

IV. HORIZONTAL-APPROACH REGULATORY REFORM IN THE EU

In response to the impact of convergence to regulatory frameworks for telecommunications, media and IT, the European Commission (the “Commission”) issued the “Green Paper” in 1997 providing three reform proposals for public consultation:⁶⁵

62. For example, in the US, internet access service is classified as unregulated “information service” and providers are not required to obtain a license.

63. Wu, *supra* note 30, at 22.

64. *Id.*

65. *Green Paper*, *supra* note 7, at 34-35.

1. Build on current structure.
2. Develop a separate regulatory mode for new activities (for instance, Web-TV or the internet), to co-exist with telecommunications and broadcasting regulation.
3. Progressively introduce a new regulatory model to cover the whole range of existing and new services.

In the responses to consultation, a majority of opinions called for a *consistent* approach to the way networks and transmission services were to be treated. Namely, they “support[ed] a move away from current *vertical* regulatory approaches, to a more *horizontal* approach, applying the same rules to networks, access issues and transmission services”.⁶⁶ Nevertheless, most EU member states and many commentators in the media sector continued to see regulatory rules for broadcasters including rules on enhancing pluralism and diversity, promotion of culture, and protection of minors, as a separate body from those for telecommunications.⁶⁷

A. *The Separation of Transport and Content*

After consultation, in a document to the European Council and European Parliament, the Commission suggested a regulatory principle of “separation of transport and content”. With respect to “transport”, a *horizontal* approach to regulation with *homogenous* treatment of all transport network infrastructure and services is implied. For “content” regulation, the Commission also suggested the specificity of the audiovisual sector should be addressed through a *vertical* approach building on current structures.⁶⁸

Therefore, in 1999 the Commission published the paper “Towards a New Framework for Electronic Communications Infrastructure and Associated Services” and confirmed the separation of telecommunications and broadcast regulation. A new, single regulatory framework for communications infrastructure and associated services s created to include *only telecommunications network and services*. This framework is *technology-neutral* and would apply to *all* communications networks and services, regardless of which type of carrier or network.⁶⁹ The regulation of

66. European Commission, Summary of the Results of the Public Consultation on the Green Paper on the Convergence of the Telecommunications, Media, and Information Technology Sectors; Areas for Further Reflection, Brussels, July 29, 1998, SEC (98) 1284, at 34-35.

67. *Id.* at 34.

68. European Commission, Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the regions, Re: The Convergence of the Telecommunications, Media, and Information Technology Sectors and the Implications for Regulation – Results of the Public Consultation on the Green Paper, Brussels, March 9, 1999, COM (1999) 108 final, at iii and 9.

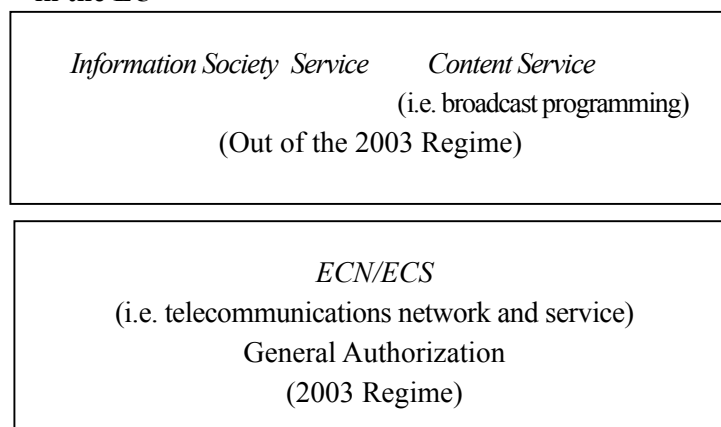
69. European Commission, Towards a New Framework for Electronic Communications

broadcasting services with content is *outside* the scope of the new framework.⁷⁰

B. *The Dual Structure of the EU Reform*

In 2002, the EU adopted a series of communications directives, to be effective on 25 July 2003, which are generally referred to as the “2003 regime”. The 2003 regime includes six directives⁷¹ and formally established the dual structure of “separation of transport and content”.⁷² (See Figure 6)

Figure 6 The Dual Structure: Separation of “Transport” and “Content” in the EU



Source: Yao-kuo Eric Chiang⁷³

The EU Framework Directive replaces telecommunications transmission with the term “electronic communications”. Article 2 of the Framework Directive sets out the definition of “electronic communications network”

Infrastructure and Associated Services—The 1999 Communications Review, COM (1999) 539, at vi-vii.

70. *Id.* at 20.

71. Six directives are:

1. 2002/21/EC Framework Directive.
2. 2002/20/EC Authorisation Directive.
3. 2002/19/EC Access and Interconnection Directive.
4. 2002/22/EC Universal Service Directive.
5. 2002/58/EC Directive on privacy and electronic communications.
6. 2002/77/EC Directive on competition in the markets for electronic communications networks and services.

72. Yao-kuo Eric Chiang, *Yingkuo 2003 Nien T'unghsün Ch'uanpo Fachih Yenchiu – Chienlun Wokuo T'unghsün Ch'uanpo Huiliu Lifa [A Study of the U.K. Communications Act 2003 – with Comments on Communications Convergence Legislation in Taiwan]*, 20(3) TUNGWU FALU HSIAOPAO [SOOCHOW LAW REVIEW] 141, 149 (2009).

73. *Id.* at 150.

(ECN) with three components: 1. transmission systems and switching or routing equipment; 2. permitting the conveyance of signals; and 3. by wire, radio, or optical, including satellite networks, fixed and mobile terrestrial networks, electricity cable systems, networks used for radio and television broadcasting, and cable television networks.⁷⁴

Next, the EU Framework Directive defines “electronic communications services” (ECS) as services “normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks.”⁷⁵ ECS include telecommunications services and transmission services, but exclude (1) services providing “content” or exercising “editorial control,” and (2) “information society services” (for example, e-commerce services) as defined in Article 1 of Directive 98/34/EC.⁷⁶

For ECN/ECS operators, the Authorization Directive provides a “general authorization” scheme. As a major deregulation, the scheme grants authorization as long as operators simply submit a notification with the regulatory authority.⁷⁷ Therefore, “general authorization” means the granting of rights and corresponding obligations for the provision of ECN/ECS.⁷⁸

V. THE PRAXIS OF THE EU DIRECTIVES – THE REFORM IN THE UK

To implement the EU Directives, the UK made a substantial reform by enacting the “Communications Act 2003” (the 2003 Act). The reform was two-fold: for telecommunications, the 2003 Act brought in general authorization and repealed the previous licensing scheme; for broadcasting, the 2003 Act deregulated and simplified the old, yet complicated categories of broadcaster licenses.⁷⁹

A. *Communications Regulation in the UK before Reform*

1. *Old Telecommunications Regime – Two Acts, Two Agencies, and Two Procedures*

Before the reform, telecommunications regulation in the UK was distributed across two Acts, two agencies, and two procedures, along with complicated proceedings. The result was a substantial burden to market entry

