In this chapter, we aim to address convergence and its effects on the legal framework. We do this by considering (1) how the government’s social objectives for the communication sector, particularly for consumer protection is addressed in the light of convergence, and (2) what are the implications of convergence on the government’s policies with respect to the regulation of content. The answers to (1) and (2) will provide us with a better understanding in the formulation and adoption of a suitable approach to meet the challenges of convergence and the hazards it raises especially for children and young people.

Mortensen (2003) suggests four factors that might influence the regulatory assessment. The four factors are (1) technological, (2) economic, (3) public interest, and (4) socio-political. Based on the conclusions of this chapter, i.e., in the light of converging technology, we may more precisely estimate the adequacy of the regulatory framework in addressing the potential hazards of mobile communication technology on children and young people.

The chapter begins with a brief description of convergence (Section 3.1). Five factors that fuel convergence is examined in Section 3.2. In Section 3.3, we deal with the objectives of government policies in the communication sector. In Section 3.4, we briefly describe the benefits and concerns of the converging process. Then in Section 3.5, we examine challenges to convergence. In Section 3.6, we describe the regulator’s responsibility and the position in Hong Kong. The remainder of the chapter is devoted to regulatory convergence in Hong Kong wherein a brief comparative study is made of unified regulators (Section 3.7). Section 3.8 deals with responding to the challenges. The chapter provides conclusions and new challenges in Section 3.9.

3.1 WHAT IS CONVERGENCE?

We start this section by considering what is meant by convergence. We remark that convergence is a difficult concept and there is no universally accepted definition of convergence. Rather, we observe that the concept has attracted
a number of postulations by various researchers as to what the term might encompass. Notwithstanding, we start with an official definition provided for by the European Commission (EC) Green Paper on Convergence (1997) where the EC expressed convergence as

“(…) the ability of different network platforms to carry essentially similar kinds of services; and the coming together of consumer devices such as the telephone and personal computer”.2

Stobbe and Just (2006) describe convergence as a process of qualitative change that connects two or more existing, and previously distinct markets.3 More recently, the Finnish Communications Regulatory Authority at an International Telecommunication Union (ITU) workshop, defined convergence as “the process of integration of previously independent industries of telecommunication, information technology, and media”.4 Convergence can also be expressed as the ability of different network platforms to carry essentially similar kinds of services and the coming together of consumer devices such as the telephone, television, and personal computer. Convergence is therefore not just about technology, but about services, new ways of doing business and of interacting with society.5 (Bezzina and Terrab, 2005).

We have chosen a definition by the OECD Working Party on Telecommunication and Information Services Policy (2004), for use in our study.

Definition (convergence):

“Convergence is a process by which communication networks and their services are transformed such that:
(1) different network platforms carry a similar range of voice, audiovisual and data transmission services;
(2) different consumer appliances receive a similar range of service; and
(3) new services are being created”.6

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5 Supra Green Paper, n. 2. See also Bezzina, J., and Terrab, M., (2005), Impacts of New Technologies on Regulatory Regimes, Technological Convergence and Regulation: Challenges Facing Developing Countries.
In simple terms, we may say that convergence is the coming together and the sharing of separate technologies, business models and services thereby synergistically creating new experiences. A brief examination of the technological and market convergence is provided for in Appendix C where we also provide two Figures. Figure C1 illustrates the convergences of sectors and Figure C2 shows the convergence at different levels. In the following section, we deal with five factors that fuel convergence.

3.2 FIVE FACTORS THAT FUEL CONVERGENCE

A number of factors contribute to the convergence process. We mention five of them: (1) digitisation, (2) technological advances in transmission techniques, (3) great advancements in network speeds, compression techniques, and storage capacity, (4) the growing availability of wireless devices and applications, and (5) market liberalisation. With respect to the latter, governments in response to the converging process, have recognise the need to liberalise markets from a form of monopoly to a market which promotes, encourages, and facilitates pre-competition. This led to a fertile environment of a continuous roll out of new services and applications.

We see this development most clearly in broadband Internet, 3G telephony, 4G mobile telephony, and digital television. They are a number of new technologies that will change society’s consumption of and demand for content and will provide new business models and new experiences through real-time interactive services. An interesting recent example is Apple’s iPhone released in 2007 which brings together the capabilities of a mobile phone, an iPod music player, a web browser, and the e-mail application of a computer in a single device. New devices such as the iPhone are just instances of how technologies and content will continue to play a vital role in the ongoing converging process. Consequently, despite the fact that it is more than a decade since the release of the European Commission’s Green Paper, the statement propounded that “(...) it is about services and new ways of doing business and interacting with society”, it is still true. We see the truth of the EU’s statement reflected in a plethora of convergent services currently available on various network platforms. These include (1) e-mail applications and world wide web access via hand-held devices such as PDAs and mobile phones, (2) webcasting of radio and television programming on the Internet, (3) using the Internet for voice telephony (VoIP), and (4) providers of cable television offering bundled packages of voice, Internet access, and broadcast services over the same network for one fee (triple play).

Knowledge@Wharton, (2007), Matching Technology to Consumers Demand, available at http://www.upenn.edu/researchatpenn/article.php?1166&tc
Therefore, we may conclude that convergence is not a matter of converging technologies but also represents a convergence of business models and a convergence of experiences.

Indeed, we observed that Hanrahan (2004) aptly described the converging situations as characterised by one or more of the following features.

