Office of Utilities Regulation

Jamaican Common Short Code Scheme

Consultation Document



March 23rd, 2012

Abstract

Pursuant to Section 8 of the Telecommunications Act (2000), the Office of Utilities Regulation (the OUR) has been assigned the function of Jamaican National Numbering Plan Administrator with specific responsibility for the management and administration of numbering resources to be used in relation to telecommunications services provided by carriers and service providers as prescribed in said statute.

This document sets out the purpose and structure of a Short Code scheme to be used for the provision of premium services, as well as the methodology by which these short codes should be assigned in keeping with regulatory best practices so as to allow for transparency and effective competition.

This document presents the OUR's proposal for the procurement and use of these numbering resources, assesses the implications regarding costs to the consumer, and recommends best practices for the services for which they are intended. Through consultation it all also attempts to address critical issues to do with customer protection for services that will utilize the short codes. The OUR welcomes all relevant comments and opinions based on what has been presented here. The OUR also welcomes all relevant points that may be material to the discussion at hand, that may not have been considered in the document.

After all the responses, have been received, the OUR shall issue a second consultative document that will reflect any reconsiderations or revisions to its position after its consideration of the relevant responses. At the end of the consultation, the OUR will then issue a determination along with a set of rules governing the provision of mobile short codes for use with premium services.

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COMMENTS FROM INTERESTED PARTIES

Persons who wish to express opinions on this Consultation Document are invited to submit their comments in writing to the OUR. Responses to this document should be sent by post, fax or email to:

Gordon Swaby P.O Box 593 36 Trafalgar Road Kingston 10 Fax: (876) 929-3635 Email: gswaby@our.org.jm

Responses are requested by May 2nd, 2012

Respondents are requested to limit their use of confidentiality markings as far as possible, and are encouraged to supply their responses in electronic form so that they can be posted to the OUR's website.

Comments on Responses

There will be a specific period for respondents to view other responses (nonconfidential) and to make comments on them. The replies may take the form of either correcting a factual error or putting forward counter arguments.

Comments on responses are requested by May 16th, 2012

Arrangement for viewing responses

The responses received by the OUR will also be made available to the public through the OUR's Information Centre (OURIC). Persons who wish to view the responses should make an appointment by contacting:

Kishana Munroe 00Public Affairs/ Information Officer Telephone: (876) 968 6053 Fax: (876) 929 3635 Email: kmunroe@our.org.jm

Individuals with appointments should visit the OUR's offices at:

3rd Floor, Petroleum Corporation of Jamaica (PCJ) Resource Centre, 36 Trafalgar Road, Kingston 10.

Photocopies of selected responses may be requested at a price which just reflects the cost to the OUR.

Consultative Timetable

The timetable for this consultation is summarized below:

Event	Date
Publish Consultative Document	March 23 rd , 2012
Responses to this document	May 2 nd , 2012
Comments on Responses	May 16 th , 2012
Second Consultation Document	June 27 th , 2012

1.0 Introduction

- 1.1 Under the mandate as set out in Section 8 of the Telecommunications Act (2000), the Office of Utilities Regulation (the Office, the OUR) is responsible for the development and management of the Jamaican National Numbering Plan which governs the provisioning of the Telephone Numbers that the Office has determined to be available for allocation and due assignment as well as the conditions that govern their adoption and use in Jamaica by licensed telecommunications service providers. The Office issued its first determination on the National Numbering Plan in November 2003 entitled The Jamaican National Numbering Plan (Document Number Tel 2003/10 and herein referred to as the Determination notice). The determination notice was widely circulated by direct mail and also posted on the OUR's website at http://www.our.org.jm.
- 1.2 Implicit in the above-mentioned mandate, is the responsibility for developing and employing appropriate numbering strategies for the overall national good. This entails, reviewing the Plan¹ from time to time, and amending it where necessary and appropriate to ensure it remains adaptable and relevant to changing socio-economic and technological environments. As a prerequisite to achieving this end, the Office must ensure that the best use is made of limited numbering resources by encouraging efficiency and innovation where numbering resources are concerned.
- 1.3 In determination 3.5 of the Determination Notice on the National Numbering Plan, the Office designated NXX codes with the formats 'N00' and 'YYY' (e.g. 300 and 444 - all in the category Easily Recognizable Code – ERC), and the legacy '976' allocation, as numbering ranges for Special Services. According to the Determination Notice, such services would typically be value-added services, charged at special rates or premium rates, with or without content². However, determination 3.5 also declared that the Office had "...not proposed an exclusive definition of special services in order to provide flexibility for future use of the ERCs...", and "where deemed necessary, the Office will allocate blocks of 1000 numbers under specified ERCs for specific services". Along with these general provisions it was understood that under particular, circumstances, ERCs may be assigned to provide three-digit dialling access to Special Services. Such special services included items such as balance enquiries for prepaid customers and other related functions.
- 1.4 Determination 3.5, its provisions, interpretation and application have become a focus of attention especially in the cellular mobile market. The background circumstances, mobile operators' proposals and the Office's opinions and related decisions are presented below.