74. Framework Directive, Art. 2 (a).

75. Framework Directive, Art. 2 (c).

76. Framework Directive, Art. 2 (c).

77. Authorisation Directive, Art. 3 (2).

78. Authorisation Directive, Art. 2 (2)(a).

79. IRLE, *supra* note 61, at 327.

and to the further development of convergence.⁸⁰

The primary Act was the Telecommunications Act 1984, under which telecommunications licenses were issued by the Minister of Department of Trade and Industry (DTI). The Office of Director General for Telecommunications (OfTel) under the DTI was the regulatory authority.⁸¹ There were two categories of license – class license and individual license – in the Telecommunications Act 1984.⁸² Primary telecommunications services, such as public telecommunications operators, mobile communications, and international simple resale, were required to obtain individual licenses. An individual license was subject to sterner regulation than a class license.⁸³

The Wireless Telegraphy Act 1949 was the other related Act. Under this act, telecommunications operators relying on radio spectrum needed a license granted by the Radiocommunications Agency.⁸⁴

2. *Old Broadcast Regime – Two Acts and Five Silos*

The Broadcasting Act 1990 (the 1990 Act) and the Broadcasting Act 1996 (the 1996 Act) were the two regulatory laws for private broadcasters in the UK before the reform. The 1990 Act covered regulations for (analogue) terrestrial radio and TV, satellite TV, and cable TV,⁸⁵ while the 1996 Act was passed for digital terrestrial radio and TV and created licenses for multiplex and digital programming services.⁸⁶ The two Acts together established five intricate television licenses (silos) (*See infra* Figure 7):⁸⁷

1. Analogue terrestrial TV: The license for analogue terrestrial TV was named “Television Broadcasting Service” (TBS) in the 1990 Act. TBS holders comprised 15 regional TV operators (Channel 3) and two national TV firms (Channel 4 and Channel 5).⁸⁸
2. Digital terrestrial TV: Digital technology enables broadcasters to make *multi-channel* transmission of digital signals in one

80. *Id.* at 99.

81. Helen Kemmitt & John Angel, *The Telecommunications Regime in the United Kingdom*, in TELECOMMUNICATIONS LAW AND REGULATION 121, 136-37 (Ian Walden ed., 3d ed. 2009).

82. Telecommunications Act 1984, c.12, § 7 (3) (Eng.).

83. IRLE, *supra* note 61, at 93.

84. *Id.* at 94.

85. Broadcasting Act 1990, c.42, §§ 14-30, 43-47, 72-78 (Eng.).

86. Broadcasting Act 1996, c.42, §§ 7-17, 18-23 (Eng.).

87. To include licenses for radio, there would be more than five silos.

88. IRLE, *supra* note 61, at 143. Broadcasting Act 1990, section 2(4)(5). For a long time, there were 15 TV regions in the UK, and one “Independent Television” (ITV) in each region. ITV was later renamed as “Channel 3”. *See* WOLFGANG HOFFMANN-REIM, REGULATING MEDIA: THE LICENSING AND SUPERVISION OF BROADCASTING IN SIX COUNTRIES 71-72, 80, 101 (1996).

(analogue) channel. Hence the concept of *channel* and that of (broadcasting) *platform* have become separable. Consequently, the 1996 Act set forth two distinctive types of license – “digital programme service” (DPS) for digital *channels*⁸⁹, and “multiplex service” for digital *platforms*.⁹⁰

3. Satellite TV: Satellite TV systems were required to receive “satellite television service” (STS) licenses.⁹¹
4. Cable TV: The 1996 Act provided “local delivery service” (LDS) license for cable TV operators, whilst another “television programme service” (TPS) was necessary for channels to be cablecast.⁹²
5. Telecom TV: Telecommunications carriers may deliver TV services via telecommunications network (for instance, by microwave). Channel providers in telecom TV should have had “licensable programme service” (LPS) licenses.⁹³

B. *Regulatory Reform in the UK after 2003*

With the Communications Act 2003 (the 2003 Act), the UK implemented its reform by deregulating market entry for telecommunications and simplifying the licensing structure for the broadcasting media. Unlike the CMA in Malaysia, the 2003 Act is *not* a single regulatory law for all communications services. The 2003 Act largely modifies the Telecommunications Act 1984, and partly revises the Broadcasting Act 1990 and Broadcasting Act 1996. Legal provisions in the 1990 and 1996 Acts, not repealed by the 2003 Act, remain effective.⁹⁴

1. *Regulatory Reform of Telecommunications – General Authorization*

To comply with the EU Framework Directive and Access Directive, the UK abolished the licensing requirements in the Telecommunications Act 1984 and deregulated the market entry for telecommunications carriers and services. According to the “general authorization” in the 2003 Act, anyone who files a notification with the authority will be eligible to own electronic communications networks (ECN), or to provide electronic communications

89. IRLE, *supra* note 61, at 162. Broadcasting Act 1996, section 1 (4).

90. IRLE, *supra* note 61, at 163. Broadcasting Act 1996, section 1 (1).

91. IRLE, *supra* note 61, at 151. Broadcasting Act 1990, section 43.

92. IRLE, *supra* note 61, at 155. LDS: Broadcasting Act 1990, section 72. TPS: Broadcasting Act 1990, section 2 (4) and 72 (2).

93. IRLE, *supra* note 61, at 155. Broadcasting Act 1990, section 46.

94. Chiang, *supra* note 72, at 160.

services (ECS).⁹⁵ But general authorization does not imply any rights in access to scarce resources, such as spectrum, numbers, or right of way. The meaning of ECN and ECS in the 2003 Act is essentially identical to those in the EU directives.⁹⁶

2. *Regulatory Reform of Broadcast – Two Silos*

To facilitate convergence, the 2003 Act consolidated prior television licenses. In other words, the five silos before the reform were converted into two silos. (*See infra* Figure 7 and 8)

(a) (Digital) terrestrial TV platforms and channels

Due to the digital transition of terrestrial TV, the 2003 Act only deals with digital transmission and content. Following the 1996 Act, the 2003 Act labels terrestrial TV platforms as “television multiplex”.⁹⁷ Content programming services over “television multiplex” are now known as “digital television programme services” (DTPS), identical to DPS in the 1996 Act.⁹⁸

(b) Channels other than terrestrial TV channels

The 1990 Act enumerated three silos for satellite TV, cable TV, and telecom TV. The 2003 Act makes a great transformation by creating the “television licensable content service” (TLCS) license to replace (and consolidate) channel licenses of satellite TV, cable TV, and telecom TV (IPTV). TLCS is defined as television programmes broadcast from a satellite or distributed via ECN,⁹⁹ but deducting terrestrial TV channels and internet video services.¹⁰⁰ The 2003 Act also eliminates the prior STS (satellite TV) and LPS (telecom TV) licenses,¹⁰¹ as well as the LDS (cable TV platform) license.¹⁰²

After 2003, therefore, television broadcasters do not need a platform license except terrestrial TV. Licenses of channel providers are merged into two categories – DTPS and TLCS. (*See* Figure 8)

95. Communications Act 2003, c.21, § 33 (1) and (2) (Eng.). *See also* Chiang, *supra* note 72, at 152-53.

96. Communications Act 2003, c.21, § 32 (1) and (2) (Eng.). *See also* Chiang, *supra* note 72, at 152.

97. Nicholas Higham, *Content Regulation*, in TELECOMMUNICATIONS LAW AND REGULATION 627, 682-83 (Ian Walden ed., 3d ed. 2009). Communications Act 2003, c.21, § 241 (Eng.).

98. *Id.* at 682. Communications Act 2003, c.21, § 362 (Eng.).