1. **the multi-service feature**: multiple services, either new or formerly supported by different network services, being supported by a single set of facilities.
2. **the multi-function feature**: multiple services supported on a single terminal;
3. **the performing a function or extend functionality feature**: different infrastructures inter-working;
4. **the versatility feature**: the same service or content delivered by different types of infrastructures or media;
5. **the composition of services or content feature**: being able to exploit multiple services (or types of content) to provide more powerful services (or more complex content) forming;
6. **points of integration feature**: when diverse equipments can work into a single, common standard interface to support facilities.

A prime example of Hanrahan’s description is the mobile phone. As mentioned earlier, the mobile phone is not merely a telephone. 3G mobile phones can be used as a camera, a small screen television, a calculator, a calendar, and a computer. Moreover, we mention the much-talked-about Apple iPhone. The iPhone represents the convergence of both hardware, i.e., the handset, and software, i.e., software-based content and services. For example, the handset has *inter-alia*, an in-built digital camera, an internal storage capacity, both Wi-Fi and blue tooth capabilities, Internet access (when connected to a local area Wi-Fi) and a GPS device. The current iPhone operating system also supports a number of bundled applications. Thus we see the new-generation mobile phones (whether they be 3G, 4G, or the smart phones such as iPhone) incorporating Hanrahan’s (2004) (1) multi-service feature, (2) multi-function feature, (3) composition of services or content feature, and (4) points of integration feature.

While not restricted to the introduction of the iPhone, it is apparent that the global society will see the continued rapid development of (1) mobile hardware, (2) supporting software applications and its functionalities, and (3) innovative business models and attractive user packages. Consequently, all these developments are the result of the advanced converging devices and the lower cost, in terms of (1) the handset and (2) the access. We remark that these new developments had facilitated the migration of potential hazards.

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from a fixed platform onto a more mobile platform. Potential hazards are discussed in greater detail in Chapter 4.

In the circumstances, we may conclude that the process of convergence was in (a) response to the economic needs of the market sector, and (b) to satisfy the increasing demands of the consumers for new devices, new applications, and new experiences.

3.3 Objectives of Government Policies in the Communication Sector

It is clear that the *global consumer community* mostly benefits from convergent services and new business models. However, it remains to be seen (1) how and (2) to what extent governments are willing to take into account the rapid change that is taking place. In line with these two questions, we are mindful of the general common objectives for government policies in the communication sector.9

Governments (regulators) make use of a wide range of policies in the communication sector. For example, economic policies include *inter-alia*

1. competition principles,
2. restrictions on the size and influence of any one broadcasting operator or media operator, and in some cases, on the number of broadcasters,
3. license conditions which stipulate detailed content obligations and universal service obligations, and
4. funding of public broadcasters.10

Communication policies are generally aligned to the governments’ economic, social, and cultural objectives (see Figure 3.1). While convergence in itself does not necessarily change the governments’ objectives, it does influence the effectiveness with which existing policies meet those objectives.

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9 These objectives are objectives common to OECD countries but are not regarded as dissimilar to non-OECD countries.

10 Supra OECD Report on Implications of Convergence for Regulation of Electronic Communications, supra n. 6. Note although the report was dated 2003, the report was declassified in July 2004
3.4 CONVERGENCE: ITS BENEFITS AND CONCERNS

In this section, we briefly describe the benefits and the concerns of the converging process. Subsection 3.4.1 discusses the benefits of convergence. The concerns are dealt with in Subsection 3.4.2. The specific concerns arising from converging media on children and young people is more appropriately dealt with in Subsection 3.4.3. Subsection 3.4.4 discusses the power of technology. Finally, Subsection 3.4.5 provides a conclusion on the concerns mentioned.

3.4.1 Benefits

Convergence at whatever levels has many benefits. For instance, convergence intensifies competition since it takes place across delivery platforms and between services. We have also seen how convergence has brought about the creation of new services and innovation. Consumers are pleased to see reduced delays in the access and receipt of data, i.e., the bottlenecks will be overcome, e.g., since with convergence the delivery of services is no longer restricted to one single delivery platform. Torre and Rush (2006) suggest that in economies where convergence is fully implemented, the benefits are even larger. According to them, convergence (1) promotes the expansion of competition, allowing the introduction of inter-modal competition, in which networks and technologies compete with each other with no technological or regulatory restrictions, (2) fosters the development of increasingly more efficient technologies and services, (3) reduces the costs of telecommunications.
services, and (4) increases the appearance of a tailored offering to satisfy the specific needs of end users.14

3.4.2 Concerns

Although convergence does promote competition, there are nonetheless concerns. Mergers and acquisitions, for example, of large industry players converging at market level may reduce the choice for consumers. Thus the market may result in a monopoly governed by ‘greater’ control. There are even increasing concerns as to the extent convergence will affect the social and cultural objectives of the government especially with respect to (a) the plurality of voices in the media,15 (b) the cultural diversity and national identity reflected in content, and (c) the consumer protection and privacy.16 In other words and specifically in relation to the (c), the prevailing question is: will governments meet their social objectives of consumer protection and of privacy? Our investigations particularly aim at the protection of children and young people: to what extent is their protection affected by cognitive, psychological, and physical harm brought upon by converging applications and services? These are concerns that will be dealt with extensively in Chapter 4. For the present purposes, we state that the convergence between the Internet and mobile technology is providing youngsters with a wider and more expedient access to the world of entertainment, interactivity, and communication. The Internet-enabled mobile phone’s has evolved to become a personal necessity and a representation of the user. Further, it has been argued the mobile phone’s mobility and portability provides the youngsters with the independence they crave. However, we see the benefits of convergence between the Internet and mobile technology facilitating (1) the migration of potential hazards from a fixed location to a more mobile and less supervised platform and (2) the development of supporting applications such as location-based services (LBS). LBS are services developed by the network providers and their partners to provide personalised services and offer products which are specific to the location. We describe the usefulness of LBS and the risks associated with the use and potential abuse of the application in greater detail in Chapter 4.