¹ Section 2.11 of The Jamaican National Numbering Plan (Office of Utilities Regulation - Document Number Tel 2003/10)

² Section 3.14 of the Determination Notice (Office of Utilities Regulation - Document Number Tel 2003/10)

REGULATORY HISTORY

- 1.5 In May 2004, the Office opened the NXX 444. This was to replace the NXX 555, which earlier had been activated primarily, to accommodate an emerging demand for numbering resources to facilitate the delivery of SMS-based services by mobile operators. The Numbering Plan at the time did not set aside number ranges exclusively for use for SMS-based or any other mobile messaging service. These commercial offerings were classified as value-added services and distinguished accordingly from the regular voice call service and the basic text messaging provision. It is on that basis that these value-added services were categorized as Special Services.
- 1.6 In Section 3.6 of the Determination, the Office authorized the use of a new set of 3-digit vertical services codes, including, among others, the *10X *19X range from which it has since made assignments for Unstructured Supplementary Service Data (USSD) services. These are, by definition, access codes. USSD is a GSM bearer service facility which simplifies the use of mobile supplementary services. USSD-based services can, for instance, be used to gain access to pre-configured operator-specific services. The numbering for USSD-based services is in the format *1XX# as defined by the European Technical Standard Institute (ETSI). Due to the nature of the USSD-based services can also be so designated as Special Services.
- 1.7 Very importantly, apart from the Cable & Wireless Jamaica's provision of audio-text services using the NXX 976 resource, there has been no demand from fixed line operators for the Special Services numbering resources. It is important to note here too that NXX 900, like NXX 976, is designated unassignable as a central office code in the North American Numbering Plan, and set aside for Special Services.
- 1.8 Several issues have emerged in relation to Special Services since the Office issued its aforementioned determination on the National Numbering Plan. In particular, the following concerns, expressed in various contexts, required attention:
 - a. The need for and value of a more precise definition of Special Services under the National Numbering Plan;
 - b. The distinction between content and non-content services and whether they should be differentiated by numbering;
 - c. The ability of customers to differentiate between totally free services, those charged at standard service rates, and premium rated services;
 - d. The appropriateness of operator-specific allocations (tantamount to operator branding) of Special Services numbering resources;