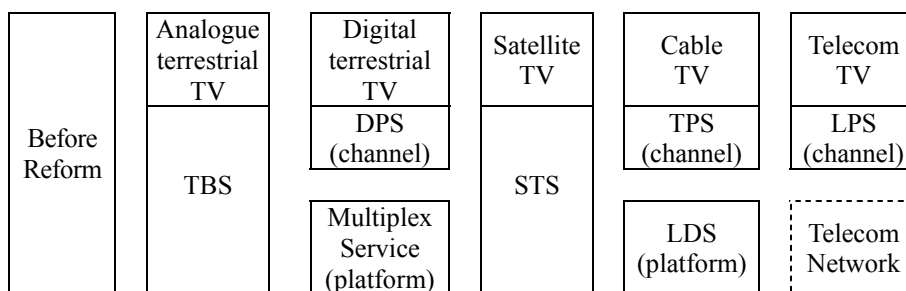
99. Communications Act 2003, c.21, § 232 (1) (2) (Eng.).

100. Communications Act 2003, c.21, § 233 (Eng.).

101. IRLE, *supra* note 61, at 296. Communications Act 2003, c.21, § 240 (Eng.).

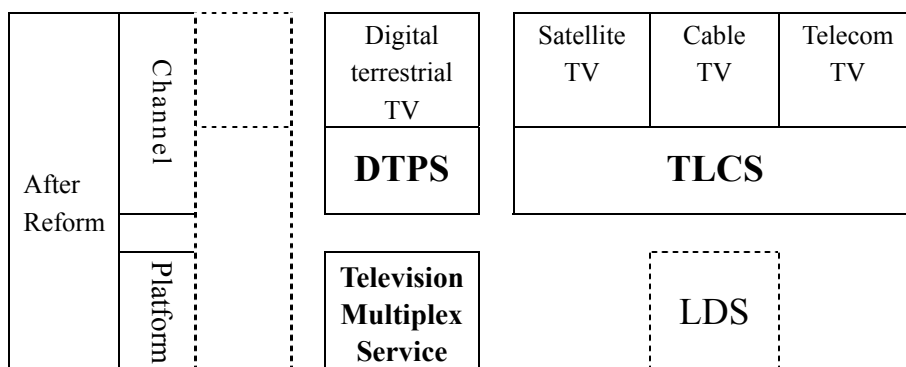
102. IRLE, *supra* note 61, at 309. Communications Act 2003, c.21, § 213 (Eng.).

Figure 7 Television Licensing in the UK before 2003 Reform



Source: The author.

Figure 8 Television Licensing in the UK after 2003 Reform



Source: The author.

C. *Comments on Regulatory Reform in the UK*

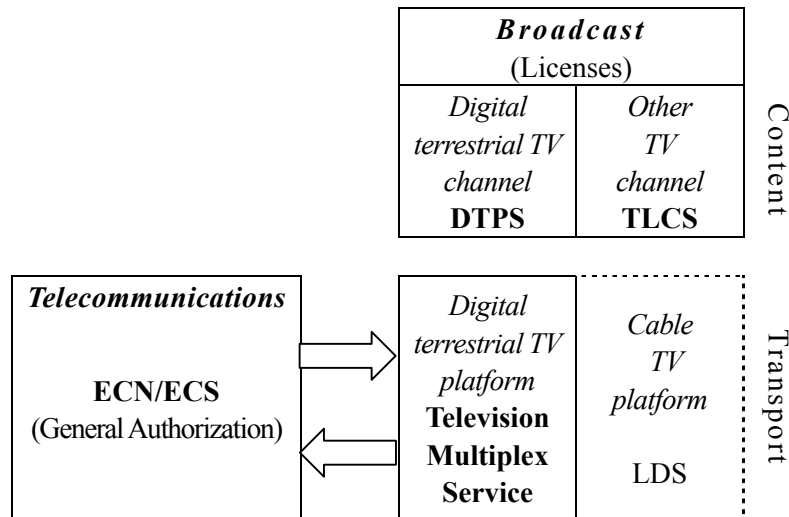
To follow the separation of “transport” and “content” in the EU, the UK provides two categories of communications services: (1) “ECN/ECS” which includes all electronic networks and services, and in reality covers telecommunications networks and services; and (2) “Content” services – which include only broadcast “channel” services. However, the UK’s prior institution of broadcast “platforms” (for instance, “multiplex” for digital terrestrial TV and “LDS” for cable TV) is missing in the EU’s framework.

How did the UK make arrangements for “platforms” in the reform framework? Do “platforms” (transmissive in nature) belong to “ECN/ECS” and therefore part of *telecommunications*, or are “platforms” in the category of *broadcast*? According to the EU, the answer is broadcast. The UK sees broadcast “platforms” independent of “ECN/ECS” and retains prior licensing requirements and regulation of terrestrial TV multiplex.¹⁰³ (See

103. Chiang, *supra* note 72, at 166.

Figure 9) After reform, the UK maintained the conceptual vertical separation of telecommunications and broadcast.¹⁰⁴ Regulation of telecommunications services and that of broadcast are indeed discrete. This also shows that regulatory objectives and the nature of telecommunications regulation are different from those of broadcast regulation.

Figure 9 Framework of Communications Regulation in the UK after Reform (Arrows represent possible convergence between broadcast and telecommunications)



VI. PROPOSALS TO REFORM REGULATORY FRAMEWORK OF COMMUNICATIONS IN TAIWAN

In this Part, two proposals to reform the regulatory framework of communications in Taiwan are discussed. The first proposal was submitted by the regulatory authority (National Communications Commission) in 2007; the second proposal is the author's own. Before turning to the details of the reform proposals, it is necessary to briefly review Taiwan's existing regulatory framework.

A. *Taiwan's Current Regulatory Framework*

With respect to communications regulation, there are four main statutes in Taiwan: (i) Radio and Television Broadcast Act (RTB Act); (ii) Cable

104. IRLE, *supra* note 61, at 269.

Radio and Television Act (CRT Act); (iii) Satellite Radio and Television Act (SRT Act); and (iv) Telecommunications Act. In Richard Whitt’s terminology, there are four *silos* under Taiwan’s framework (See Figure 10).

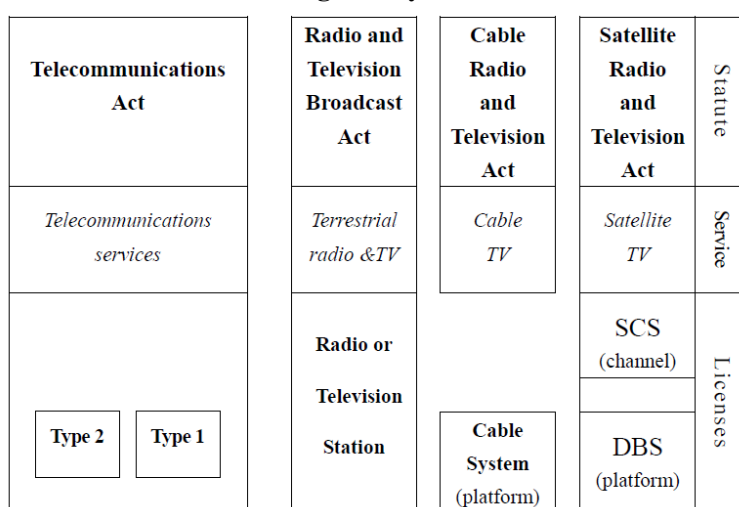
The first silo is for telecommunications with all types of voice and data services. Under the Telecommunications Act, “telecommunications enterprises” are classified into Type 1 and Type 2 enterprises. Type 1 and Type 2 enterprises are both telecommunications service providers. The difference is that Type 1 enterprises own and install telecommunications lines, facilities, and equipment, while Type 2 do not. Regulation of Type 1 enterprises is much denser than that of Type 2.