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15 The plurality of voices in the media is generally protected by government’s restrictions on cross media or cross sectoral ownership. These restrictions can include conditions on domestic or foreign ownership restriction.

16 Supra Green Paper, n. 2.
3.5 REGULATORY CHALLENGES TO CONVERGENCE

From our observations of the converging services, we may establish that the traditional differences between broadcasting and telecommunication cease to exist with the availability of the new services. As an example, we take the Internet which has (1) the one-to-many, and many-to-many transmission characteristics of broadcasting and (2) the one-to-one communication accessible via (in the case of wired Internet) the telephone lines, a characteristic of the telecommunication network. With these converging services, a number of regulatory challenges arise. We emphasise that these challenges are neither jurisdiction-specific nor country-specific. Rather, we see these challenges emerging in response to existing domestic circumstances and regulatory environments. The regulatory challenges are represented by the following five sub-questions.

a) Should we aim at the converging of regulations and regulators?

b) Is it possible to create a set of regulations that ‘fits all’, i.e., a new regulatory framework which covers all new services?

c) Is it time to reform the current regulatory framework that was based along specific industries/sectors (vertical structure)?

d) If so, would a horizontal structure, i.e., a structure based on separate regulation of content and carriage be more appropriate to meet the challenges of new converging services?

and most importantly,

e) In so far as our problem statement is concerned, would the new (convergent) regulatory framework adequately protect children and young people from the hazards accessible via these convergent devices?

In the light of the challenges, it would be prudent for each state to adopt a suitable approach to meet the challenges raised by (1) the rapid technological convergence, service convergence, and market convergence and (2) to balance the technological, service, and market convergence with the social objective of consumer protection and privacy. With this in mind, we consider in the following section the responsibilities of the Hong Kong regulator. The five sub-questions will be answered in Subsections 3.8.1 and 3.8.2.

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17 Other examples of converging services include video conferencing and video on demand.

18 These questions are not exhaustive. In fact, other questions which require response include (a) in the pre-convergence era, regulations with social and cultural objectives focusing on cultural diversity and local content quotas, for example, were designed for analogue transmission. Will these measures stand up to digital multi-channel content with international focus? (b) should regulatory focus be on delivery platforms rather than content? (c) should governments impose strict conditions and guidelines on content available for domestic consumption? (d) and if so, what standards should these be? See Hanrahan, supra n. 8.
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3.6 A REGULATOR’S RESPONSIBILITIES AND THE POSITION OF HONG KONG

There is broad consensus that the new convergent products and services do not fit into conventional regulatory definitions and frameworks.¹⁹ The increasingly blurred distinctions of telecommunication, broadcasting, computing, and media are providing fresh challenges to the traditional regulatory framework (see Subsection 3.5). What is important to note is that the new developments do not imply that existing regulations need to extend their coverage over other platforms or services; rather the new developments offer the opportunity to review and lighten existing regulations.²⁰ Thus, it is necessary to investigate whether and to what extent the opportunity for regulatory review was taken to protect children and young people adequately against the hazards. We do this by considering three-fold responsibilities of a regulator (Subsection 3.6.1) and by considering the telecommunication in Hong Kong (Subsection 3.6.2).

3.6.1 Three-fold responsibilities

We observe that regulating for convergence is not merely a policy implementation. Instead, we established that the regulators’ role in the digital age is quite onerous in that it encompasses greater responsibilities and promotes different functions. For example, Seng (2000) suggested that a regulator has three-fold responsibilities, namely (1) market maker, (2) technology promoter, and (3) quasi-judicial arbiter. Seng sees the regulator as a market maker in his role of defining new-market opportunities by setting new directions to facilitate the creation of new products and services.²¹ The policy decisions made by the regulator no doubt will have a significant impact on the future development of the communication infrastructure and the investment decisions. As a technology promoter, the regulator is responsible for endorsing and supporting the technologies.²² This includes evaluating, selecting, and implementing relevant standards and protocols. In its role as a quasi-judicial arbiter, the regulator must ensure fair play among industry players, and between industry players and consumers.²³

¹⁹ See for example, Matilla, supra n. 4 and Torre and Rush, supra n. 14.
²⁰ Supra OECD report, n. 6.
²² Supra.
²³ Supra.
3.6.2 Telecommunication in Hong Kong

In so far as the Hong Kong telecommunication sector is concerned, we observe that Seng’s suggestion is reflected in a statement posited by the immediate past Director General of Hong Kong’s Telecommunication Authority, Mr. T.H. Au, (2007).

“Technological development is the driver for the growth of the industry. As the regulator of the telecommunications market, we have the responsibility to update our regulation and create a favourable environment for investment in these new technologies, which ultimately will bring innovation and choice to users and economic benefits to the community as a whole”. (Au, 2007)

In pursuance of the Telecommunication Authority (TA)’s role as the regulator of Hong Kong’s telecommunications market, we note the TA success in two main objectives: after the formation of the Office of Telecommunication Authority (OFTA) in 1993, the TA established (1) an effective market competition within the industry, and (2) the de-regularisation role.