- e. The assignment of Special Services numbers to third party content providers;
- f. The method of assignment of Special Services numbers to operators (block allocation versus service by service assignment);
- g. The suitability of short codes over E.164 resources, for the numbering of mobile messaging services;
- h. The use of Special Services numbers on a common basis across multiple mobile networks, on a case by case basis;
- i. Should the same resources be used for voice and SMS-based services?
- 1.9 Many of these issues arose, largely because at the time of the numbering consultation, the industry, understandably, was not in the position to assist the Office in determining what Special Services it should cater for and their likely demand for numbering resources in the foreseeable future.
- 1.10 In May 2004 the existing mobile operators were asked to provide the Office with a projection of their service offerings (in terms of the likely nature of such services) and associated numbering needs in the short to medium term to serve as a yardstick in a Consultative Process to resolve the prevailing concerns that evidently affected only mobile services. Operators either did not respond or did not provide sufficient information to adequately guide the Office in its further allocation of numbering resources for Special Services and the development of the relevant numbering administration guidelines. One operator did however provide some practical suggestions for administering allocated numbers.
- 1.11 This limited response was in the context of an ostensible inclination to safeguard competitive strategies in an increasingly competitive marketplace. Operators were specific, however, in their request for an early change in the conditions governing the assignment of line numbers under NXX 444 (referred to as 444-XXXX) Line Numbers.
- 1.12 The operators emphasized these two overriding concerns as important numbering considerations without which they could lose valuable market opportunities. There are also two implied views among mobile operators as to the general type(s) of service for which 444-XXXX Line Numbers should be employed. On the one hand they are regarded as resources strictly for SMS-based services; on the other hand there is the notion that their use for premium voice services should be accommodated.
- 1.13 While the market demand, locally, for Special Services is still unclear, the market trends worldwide suggest strong growth potential for SMS and MMS (multimedia messaging services). As such this could become the new paradigm of focus for local operators as the market for new mobile customers nears saturation.

1.14 Consistent therefore with global trends, the OUR has decided to establish a Common Short Code Regime to satisfy the demands of the market as well as to facilitate greater competition in the growing market of value added services.

PURPOSE OF DOCUMENT

1.15 This **first consultation document**, which is largely exploratory, introduces the concepts governing the Common Short Code (CSC) Regime and initiates discussions on issues relating to the provision of premium rate and valueadded services to which the CSCs will serve to provide dialling access. Feedback on this initial consultation will be taken into account, in the **second consultation document**, for the formulation and presentation of concrete proposals for the establishment the CSC scheme and the regulation of premium rate and value-added services.

STRUCTURE OF DOCUMENT

- 1.16 The document is structured as follows:
 - Introduction (Chapters 1).
 - Industry Background (Chapters 2).
 - Regulatory and Policy Implication for Premium Rate and Value Added Services (Chapter 3)
 - Consumer Protection with Regard to Premium & Value Added Services (Chapter 4)
 - Numbering Resources (Chapter 5)
 - Common Short Code Scheme Requirements (Chapter 6)

2.0 Industry Background

MOBILE NETWORKS OVERVIEW

- 2.1 The first cellular phone call was made in the United Sates in 1973 and it marked the beginning of the Advanced Mobile Phone System (AMPS) an analogue phone system which ushered in a new era for personal communications. The Digital AMPS system in the 1990s marked what would come to be known as a '1st Generation (1G)'cellular phone system³.
- 2.2 Subsequent to this Europe produced the Global System for Mobile Communications (GSM), a 'second generation (2G)' phone system that would become the dominant mobile technology at the turn of the 21st century. A key consideration in the design of the system was the provision of seamless interoperability between the networks of Europe. This facilitated greater communication among the people of Europe and allowed subscribers of one network to "roam" on the networks of other mobile networks when travelling to other countries.
- 2.3 Concomitantly, rapid growth was taking place in other areas, and valueadded services started to develop as well. The most far reaching of these was the short message service or SMS which had its genesis in 1992. SMS enabled text messages to be sent between subscribers and it has since grown to over 1 trillion messages sent per year worldwide⁴.
- 2.4 The development of third (3G) and fourth (4G) generation mobile technologies has spurred new service innovations and the demand for such services. Today the mobile device is a primary mode of personal communication with increasing influence all over the world. These newer mobile technologies have facilitated higher data speeds and even greater connectivity to the Internet.
- 2.5 The network evolution from traditional single-service circuit switched networks to multi-service packet-based networks, the separation of services from the transport infrastructure of networks or "unbundling", the emergence of third party content providers and changing social orders as to how communication is done (messaging etc.), all have new regulatory implications with respect to licensing, interconnection, content control and numbering (the demand for new mobile services have given rise to an increased demand for appropriate numbering resources for access to and differentiation of those services by service providers and consumers). These concerns demand, and significantly impact, the establishment of a new common short code regime.

³ GSM World. *Brief History of GSM & the GSMA*. Retrieved from <u>http://www.gsma.com/history/</u>.