The three broadcast Acts are three broadcasting silos regulating services based on different technologies, that is, by wireless terrestrial, cable, and satellite transmission, respectively. The RTB Act was first enacted in 1976 with a simple one-license scheme for terrestrial radio and television stations. (See Figure 10) Taiwan’s digital switchover of terrestrial TV in June 2012 did not change the framework.

The CRT Act is mainly concerned with the licensing, supervision, and rate regulation of cable TV system operators. (See Figure 10) In Taiwan, over 70% of the households are cable TV subscribers.

The SRT Act includes two types of service providers – direct broadcast satellite (DBS) operators and satellite channel suppliers (SCS). (See Figure 10) In Taiwan, only a few minor DBS operators exist for serving remote villages. Cable TV system operators, not DBS, deliver almost all SCS programs to consumers.

Figure 10 Taiwan’s Current Regulatory Framework – Four Silos



Source: The author.

B. *The Draft of Communications Regulatory Act*

To cope with the regulatory challenges which communications convergence brought, the NCC planned to transform the current vertical model into a horizontal regulatory framework by drafting the “Communications Regulatory Act” (“CRA Draft” or “the Draft”). The Draft is an ambitious and extensive bill that integrates and replaces the three broadcast statutes and the telecommunications statute. The NCC finalized the Draft in December 2007 which was then submitted to the Executive Yuan (the Cabinet of the executive branch). Since then the NCC has not invoked the Draft. Instead, reform has been proposed by revising each of the three Broadcast Acts and the Telecommunications Act. The Draft, however, remains an important proposal for structural reform in the long run.

Following the horizontal approach, the core objective of the CRA Draft is “converting from vertical regulation to horizontal regulation”.¹⁰⁵ Three separate layers – the “infrastructure and network layer”, “platform layer”, and “content and application layer” – are designed according to their different functions (*See Figure 11*).¹⁰⁶

Figure 11 Three Layers Structure of the CRA Draft in Taiwan

Other content & application services	Channel enterprises	<i>Content & Application Layer</i> (Content & application enterprises)
Telecommunications service enterprises	Broadcasting service enterprises	<i>Platform Layer</i> (Communications service enterprises)
Communications network enterprises		<i>Infrastructure & Network Layer</i>

Source: The author.

1. *The Infrastructure and Network Layer*

The “infrastructure and network layer” is the layer with transmission facilities and equipment by means of wire, wireless, optical, or other electromagnetic systems, including satellite, fixed-line, mobile, and electricity cable networks and systems, or terrestrial broadcasting, cable

105. Kuochia T’ungshün Ch’uanpo Weiyüenhui [NCC], T’ungshün Ch’uanpo Kuanli Fa Ts’aoan Chêngts’ê Shuiming [Policy Statements for the Draft of Communications Regulatory Act], Nov. 9, 2007, at 1.

106. The CRA Draft, Section 2, Explanatory Note 11.

television, and telecommunications networks.¹⁰⁷ Operators in the infrastructure and network layer are referred to as “communications network enterprises”. A deregulation-oriented approach for market entry was adopted for communications network enterprises. Instead of a license, only a *registration* with the authority is required to become a network operator.¹⁰⁸ Quite obviously, this is the corollary of the *general authorization* for ECN in the EU.

2. *The Platform Layer*

Operators in the “platform layer” rely on the “infrastructure and network layer” to provide communications services.¹⁰⁹ Providers in the platform layer are referred to as “communications service enterprises” which consist of “telecommunications service enterprises” and “broadcasting service enterprises”. The former is the current telecommunications providers, while the latter will be radio and television broadcasting platforms. (See Figure 11)

One of the most important features in this layer is a vertical structure between the “telecommunications service” and “broadcasting service”. (See Figure 11) A similarity can be traced between the vertical structure in Taiwan’s Draft and the vertical separation of ECS (telecommunications) and broadcasting platforms in the UK model. (See Figure 9)

3. *The Content and Application Layer*

The “content and application layer” covers radio and television content programming, financial content services, and information society services.¹¹⁰ “Content and application enterprises” is the common term for all kinds of providers in this layer.¹¹¹ Among them, only “channel enterprises” (radio and television channels) will be required to obtain licenses. There are no licensing requirements for the rest of the content and application services, which may include internet audio or video streaming, and video or music on demand. Programming services by channel enterprises are subject to higher content regulation.¹¹² (See Figure 11)

107. *Id.*

108. The CRA Draft, Section 17; NCC, *supra* note 105, at 26-27.

109. The CRA Draft, Section 2, Explanatory Note 11.

110. *Id.*

111. “Content and application enterprises” are enterprises providing value-added applications, audiovisual multimedia, and channel services. The CRA Draft, Section 2, Clause 19.

112. The CRA Draft, Sections 148, 149.

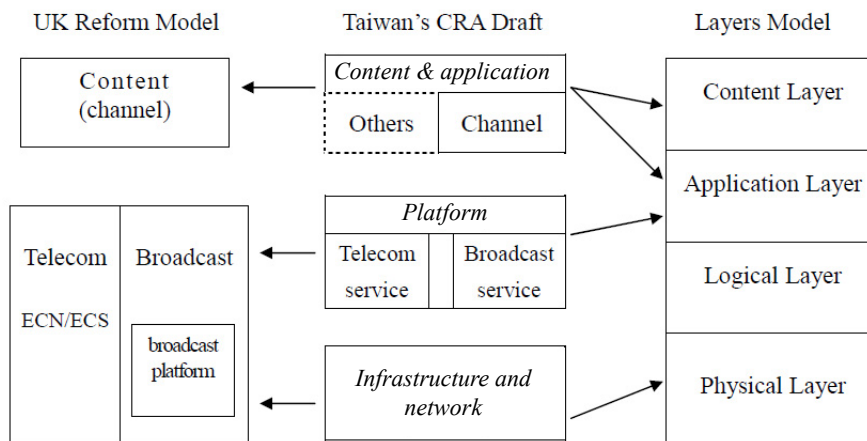
4. Comments on the CRA Draft

(a) The CRA Draft is a hybrid of the layers model and UK model

After reviewing the layers model and UK reform model, the author considers the CRA Draft a hybrid of the two models. For a comparison between the Draft and the UK model, the “infrastructure and network” and “platform” layer together in the Draft are functionally equivalent to the “transport” tier (ECN/ECS and broadcast platforms) in the UK. Taiwan’s “content and application” layer also roughly corresponds to the category of “content” services in the UK. (See Figure 12)

Furthermore, if we compare the CRA Draft with the layers model, at the risk of over-simplification, the “infrastructure and network” and “platform” layer in the Draft equate to the “physical” and “application” layer of the layers model, respectively. The “content and application” layer in the Draft, including a variety of services, may fit in to both the “content” and “application” in the layers model. (See Figure 12)

Figure 12 Comparison among the CRA Draft, UK Reform Model, and Layers Model



Source: The author

(b) The CRA Draft will face the same pitfall as the Malaysian CMA

Because both the CRA Draft and the CMA in Malaysia are horizontal legislation based on the layers model, the Draft will face the same pitfall as the CMA – *an overlapping and burdensome licensing scheme*. Terrestrial radio stations would be a good example to illustrate this point. Pursuant to the Draft, a radio station will need *three licenses* in three layers, respectively – a communications network enterprise license (a radio station owns a transmission tower and facilities), a broadcasting service enterprise

license (a radio station provides broadcasting service), and a channel enterprise license (a radio station provides channel content). Under Taiwan's current law, however, a radio station requires only *one license*.