In recent years, the TA has been moved towards regulation on an ex-post approach with the focus on safeguarding an effective and fair competition rather than on a ruled-based ex-ante regulation. Using the ex-post approach requires the regulator to set up a regulatory environment which promotes competition and facilitates investment. This includes (1) lowering entry barriers, (2) maintaining a level playing field, and (3) ensuring that the rules are transparent and clear. In fact, the TA sees its role as a regulator succinctly reflected in the following terms.

“We have avoided picking winners in technologies,” or using regulation to drive developments in the market. Our aim is to facilitate the technological and market evolution at a number of levels. First, our job is to remove any regulatory barriers to new developments so that they can evolve to meet consumer demands without undue restraints and benefit consumers without unnecessary delays. Second, we will maintain a transparent and predictable environment, providing investors the confidence that there will be minimal regulatory risks to their investment. Third,

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24 Note that Au retired as the Director General of Hong Kong’s Telecommunication Authority at the end of December 2007.
26 It is only in circumstances when the market cannot deliver the required policy objectives or where the players fail to comply with fair competition rules that the TA will intervene.
27 RO is Rebecca Ong, the author who sees the avoidance as the TA adopting a technology neutral approach.
to create a level playing field ensuring fair competition for every player in the game.\textsuperscript{28}

According to Au (2006) the following will happen. Once the desired environment has been achieved through the facilitation of technological and market evolution, the regulator would sit back and allow the market players to compete with a minimum regulatory interference.\textsuperscript{29} The regulator will intervene only when the market fails.\textsuperscript{30} Consequently, we may conclude that Hong Kong’s TA does reflect Seng’s threefold responsibilities of a regulator.

3.7 REGULATORY CONVERGENCE IN HONG KONG

Having considered TA’s role and responsibilities as a regulator, in this section we will examine Hong Kong’s regulatory position with respect to convergence. In this respect, our study revealed a more apparent and proactive undertaking by OFTA towards addressing a converging environment in the convergence of regulators. In Subsection 3.7.1, we describe briefly the position of a unified regulator in other major economies. In Subsection 3.7.2, we consider the position in Hong Kong. In addition, we briefly provide in Appendix D, details of measures undertaken by OFTA towards a converging environment.

3.7.1 A unified regulator of other jurisdictions

From our observations, having a single regulator is not a new phenomenon. The United States and Canada’s regulator for telecommunications and broadcasting had always been a single regulator in the form of the US Federal Communications Commission (the FCC) and the Canadian Radio Television and Telecommunications Commission (the CR\textit{C}). We identify three main advantages in having a single unified regulator. First, the single regulator represents a one-stop shop for resolving all issues pertaining to the communications sector. Second, as a result of the first advantage, it will be more convenient, expedient and cost effective for industry players to deal with one regulator. Third, there will be consistency in the regulatory approach since decisions made will be taken in the light of the communications sector as a whole. This inevitably enhances efficiency, thereby reducing administrative work and unnecessary resources. Major economies such as the United Kingdom, Australia, and Malaysia have had separate regulators for telecommunication-

\begin{itemize}
  \item \textsuperscript{30} Supra.
\end{itemize}
tions and broadcasting. They have seen the inexpediency of maintaining a separate system and have moved towards merging the two.

A: The United Kingdom
The United Kingdom’s Office of Communication (OFCOM), for example, is a convergent regulator as it brings together both economic regulation and cultural regulation with the aim of (1) encouraging competitive markets bringing benefits to consumers, and (2) balancing that against interest of society as a whole.\(^\text{31}\) OFCOM was established as a body corporate by the Office of Communications Act, 2002 as a regulator for the UK communications industries, with responsibilities across television, radio, telecommunications, and wireless communications services. It is empowered by the Communications Act, 2003 inter-alia, (a) to maintain plurality in the provision of broadcasting, (b) to apply adequate protection for audiences against offensive or harmful material, and (c) to apply adequate protection for audiences against unfairness or the infringement of privacy.\(^\text{32}\)

B: Australia
In Australia, the Australian Communications Authority (ACA) and the Australian Broadcasting Authority (ABA) were merged to form the Australian Communications and Media Authority (ACMA).\(^\text{33}\) The ACMA is now responsible for technical regulation, consumer issues and licensing of telecommunications and radio-communications in Australia.\(^\text{34}\) It exercises powers under the Broadcasting Services Act 1992 (in relation to broadcasting) and the Telecommunications Act 1997, the Telecommunication (Consumer Protection and Services Standards) Act 1999, and the Radio-communications Act 1992, as well as other related legislations (in relation to telecommunications).\(^\text{35}\)

C: Malaysia
Similarly, in Malaysia the telecommunication and the broadcasting industries were brought together under one regulator: the Malaysian Communications

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33 The ACA was a merger of Australian Telecommunications Authority (Austel) and the Spectrum Management Agency (SMA) on July 1st, 1997. Austel were responsible for issuing cabling licenses, equipment permits and monitoring the conduct of license and permit holders for all equipment and components connected to the Australian telephone network whilst SMA was the Australian Commonwealth statutory agency responsible for the management of radio communications in Australia. See Australian Communication Authority Act 1997.
34 See www.acma.gov.au
35 Supra.
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The MCMC was the result of the government’s review (1) of the functions of the Ministry of Energy, Telecommunications & Post, and (2) to replace the then existing sectoral legislations such as the Telecommunications Act, 1950 and the Broadcasting Act, 1988. The fundamental principles of the Communications and Multimedia Act 1998, are (a) transparency, (b) technology neutral, (c) self regulation and regulatory forbearance, and (d) pre-competition.  