By the same token, the current Type 1 telecommunications enterprises will have to acquire two licenses in the "infrastructure and network" and "platform" layer under the Draft. In contrast with the two-tiers UK model, is it necessary for the CRA Draft to create the "infrastructure and network" layer separate from the "platform" (service) layer? From the EU and UK experience, it looks to be unnecessary. The 2003 reform in the EU and UK was designed to deregulate market entry to enhance convergence by replacing prior individual licenses with general authorization. The Draft, to the contrary, seems to increase license numbers and market entry barriers.

(c) The necessity to create the "infrastructure and network" layer

In the CRA Draft, to separate the "infrastructure and network" from the "platform" layer and to impose regulatory obligations *mainly on the latter* will cause confusion. For telecommunications, the Draft imposes major regulation, such as rules of interconnection, open access of bottleneck facilities, and significant market power (SMP), on firms in the *platform* layer. However, it is actually operators in the *network* layer who must comply with those rules. This would be the case of "layer-crossing regulation" which layers model proponents, Professor Lawrence Solum and Richard Whitt, strongly criticized. "Layer-crossing regulation" happens when the law aims to produce an effect on *one layer*, but legal regulation is actually directed at *another layer*.¹¹³ They perceive layer-crossing regulation as confusion between ends and means and that it should be avoided as much as possible.¹¹⁴

Creating "infrastructure and network" as a separate licensing layer would probably be unnecessary and produce additional regulatory costs, as suggested by Professor Tim Wu. When the NCC was considering adopting either a two-tier or three-tier model for the CRA Draft in 2007, as shown in a meeting minutes, the staff of the NCC made the following comment: "In the government's view, the two-tier legislation model could save administrative costs. In the industry's view, [the two-tier model] could reduce procedural costs and enhance competitiveness of operators."¹¹⁵

113. Whitt, *supra* note 1, at 625.

114. *Id.* at 645.

115. The minutes of the 147th Commission Meeting of the NCC on Mar. 3, 2007, cited in Changrong Chen, T'ungshün Ch'uanpo Fuhê, ho Hsingchêng Fachih Chien Kouchih Yenchiu [A Study of Reconstructing the Communications Law on the Perspective of Compound Administrative Jurisprudence] (June, 2007) (Master's thesis, National Chengchi University School of Law), at 220.

C. *The Author's Proposal for Framework Reform in Taiwan*

From all the analysis in the previous sections of the article, the author would like to provide five important findings:

- (1) Even in the post-convergence era since 2010, services and regulation of telecommunications are still distinctively different from those of broadcast. An attempt to disregard the distinction, at least nominally, is found in the Malaysian CMA, but proven to be unsuccessful in practice. The UK reform also adopts a separate structure for broadcast regulation from that of telecommunications.
- (2) When a consolidation between telecommunications and broadcast statutes is necessary, the Malaysian model is helpful. The CMA has been successful in drawing the common elements of both, that is, technical regulation and consumer protection.
- (3) The author agrees with Professor Tim Wu in that additional classifications of communications services should be made only when *necessary*. A simpler classification scheme of licensing is generally preferred. The four-layer licensing system in Malaysia has shown to be unproductive.
- (4) The dual structure of “content” and “transport” in the EU and UK reform model is appropriate and recommended.
- (5) The author agrees with a separation of the “content” from the “platform” layer (similar to the UK model) in Taiwan’s CRA Draft. The additional “infrastructure and network” layer seems to be unnecessary.

Based on the above findings, the author provides his proposal for reform. (1) In its macrostructure, reform should include a vertical separation of telecommunications and broadcast regulation, along with a general part of both; (2) in its microstructure, reform should reduce regulatory gaps in order to facilitate convergence.

1. *Macrostructure: Vertical Separation of Telecommunications and Broadcast Regulation, Along with a General Part of Both*

The layers model is a theory for policy analysis and its advocates have no preference over a vertical or horizontal positioning between telecommunications and broadcast scheme. As seen in Malaysia’s practice and the UK model, broadcast regulation remains a vertical model separate

from telecommunications. In Taiwan's CRA Draft, telecommunications and broadcast service licensing are vertically situated side-by-side in the platform layer. All this indicates that the fundamental difference between broadcast and telecommunications regulation cannot be "converged" and therefore that a vertical separation of the two remains necessary. However, it is recommended to create general parts of both.

(a) Part of Broadcast Services: Two-layer framework, except for terrestrial radio

The three Broadcast Acts in Taiwan ought to be consolidated in the future. In light of the separation of "channel" from "platform" in the UK, the author suggests a horizontal, two-layer framework with separate chapters for "broadcast channel" and "broadcast platform" in the new law.

More specifically, the author provides the following proposals (*See infra* Figure 13):

1. To create the "broadcast channel" chapter: Currently in Taiwan there are more than 250 satellite channels which are well regulated under the Satellite Radio and Television Act (the SRT Act). The SRT Act may serve as the blueprint for the new "broadcast channel" chapter. In addition to satellite channels, the addition of "terrestrial channels" (for terrestrial TV) and "novel channels" (for fiber channels) would be recommended.
2. To create the "broadcast platform" chapter: The chapter may be drafted based on the Cable Radio and Television Act and should include a "cable platform" (for cable TV systems) and "satellite platform" (for DBS). Furthermore, a "terrestrial platform" (for terrestrial TV broadcasters) and "telecommunications platform" (for IPTV) should also be established.
3. To create the "analogue terrestrial radio" chapter: In Taiwan, six licenses for digital radio service (known as "DAB") were issued in 2005, but the service later proved to be unsuccessful. Thereby, terrestrial radio services in Taiwan remain a transmission of analogue signals. For analogue services, one station supplies only one channel so there is no need for a two-layer structure. It would be better to maintain the current one-tier radio regulation.