3.7.2 Hong Kong’s proposed Communications Authority

Under the existing regulatory regime in Hong Kong, the provision of television program, and the carriage of television program services are separately licensed and regulated. Currently, the Broadcasting Authority (BA) regulates television and radio broadcasts services in accordance with the Broadcasting Ordinance and Part IIia (Sound Broadcasting Service) of the Telecommunication Ordinance. The Broadcasting Ordinance replaced the existing transmission-based licensing and regulatory regime for television services with a technology and transmission neutral regime under which four categories of services are licensed. In addition, the Telecommunication Ordinance liberalised the telecommunications market, for example, by (1) allowing fixed telecommunication network services (FTNS) licensees to convey and provide television program services, including pay television and Video on Demand (VOD), (2) allowing cable television networks to deliver telecommunications services in addition to television services, and (3) requiring the former Wharf Cable to open up its broadband network for use by other television and telecommunications service providers. Under the two ordinances, a television program service licensee can

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38 The BA was established in 1987 under the Broadcasting Authority Ordinance (Cap.391). In fact both the Broadcasting Ordinance (Cap. 562) and the Telecommunication Ordinance (Cap. 106) were the result of a 1998 review. See The 1998 Review of Television Policy and The Review of Fixed Telecommunications, available at http://www.ofta.gov.hk/en/press_rel/98/sep_98.html. Together with the setting up of the Information Technology and Broadcasting Bureau which brings under one branch the functions of the TA, the OFTA, the BA and TELA, a administrative convergence of inter-ala telecommunication, and broadcasting is brought under one roof.
39 These services are 1) domestic free television program services, 2) domestic pay television program services, 3) non-domestic television program services, and 4) other licensable television program services. These services are regulated according to their nature and pervasiveness rather than their transmission mode; see Press Release Issued by Information Technology and Broadcasting Bureau on 3 September 1998 – Proposals to open up TV & telecom markets” at http://www.ofta.gov.hk/en/press_rel/98/sep_98.html.
40 Supra Press release by ITBB September 1998.
choose to hire the transmission service of any licensed carrier to deliver its television service by any technology, be it terrestrial broadcasting, hybrid fiber coaxial cable, satellite or asymmetric digital subscriber line (ADSL). 41

The broadcasting division of the Television and Entertainment Licensing Authority (TELA) is the executive arm of the BA. 42 Some of the functions and responsibilities of the BA include

a) issuing non domestic and other licensable television program service licenses,
b) making recommendations on license applications for sound broadcasting, domestic free and domestic pay television program service,
c) administering all licenses,
d) enforcing licensing conditions,
e) enforcing competition provisions in the Broadcasting Ordinance,
f) securing proper broadcasting content and technical standards,
g) handling complaints on breach of such standards. 43

In contrast, the TA is responsible for inter-alia (a) the managing radio spectrum, 44 (b) licensing all telecommunication services, 45 (c) enforcing license conditions, and (d) enforcing competition provisions in the Telecommunication Ordinance. 46

The system of the three different bodies, i.e., the BA, TELA, and TA involved in broadcasting and telecommunication matters in Hong Kong, proves to be too complicated, and confusing to both consumers and the industry. Moreover, it is not seen to be financially prudent in terms of utilisation of the taxpayers’ revenue. It is thus proposed that a single regulator known as the Communications Authority (CA) be established by merging the TA and the BA. 47 The existing powers of the TA and the BA will be exercised by the CA. In addition, OFTA and the Broadcasting Division of the TELA will be brought together to form the Office of Communications Authority (OFCA) which will operate as a trading

41 ADSL is a form of digital subscriber line, a data communications technology that enables faster data transmission over copper telephone lines than a conventional voice band modem can provide. See further http://en.wikipedia.org/wiki/ADSL and ‘What is ADSL’, a Web Definition from Webopedia; available at http://www.webopedia.com/TERM/A/ADSL.html
42 TELA deals with complaints and ensures broadcasting licensees comply with the legislation, licence conditions and codes of practice.
43 The BA Complaints Committee deals with complaints about broadcasting matters and makes recommendations for follow up action to the BA. It is noted that there is a BA Codes of Practice Committee which reviews the code of practice on programming, advertising and technical standards for both television and radio services.
44 See sections 32G-I Telecommunication Ordinance.
45 See for example, sections 7, 13C-F, Telecommunication Ordinance.
46 See for example, section 7G –N, Telecommunications Ordinance.
47 This is a similar arrangement to that adopted in Australia, when ACMA was set up. See Consultation Paper on the Establishment of a Communication Authority; available at http://www.cedb.gov.hk/ctb/eng/paper/pdf/CA_consultation_paper.pdf
fund.\textsuperscript{48} Once established, the CA will conduct a comprehensive review of the Broadcasting Ordinance (Cap. 562), the Telecommunications Ordinance (Cap. 106), and the Broadcasting Authority Ordinance (Cap. 391).