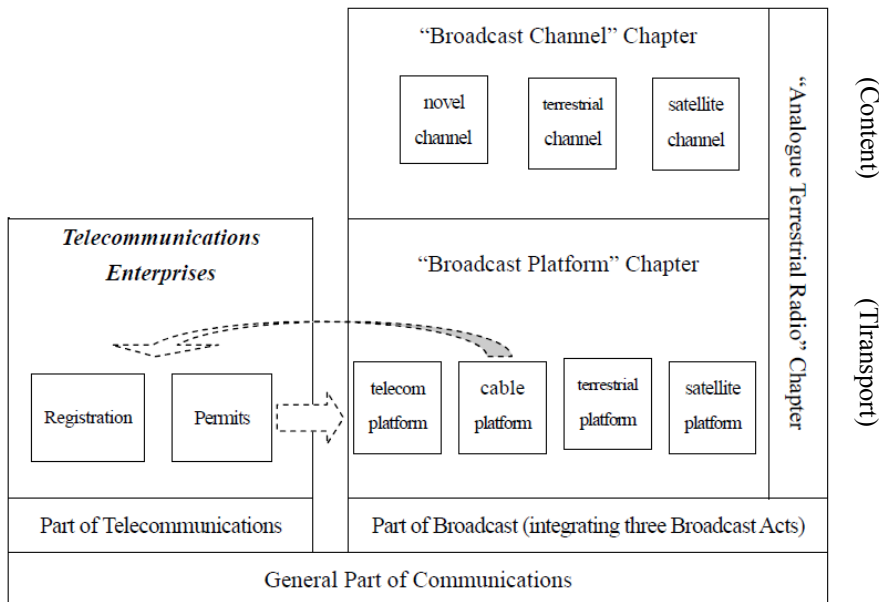
(b) Part of Telecommunications Services: Abolish distinction between Type 1 and Type 2 and create new classification of "permit" and "registration"

In telecommunications, Type 1 and Type 2 are both service providers, but only Type 1 operators own telecommunications line, facilities, and equipment and therefore are subject to denser regulation. However, technical

innovations have enhanced the diversity of communication services. Different regulatory density based on whether or not a provider owns facilities and equipment is irrelevant and inappropriate. For example, voice over IP services provided by Type 2 operators is of almost the same quality as traditional voice telephony by Type 1.

It is suggested that classification of telecommunications should depend on the nature of “services”, instead of “enterprises” (entity). The author agrees with proposals in this regard in the CRA Draft. In the Draft, the distinction between Type 1 and Type 2 is abolished, and a new classification of “permit” and “registration” systems is established. For telecommunications services involving denser regulation, operators are required to obtain a “permit” from the authority. For services that do not require a “permit”, a valid “registration” with the authority will suffice. (See Figure 13) A list of 10 services needing a permit is provided in Section 19 of the CRA Draft.¹¹⁶

Figure 13 The Author’s Proposal for Framework Reform in Taiwan
(Arrows represent possible convergence between broadcast and telecommunications)



Source: The author.

116. The 10 services are: 1. voice telephony with number, 2. data access services, 3. video call services, 4. radio paging services, 5. bandwidth lease services, 6. relay transmission services for broadcasters, 7. voice simple resale services, 8. voice over IP services, 9. multi-media services, 10. other services as required by the regulatory authority.

(c) General Part of Communications

Telecommunications and broadcasting services are both services conveyed via electronic communications. Therefore, it is logical to establish the “general part of communications” in a converged legislation by finding the common components of the two services. The CMA in Malaysia serves as a good example. Part 7 (technical regulation) and Part 8 (consumer protection) are two parts in the CMA that cover both communication types. For technical regulation, both telecommunications and broadcast have to deal with spectrum assignment, technical standards, and proper use of telecommunications facilities. For consumer protection, both are involved with complaints handling, disputes resolution, and rate regulation. (*See supra* Part III. B)

The author recommends identifying commonalities between communication forms and establishing general regulations. As a matter of fact, Taiwan’s CRA Draft has done so. Being parallel to the CMA, Chapter 4 of the Draft deals with protection of consumers and the handicapped. Technical regulation is also found in Chapter 5 (spectrum, numbers, and domain names), Chapter 6 (construction of infrastructure and networks), and Chapter 7 (management of networks and CPE) of the Draft. Furthermore, the general parts of the Draft are far more detailed and systematic than the CMA and therefore endorsable.

2. *Microstructure: Reduce Regulatory Gaps*

As for the microstructure of the reform, telecommunications and broadcast statutes should be amended in order to reduce “regulatory gaps”. In the *supra* text of Part III, the author has indicated that convergence has resulted in the merger of three branches: IT, telecommunications, and broadcast.¹¹⁷ The state should reduce legal barriers of market entry among these branches by adjusting *structural regulation*. The term “regulatory gaps” here refers to *entry barriers in cross-branch or cross-platform ownership*.

For a particular service, if there is a strict structural regulation, prospective operators will face a regulatory gap and thereby have difficulties in market entry. For example, for a fixed-line telecommunications carrier to become a cable television system in Taiwan, it needs to match a set of requirements in structural regulation. (*See* Figure 13) For example, when the “no government ownership” rule went into effect in 2005, Chunghwa Telecom (the largest carrier in which the state still owns 30% of the shares) was forced to forsake its cable television operator license for the IPTV

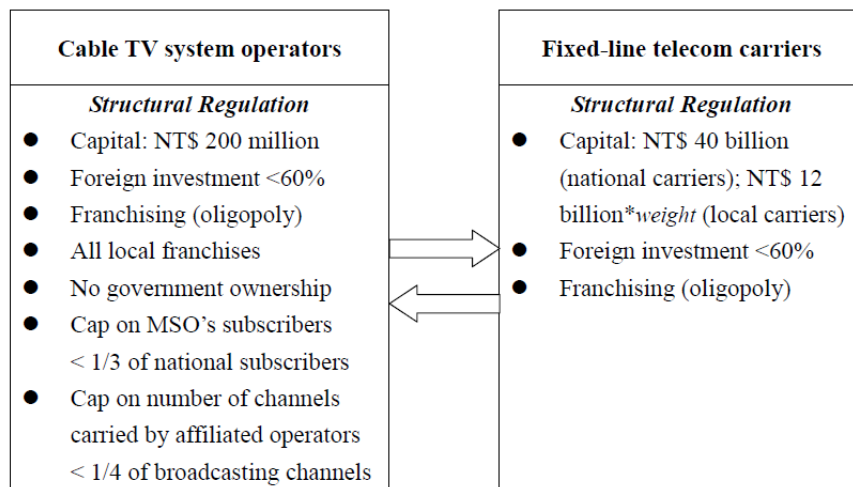
117. *See supra* text accompanying note 61.

service.

In recent years, regulatory authorities in Taiwan have made efforts to reduce regulatory gaps. To facilitate cable television operators in providing fixed-line telecommunications services, the NCC has amended regulations to create the new category of “fixed-line local carriers” in 2007. The minimal capital requirement for local carriers was NT\$12 billion**weight*, much lower than national carriers.¹¹⁸ (See Figure 14) So far, four cable television operators have obtained local carrier licenses, while six cable operators have been granted construction permits.

For government ownership, the Cabinet in 2011 has agreed to amend the Cable Radio and Television Act by allowing indirect government control 10% shares of cable TV systems. All these efforts are helpful in easing regulatory gaps.

Figure 14 Regulatory gaps between Cable Television System Operators and Fixed-line Telecommunications Carriers in Taiwan



Source: The author.

VII. CONCLUSION

After an in-depth study of the layers model, the reforms in Malaysia and the UK, and the CRA Draft in Taiwan, it was found that the layers model theory is an analytical tool for policy considerations, *not* a regulatory framework. Furthermore the *unnecessary* classification of services should be avoided; the separate framework of “content” and “transport” in the EU and

118. Subsequently, the NCC continued to lower the minimum capital requirement: NT\$6.4 billion for national carriers, and NT\$4.8 billion**weight* for local carriers.

the UK is appropriate; the separation of “content” and “platform” layer in Taiwan’s CRA Draft is endorsable but not with an “infrastructure and networks” layer.