3.8  RESPONDING TO THE CHALLENGES

A regulatory environment is typically developed in response to fresh challenges posed by societal needs or changing market conditions. As we mentioned earlier, according to Mortensen (2003), four factors, i.e., (1) technological, (2) economic, (3) public interest, and (4) socio-political might influence the regulatory assessment and its development.\textsuperscript{49} We deal with the general position in Subsection 3.8.1. The position in Hong Kong is described in Subsection 3.8.2. We provide our position in Subsection 3.8.3. In Subsection 3.8.4, we advocate the regulator’s role as the society’s moral watchdog. Finally, in Section 3.8.5, we discuss the Green Dam Escort.

3.8.1  The general position

From our investigations, it is apparent that technological innovations and the convergence of media have caused a significant economic shift to a regulatory framework that seems to focus on market competition. The shift has rendered the once-distinct sector-specific carriage/content regulatory framework obsolete. Moreover, it has resulted in the government’s undue emphasis towards market liberalisation and de-regulation. The current development indicates that regulation (which emphasises market characteristics of a specific service rather than its delivery system), should be given primary consideration.\textsuperscript{50} Accordingly, in response to the challenges posed as sub-questions (a) to (e) (see Section 3.5), we may tentatively conclude that the converging environment has provided the impetus for a re-assessment and a removal of the regulatory barriers to convergence and converging services (see sub-question (a) and (b);

\textsuperscript{48} Currently, OFTA operates as a trading fund. A government department operating on a trading fund basis means it is a self financing accounting entity. As such it does not rely on general revenue for its expenses. See Trading Fund Ordinance (Cap. 430). In the case of OFTA, OFTA’s income is derived mainly from license fees charged. OFCA will act as the executive arm of the newly formed CA and will be headed by the Director-General. See supra Consultation Paper on the Establishment of a Communication Authority; available at http://www.cedb.gov.hk/cb/eng/paper/pdf/CA_consultation_paper.pdf

\textsuperscript{49} Supra Mortensen, n.1

\textsuperscript{50} As far as competition is concerned, a re-assessment has to be made in terms of common carriage, dominance and open network provision with greater competition between industry players. See http://www.itu.int/ourg/spu/youngminds/2007/essays/IbrayevaTogzhan.pdf; See also supra Mortensen.
a reduction of the level of regulatory intervention\(^1\) (see sub-question (c); and

the creation of new and lighter (horizontal) regulatory framework which encompasses new converging services (see sub-question (d).

The answers to sub-questions (a) and (e) (see Section 3.5) are more appropriately dealt with in Section 3.8.2, although not necessarily in the order presented.

### 3.8.2 The position of Hong Kong

As with other jurisdictions, the rapid technological and economic changes in Hong Kong in the fast moving technology sector makes a convincing case that the old dividing lines between telecommunication and broadcasting is fast dissolving, creating a new environment with new areas of general concern.\(^2\) Williams (2006) suggests four areas of concern in Hong Kong: (1) technical standard/bandwidth allocation, (2) media content, (3) plurality of ownership/freedom of speech, and (4) competition enhancement.\(^3\) Whilst we agree with the concerns raised by Williams, Williams’ comments were focussed on the competition provisions for the proposed convergent regulatory regime.

We note that the proposal to establish the Communications Authority was submitted in 2006. However, our investigations revealed that the proposal has been delayed pending further consultations. The delay is an indication for a thorough review. We may expect that a thorough and comprehensive review will be completed with adequate measures for the protection of children and young people taken into account and introduced.

Throughout this chapter, our research revealed that in order to maintain its competitiveness in the telecommunication industry, the TA in Hong Kong adopted two main approaches: (1) a market-driven approach, and (2) the ex-post regulatory approach.\(^4\) The ex-post approach involves a shift from the traditional regulatory approach which is based on predicting how the market will develop and imposing a competition framework to which the market is to conform, to a new regulatory approach where regulation is aimed at correcting existing market failures. In adopting both approaches, OFTA realises that it is not sufficient to preserve existing competition via the enforcement of regulation. The regulator must also promote competition by reshaping or

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\(^3\) Supra.

\(^4\) This is in line with European competition policy in which regulators are moving away from ex-ante regulation to ex-post regulation.
withdrawing existing regulations that are unnecessary, inappropriate or disproportionate.\textsuperscript{55}

With respect to sub-question (a), we are strongly of the view that while the proposal to establish a unified single regulator in the form of the CA (Communication Authority) (see Section 3.7.2) is a positive measure, its proposed role, functions, and responsibilities have not been thoroughly considered by the government. With that in mind and with the task to answer sub-question (e), we do not regard the new convergent regulatory framework as adequate in protecting children and young people from the hazards accessible via the convergent devices (the potential hazards are more specifically described and discussed in Chapter 4). We surmise that a number of questions remain unanswered. The unanswered questions can be seen as an open conclusion on the position of Hong Kong. Below we pose six questions for further consideration.

1. As more mobile content services become available, should these services be classified so as to inform users of their suitability for children and young people’s consumption?
2. If the content are to be so classified, do we apply the standard classification system currently adopted for broadcasting services?
3. Should we establish an independent body within the Communication Authority to be responsible for \textit{inter-alia}
   \begin{itemize}
   \item 3a) overseeing the provision of content services?
   \item 3b) establishing a standard (via consultation) which measures and reflects community standards of decency and propriety?
   \end{itemize}
4. Should we have a mechanism for monitoring premium-rate services?
5. Should we have a standard access control restriction adopted by all mobile operators and if so, what manner and form should it take?
6. Should there be a dedicated hotline and complaints mechanism for reporting inappropriate materials and abuses?