The author’s proposals for regulatory reform in Taiwan are: (1) in the macrostructure, maintain a vertical separation of telecommunications and broadcast regulation, along with a general part for both. Specifically, a two-layer regulatory framework for broadcast services is recommended and telecommunications services should be classified into “registration” and “permit” systems; (2) in the microstructure, regulatory gaps should be reduced in order to facilitate convergence.

REFERENCES

- Australian Government, Department of Broadband, Communications and the Digital Economy. (2011, April). Convergence Review: Framing paper. Retrieved from http://www.dbcde.gov.au/__data/assets/pdf_file/0019/133903/Convergence_Review_Framing_Paper.pdf.
- Australian Government, Department of Broadband, Communications and the Digital Economy. (2011, June). Convergence Review: Emerging issues Paper. Retrieved from http://www.dbcde.gov.au/__data/assets/pdf_file/0020/137270/Convergence_Review_Emerging_Issues_paper_PDF,_707_KB.pdf.
- Australian Government, Department of Broadband, Communications and the Digital Economy. (2011, December). Convergence Review: Interim paper. Retrieved from http://www.archive.dbcde.gov.au/__data/assets/pdf_file/0007/143836/Convergence-Review-Interim-Report-web.pdf.
- Cable Radio and Television Act (2007).
- Chen, C.-R. (2007). *T'unghsün ch'uanpo fuhê, ho hsingchêng fachih chien kouchih yenchiu* [A study of reconstructing the communications law on the perspective of compound administrative jurisprudence] (Unpublished master's thesis). National Chengchi University, Taipei.
- Chen, R.-J. (2004). T'unghsün ch'uanpo chipên fachih kuanchih yüentsê [Regulatory principles in the fundamental Communications Act]. *Keji falü touxi* [Science & Technology Law Review], 16(3), 43-51.
- Chiang, Y.-K. (2009). Yingkuo 2003 nien T'unghsün ch'uanpo fachih yenchiu- chienlun wokuo t'unghsün ch'uanpo huiliu lifa [A study of the U.K. Communications Act 2003 – With comments on communications convergence legislation in Taiwan]. *Tungwu falu hsiaopao* [Soochow Law Review], 20(3), 141-90.
- Choi, S.-K. (2010). Convergence in the media sector: Drivers, impacts and regulatory challenge. *Communications & Convergence Review*, 2(2), 53-64.
- Dai, H.-J. (2002). Oumêng yinying shuwei huiliu fachih kêhsin hsienk'uang [Regulatory reform in response to digital convergence in the European Union]. *K'êchi Falu T'ouhsi* [Science & Technology Law Review], 14(8), 9-14.
- Dai, H.-J. (2003). Yinying shuwei huiliu tzuhsün t'unghshên fachih kêhsin chih yenchiu [A study of information and communication regulatory

- reform in response to digital convergence]. In J. D. Fan (Ed.), *Tienschên fachih hsinchiyüen [The new era of telecommunications law]* (pp. 149-94). Taipei: Angle Publishing.
- European Commission (1997). *Green Paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation: Towards an information society approach*, COM (1997) 623 final (Dec. 3, 1997)
- European Commission (1998). *Summary of the results of the public consultation on the Green Paper on the convergence of the telecommunications, media, and information technology sectors; areas for further reflection*, SEC (1998) 1284 final (July 29, 1998).
- European Commission (1999a). *The convergence of the telecommunications, media, and information technology sectors and the implications for regulation – Results of the public consultation on the Green Paper*, COM (1999) 108 final (Mar. 9, 1999).
- European Commission (1999b). *Towards a new framework for electronic communications infrastructure and associated services – The 1999 communications review*, COM (1999) 539 final (Mar. 9, 1999).
- Federal Communications Commission (2005, August 5). *Appropriate Framework for broadband access to the internet over wireline facilities; Universal services obligations of broadband providers, report and order and notice of proposed rulemaking, FCC 05-150*.
- Fransman, M. (2002). Mapping the evolving telecoms industry: The uses and shortcomings of the Layer Model. *Telecommunications Policy*, 26, 473-83.
- Frieden, R. (2003). Adjusting the horizontal and vertical in telecommunications regulation: A comparison of the traditional and a new layered approach. *Federal Communications Law Journal*, 55, 207-50.
- Gao, K.-S. & Liu, B.-L. (2005). Oumêng 2003 nien t'unghsün fachih yenhsi [A study of new framework of the EU 2003 communications directives]. *Chingshê fachih lunts'ung [Socioeconomic Law and Institution Review]*, 35, 319-40.
- International Telecommunication Union, ICT Regulation Toolkit, *Section 4.5.3 Malaysia, Table 4-8: Licensing in Malaysia*, Retrieved from ICT <http://www.ictregulationtoolkit.org/en/PracticeNote.2554.html>
- Kasahara, C. (2011). *Advice for handling IP Matters in Japan, IP client strategies in the Asia-Pacific*. Boston, MN: Aspatore.
- Kuochia T'unghsün Ch'uanpo Weiyüenhui [NCC] (2007a). T'unghsün

- Ch'uanpo Kuanlifa Ts'aoan chêngts'ê shuiming [Policy statements for the draft of Communications Regulatory Act].
- Kuochia T'unghsün Ch'uanpo Weiyüenhui [NCC] (2007b). T'unghsün Ch'uanpo Kuanlifa ts'aoan [The draft of Communications Regulatory Act].
- Hsing Chêng Yüen [The Executive Yuan], Shuwei huiliu fanchan fangan (2010-2015 nien) [Program for the development of digital convergence (Years 2010-2015)], 21-22 (2010), Retrieved from <http://www.ey.gov.tw/Upload/RelFile/26/75806/012916565471.pdf>
- Higham, N. (2009). Content regulation. In I. Walden (Ed.), *Telecommunications law and regulation* (3d ed.) (pp. 627-714). NY: Oxford University Press.
- Hoffmann-Reim, W. (1996). *Regulating media: The licensing and supervision of broadcasting in six countries*. NY: The Guilford Press.
- Huang, J.-N. & Dai, H.-J. (2004). K'aichan t'unghsün ch'uanpo fachih hsinchü—Wokuo t'unghsün ch'uanpo chipên fachih yenhsi [Opening up new legal institutions of communications – a study of the fundamental Communications Act in Taiwan]. *K'êchi Falu T'ouhsi [Science & Technology Law Review]*, 16(9), 32-49.
- Hussein, S. M. (2004, March). Service provider licensing system in the Malaysian communications and multimedia industry. *Journal of Information, Law & Technology*, 1-8.
- Irle, B. M. (2009). *Convergence of communications: Implications for regulating market entry*. Germany: Nomos.
- Kasahara, C. (2011). *Advice for handling IP matters in Japan. IP client strategies in the Asia-Pacific*. Boston, MA: Aspatore.
- Kemmitt, H. & Angel, J. (2009). The telecommunications regime in the United Kingdom. In I. Walden (Ed.), *Telecommunications Law and Regulation* (3d ed.) (pp. 121-66). NY: Oxford University Press.
- Kim, D. (2011). New regulatory institution for the convergence of broadcasting and telecommunications: A Korean case. *Government Information Quarterly*, 28, 155-63.
- Kuppasamy, M. & Santhapparaj, A. S. (2006). Cyber-laws in the new economy: The case of Malaysia. *Asian Journal of Information Technology*, 5(8), 884-89.
- Lee, A. (2001). Convergence in telecom, broadcasting and IT: A comparative analysis of regulatory approaches in Malaysia, Hong Kong and Singapore. *Singapore Journal of International & Comparative Law*, 5, 674-95.

- Lee, C. (2002). Telecommunications reforms in Malaysia. *Annals of Public & Cooperative Economics*, 73, 521-40.
- Li, C. & Zhang, Y.-S. (2005). Shuwei huiliu ts'ushih hsia tientzu t'ungshün ch'anyeh chih kuanchih pienkê yü ying you ch'ühsiang [The development of digital convergence and its implications for regulatory reform]. *Kungp'ing Chiaoi Chi K'an [Fair Trade Quarterly]*, 13(4), 167-95.
- Li, Z.-A. (2006). Kuanwu shuwei huiliu tê chipên kuanchih wênt'i [Fundamental regulatory issues in the era of digital convergence]. *K'êchi Fahsiao P'inglun [Technology Law Review]*, 3(1), 163-201.
- Liu, Y.-L. (2004). Tienshên meit'i yü wanglu tê chênghê,ho yü huiliu [The integration and convergence of telecommunications, media and internet]. In Y.-L. Liu (Ed.), *Tienhsün Ch'uanpo [Telecommunications]* (pp. 371-412). Taipei: Yeh Yeh Book.
- Liu, Y.-L. (2011). The impact of convergence on the telecommunications law and broadcasting-related laws: A comparison between Japan and Taiwan. *Keio Communication Review*, 33, 43-67.
- Mindel, J. L. & Sicker, D. C. (2006). Leveraging the EU regulatory framework to improve a layered policy model for US telecommunications markets. *Telecommunications Policy*, 30, 136-48.
- Malaysian Communications and Multimedia Commission (MCMC) (2008). *Q4 2008 Communications and multimedia selected facts & figures*. Retrieved from <http://www.skmm.gov.my/Resources/Statistics/C-M-Selected-Facts-Figures.aspx>.
- Radio and Television Act (2006).
- Reed, D. P. (2006). Critiquing the layered regulatory model. *Journal on Telecommunications & High Technology Law*, 4, 281-98.
- Sangal, P. S. (1998). Malaysia: Communications Law – multimedia technology. *International Company & Commercial Law Review*, 9(12), N102-105.
- Satellite Broadcasting Act (2003).
- Selvadurai, N. (2006). The creation of the Australian communications and media authority and the next necessary step forward. *Adelaide Law Review*, 26(2), 271-97.
- Selvadurai, N. (2011). The convergence of broadcasting and telecommunications: The need to shift from a vertical “Silo” model to a horizontal “layered” model of regulation. *Telecommunications Journal of Australia*, 61(4), 66.1-66.13.

- Shin, D.-H. (2006). Convergence of telecommunications, media and information technology, and implications for regulation. *The Journal of Policy, Regulation and Strategy for Telecommunications, Information and Media*, 8(1), 42-56.
- Sicker, D. C. & Mindel, J. L. (2002). Refinements of a layered model for telecommunications policy. *Journal on Telecommunications & High Technology Law*, 1, 69-94.
- Sicker, D. C. & Blumensaadt, L. (2006). Misunderstanding layered model(s). *Journal on Telecommunications & High Technology Law*, 4, 299-320.
- Tan, S. S. (2007). Malaysia. In Dennis Campbell (Ed.), *International Telecommunications Law*. Vol. 2 (pp. 345-422). Salzburg, Austria: Yorkhill Law Publishing.
- Telecommunications Act (2007).
- Werbach, K. (2002). A layered model for internet policy. *Journal on Telecommunications & High Technology Law*, 1, 37-67.
- Werbach, K. (2005). Breaking the ice: Rethinking Telecommunications Law for the digital age. *Journal on Telecommunications & High Technology Law*, 4, 59-95.
- Whitt, R. S. (2004). A horizontal leap forward: Formulating a new communications public policy framework based on the network layers model. *Federal Communications Law Journal*, 56, 587-672.
- Whitt, R. S. (2009). Adaptive policymaking: Evolving and applying emergent solutions for U.S. communications policy. *Federal Communications Law Journal*, 61, 483-589.
- Wu, R. & Zul Kepli, M. Y. (2010). Malaysian Communications and Multimedia Commission: A model of unified communications regulator for Hong Kong? *Malayan Law Journal*, 2, 89-109.
- Wu, T. (2006). Why have a Telecommunications Law? Anti-discrimination norms in communications. *Journal on Telecommunications & High Technology Law*, 5, 15-46.
- Zhang, T.-Q. et al. (2004). T'unghsün ch'uanpo huiliu [Convergence of communications]. *Lushih Tsachih [Taipei Bar Journal]*, 296, 33-41.

論水平架構之通訊傳播法制革新 ——層級模式、馬來西亞及英國法制、 與臺灣之革新草案

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摘 要

由於數位匯流之衝擊，亞太地區的國家（包含馬來西亞、日本、韓國及澳洲）以及歐盟國家（如英國），過去以來已有通盤修改通訊傳播法律的實踐或規劃，其中不乏水平架構的立法革新或提議。本文之主要問題意識如下：

1. 通訊傳播匯流對於原本法律管制架構的衝擊為何？層級模式理論及英國的水平取向管制架構其精確的內涵為何？

2. 通訊傳播之法制革新是否必然採取水平架構？採用水平架構之外國法制是否即能解決或減低科技匯流所帶來的制度衝擊？抑或取向水平之法制改革可能衍生預期外的後果？

3. 理解並檢討水平架構之外國法制對臺灣有何啓示？臺灣通訊傳播管制革新的最佳方案為何？

本文在第貳部分對層級模式理論做一有系統性之介紹，並進行分析及評論。馬來西亞以層級模式為架構於一九九八年完成其單一匯流立法，故為層級理論之具體實踐案例，深具參考價值，第參部分即介紹馬來西亞法制及其檢討。第肆部分為歐盟水平取向通訊指令之篇章，並在第伍部分以英國法為例說明其如何落實歐盟指令及進行通訊傳播法律的改革。第陸部分為臺灣通訊傳播匯流立法之法制討論，除了國家通訊傳播委員會（第一屆）的匯流立法——「通訊傳播管理法」草案外，並提出本文對於我國匯流法制架構的具體建議。

經過研究層級模式理論、馬來西亞、英國法制、臺灣通訊傳播管理法草案之後，本文得到以下結論：一、層級模式是管制政策的分析

理論，而非法律架構。馬來西亞法制以層級模式之觀念建構其法律架構，導致電信執照重疊繁複。二、通訊傳播之業務分類應符合「必要性原則」，故業務類別應朝向簡化。三、歐盟及英國的「內容」及「傳輸」的二元架構，具有參考的價值。四、臺灣通訊傳播管理法草案將「內容層」及「營運管理層」分離，相似於英國制度，可資贊同，但「基礎網路層」的獨立分層並無必要。本文最終對於臺灣未來通訊傳播匯流立法之具體建議為：（一）整體架構：電信法制與廣電法制維持垂直分立，並歸納通訊傳播之通則篇章。細部來說，整合廣電三法，廣播電視法制轉向「平臺」及「頻道」的二層法律架構。第一類及第二類電信事業之分類並無必要，電信業務改採許可制及登記制。（二）個別修法：應朝向降低結構管制落差。

關鍵詞：水平架構、通訊傳播、層級模式、馬來西亞、歐盟、英國、通訊傳播管理法