3.8.3 \textit{Our position}

Although the proactive measures undertaken by TA to address the challenges posed by convergence and converging services are laudable, we re-iterate our position that the measures adopted so far are centred towards meeting the government’s economic objectives rather than measures aimed towards the social objective of consumer protection and privacy, specifically in relation to the protection of children and young people. We do however note the Mainland’s position on the latter, particularly with reference to Green Dam Youth Escort to be discussed in Subsection 3.8.5.

\textsuperscript{55} Supra n. 29.
Indeed, what we have observed as the position in Hong Kong is the regulator’s concentration in introducing access provisions seen in terms of TA’s introduction of the unified licensing scheme for fixed mobile convergence (FMC) and broadband wireless access (BWA) rather than the introduction of comprehensive measures to address adequately the concerns of converging media on children and young people. Indeed, this apparent state of affairs is a reflection of the TA’s vision whereby the following statement was re-iterated.

“Our regulatory regime is pro-liberalisation, pro-competition and pro-consumer, providing a regulatory framework which ensures that a wider range of telecommunication services is available to consumers at reasonable prices”.

The fact that the regime is “(…) pro-liberalisation, pro-competition and pro-consumer (…)” is observed most notably in the form of (a) fair and competitive pricing with regards to triple play packages, (b) promoting and encouraging investment and innovation through transparent decision making, (c) adopting a market driven approach, (d) ensuring efficient allocation of spectrum, and (e) ensuring the industry player provides a transparent complaints handling procedure. Although we are not denying the immense benefits such measures will bring to consumers, we do observe that the government’s objective lies in preparing the market and the consuming community towards the eventual migration to new generation network (NGN).

Indeed, the Director General of the TA in the 2007-08 Trade Fund Report, had acknowledged the government’s objectives towards NGN by stating

“At OFTA, following the completion of a few important reviews on regulatory matters, new initiatives have been launched to pave the way for introducing communication services on the New Generation Networks”.

We remark that it is not uncommon as far as the government’s social objective is concerned, for the focus of consumer protection to be on matters relating

57 The trends towards NGN deployment include VoIP, broadband wireless applications and fixed mobile convergence where we are seeing the move towards an all enabled IP based network. See Trends in Telecommunication Reform 2007, available at http://www.itu.int/dms_pub/itu-d/opb/reg/D-REG-TTR.9-2007-SUM-MSW-E.doc. A NGN is defined by ITU as “a packet-based network able for the provision of voice, data, and other content-based services. and able to make use of multiple broadband, QoS-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies. Broadband access can be either delivered through fixed-line technology such as Digital Subscriber Line (DSL), fibre-optic and cable TV, or wireless technology such as broadband wireless access (BWA). See Trends in Telecommunication Reform 2007 above.
58 Legislative Council Panel on Information Technology and Broadcasting papers; see www.legco.gov.hk/yr07-08/english/panels/itb/papers/itb0114cbi-601-1-e.pdf
to economic and commercial issues such as (a) the protection of intellectual property rights, (b) privacy, and (c) e-commerce concerns. These issues understandably generate greater concern and wider interest from an economic perspective than the concerns of the exposure of unsavory and inappropriate materials and its potential risk to children and young persons. For example, we see the requirement of consumer protection in the TA’s regulations operating in the form of transparency and disclosure. The objective of transparency and disclosure is to ensure consumers are provided with choices to enable them to make informed decisions. We provide three examples as illustrations. First, in the provision of VoIP services, VoIP operators are required to inform consumers of the difference between their services and traditional switched voice service, especially with regards to emergency calls. Second, the issuance of a TA statement setting out the best practice indicators for ISPs for the selling of residential broadband Internet service access. The best practice indicators are aimed at five areas which are considered as important to consumers when choosing an ISP. The five areas are (1) network reliability, (2) service restoration, (3) customer hotline performance, (4) customer complaint handling, and (5) technical performance. According to the TA, these best practice indicators if correctly adopted by the ISPs, could prevent the incidence of misleading or deceptive conduct in the advertising and selling of broadband services. Third, to help consumers make informed choices, the five major broadband ISPs have since January 2008 published performance pledges areas such as (1) network reliability, (2) service restoration time, (3) technical performance, (4) customer hotline performance, and (5) customer complaint handling. These areas were identified by a survey conducted by the TA as important to consumers when choosing an ISP.

From the statement on the objective of transparency and disclosure (and the three illustrations) we may conclude that the extent to which the TA as the regulator will go to enhance customer satisfaction will attract greater investment opportunities in the sector. This is more aptly expressed in the following statement by the then Director-General of OFTA.

“The future focus of regulation is to create a regulatory environment conducive to convergence, investment in new technologies and the next generation networks,
with more emphasis on market based ex-post regulation than rule based ex-ante regulation”.64

3.8.4 Society’s moral watchdog

We opine that the protection of children and young people is severely lacking in the Territory’s existing framework both in terms of access provisions and prescriptive laws. Thus, we agree with Seng (2000) that in addition to the three-fold responsibilities of the regulator previously mentioned, i.e., (1) market maker, (2) technology promoter, and (3) quasi-judicial arbiter, there is a fourth responsibility of equal importance with the former three responsibilities, which should not be overlooked or ignored. It is the role of the regulator as a moral watchdog for the community; a role that, we argue is in compliance with the government’s social policy objective of consumer protection and privacy in the communication sector.

We believe that the regulator’s role as ‘society’s moral watchdog’ is of increasing importance in the current converging era. This is so in the existing digitised environment where data can be easily transmitted between various platforms and devices without the regulator having knowledge and/or effective control over (1) the type of data that is being transmitted, (2) the devices used for receiving and transmitting data, and (3) the intended or unintended recipients of the data. In this respect, we have seen how the mobile phones are being used as a device for accessing inappropriate materials and for facilitating the commission of contact crimes against children and young persons.

3.8.5 The Green Dam Youth Escort

Related to our argument of the regulator’s role as society’s moral watchdog, we take cognisance of the recent Mainland Chinese government’s directive requiring computer manufacturers to install software for filtering on-line pornographic content on all computers made in or imported into China. Known as the Green Dam Youth Escort, the government requires all (1) domestic personal computer manufacturers and (2) imported personal computers sold in China to pre-install the latest version of “Green Dam Youth Escort” (Green Dam project).65 The Green Dam project is a follow-up action

64 Supra Au, n.29.
65 Installation work should be completed by the end of June 2009 and as of July 1st 2009, all personal computers should be sold with the software pre-installed. In 2009 PC manufacturers and the providers of “Green Dam Youth Escort” should provide monthly reports to the Ministry of Industry and Information Technology (MIIT), about sales figures, the number of copies of the software installed, and comments on this work. From 2010 they should provide annual reports by the end of February. See Computers to pre-install Internet filters, (2009) China Daily, June 29, 2009, available at http://www.chinadaily.com.cn/china/
by the Mainland Chinese government’s one month on-line pornography crackdown conducted in January 2009 on illegal websites, blogs with “lewd” content, to contents on mobile phone websites, chat rooms, instant messenger groups, and video download services. While the project has drawn consternation globally and is seen as a drastic measure that has been imposed in a draconian fashion, we remark that in so far as the Mainland is concerned, “the Green Dam project indicates the Mainland’s stance as society’s moral watchdog” in “promoting the healthy development of the country’s Internet services, and in preventing the erosion of people’s mind, and the destruction of society’s moral standards”.

3.9 CHAPTER CONCLUSION

Having considered Hong Kong’s recent regulatory review on the implications of convergence, we may conclude that no regulatory review is made in relation to (1) the type of content distributed or capable of being distributed and accessed via the use of converging devices, and (2) the actual distribution or dissemination of content.

Specifically, in the light of content and services available via converging devices such as the mobile phone, the relevant authorities have failed to provide a comprehensive guideline on the following three issues.

1. Whether there should be mandatory classification of mobile content by mobile network providers and content providers.
2. How and to what extent mobile users be allowed to ‘opt-in’ to gambling sites, adult materials, and gaming sites with adult and violent content upon age verification?
3. How and to what extent would the relevant authorities regulate premium-rate services to ensure that the children and young people are protected from unscrupulous traders?

While we may accept that a contributing reason to this lack of regulatory rigour may be due to the TA being the primary authority concerned with access provisions, we stress that more could have been done to address the current regulatory inadequacy. For example, the TA could proactively take the lead in inviting consultations from relevant stakeholders to propose a compre-

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67 Supra. Further, in addition to U.S. software company, Solid Oak Software’s allegations that Green Dam uses a code stolen from its Cybersitter software, there have been claims that Green Dam software can be used to filter political content and dissent.
hensive code of practice which focuses on the protective content regulation measures for children and young people. This could, for example, cover age restriction measures such as whether it would be sufficient for mobile operators, service and content providers to provide access to inappropriate content to mobile users who are aged 18 and above? In other words, would it be sufficient to have one classification of mobile content, that is, content suitable for ‘18 years and over’? Once the code of practice is developed, the TA can impose a Special Condition in the granting and/or renewal of carrier licenses that the provisions of the code must be strictly complied.

We agree with the 2004 OECD report that any reform of communication regulatory arrangements is usually considered under three broad headings: (1) the shift from an industry-based framework, (2) a common regulatory framework for carriage of communication services, and (3) the regulation of content. We surmise that there is an urgent need to re-formulate the existing regulatory arrangements so that it takes into account the interests and the protection of children and young people. Our investigations of the measures adopted in Hong Kong in the light of convergence of technologies does not reveal any measures undertaken by the regulators with respect to the regulation of content with a view to protect children and young people. Instead, what we have observed is the proliferation of measures for the purpose of establishing a conducive environment for preparing the society towards a new generation network (NGN) environment. We remark that the present position is due on the one hand, to the TA’s policy of ‘adopting a light handed regulatory approach’, and on the other hand, one of general regulatory lethargy on the part of the government. The latter is discussed in greater detail in Chapter 7. The present position, we opine is not a suitable approach in light of the increasing concerns of converging media on children and young people.

We may thus conclude that while the convergence of technology between mobile communication and Internet provided an excellent opportunity for a comprehensive review of content regulation with the view to protect children and young persons, the opportunity was not taken – the convergence is thus not adequately addressed in the legal framework. At least, not at the moment.

In the next chapter, we set ourselves the task of considering the potential hazards that children and young people are exposed to via mobile communication technologies.

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68 Supra OECD report, n.6.