IMPLICATIONS OF MOBILE SERVICES DEVELOPMENT

Social and Economic

- 2.6 The growth of mobile services has had several implications for both the developed and developing world. Increased access to mobile services has allowed people to enjoy:
 - More timely access to information,
 - Greater access to goods and services;
 - Greater access to communication services to persons who may have been challenged to get access to telephone services owing to the remoteness or difficulty of access to their location;
 - Improved access to local emergency services, such as 911, with users being able to initiate a call using their mobile phone from anywhere where they are able to access a mobile network.
- 2.7 The nature of wireless networks have allowed for easier rollout of networks and services and also has allowed for previously challenged communities to enjoy access to basic telephone service. This has helped to fuel a phenomenal growth rate across different regions of the world as shown in the table below:





- 2.8 The growth of the usage of mobile telephones has been further helped by the use of more creative business models, such as prepaid pricing which has proven quite effective in helping individuals, and more so those who may have uncertain income levels, to enjoy cellular phone service while controlling their spend.
- 2.9 As the ownership of cell phones has increased, so too has their importance as a channel for the promotion of goods and services. This serves to emphasize their growing importance in the day to day life of the individual. Evidence of this is observed where data has revealed that the mobile phone has gradually overtaken the fixed line in terms of penetration rates:



Source: ITU

Mobile phones have effectively served as an effective substitute for fixed line telephones in poorer countries, while complementing existing fixed line services in richer countries⁵.

2.10 This has also had implications for travel as telecommunication has become an effective substitute for transportation. In some countries, people have used cell phones to obtain information on job availability, access prices and remain in contact while on the move.

In the Republic of Niger, Western Africa, for example, mobile phones have facilitated the reduction of the prices of grain from various suppliers by allowing them to get easier access to buyers and sellers across the country. This has led to the price of grain falling by as much as 20% due to the fact that farmers are now using their mobile phones to interact with each other to receive regular pricing information for the commodity⁶. In previous instances they would have had to travel many miles to different markets to get the information on the prices for grain, thereby incurring transportation costs and other related expenses.

- 2.11 Greater communication, afforded by cellular technology, has given concerned parents the ability to keep in touch with their children even while they are at school by virtue of their possession of a mobile instrument. This allows them to have a sense of continuous accessibility to their loved ones.
- 2.12 The use of the mobile phone is buoyed by its relative user-friendliness and general availability through a myriad of dealer channels conveniently located in population centres all over the world.
- 2.13 As alluded to earlier, the mobile phone has evolved from an electronic instrument for voice communication to becoming a key economic enabler, providing a widely available platform for multiple services within a strong mobile services landscape supported by a host of application developers, dealers, and content providers. These participants are seeking to maximise

⁵ Waverman, L., Meschi, M., Fuss, M. – *The Impact of Telecomms on Economic Growth in Developing Countries*. Retrieved from <u>http://www.buzzinbees.com/docs/Leonard%20Waverman%20-</u>%20mobile%20penetration%20and%20GDP%20growth.pdf.

⁶ Aker. J. *How Cell phones are changing markets in sub Saharan market*. Retrieved from http://www.oecd.org/dataoecd/39/28/41713139.pdf.

the benefits provided by the digital space created through the widespread ownership of mobile phones.

2.14 The advance of mobile services has been a tremendous success. The growth seen however, has also precipitated a need for greater scrutiny of the attendant resources, such as spectrum and numbering that are necessary for its fulfilment.

MOBILE COMMERCE

- 2.15 Mobile commerce (also known as m-commerce) has gained prominence across the world in the way it facilitates payments for goods and services via one's mobile telephone. It traces its roots back to Finland, in 1997, where it was first used to pay for items from a Coca Cola machine via SMS. Later on that same year Merita Bank in Finland went even further by offering mobile banking also via SMS⁷.
- 2.16 In Finland(with a population of 5.2 million⁸), that has one of the more developed mobile markets, shows estimates of revenues for 2006⁹ for m-commerce exceeding €124 million -showing the pace at which the service had been proceeding and how well it has been received by the market. Popular transactions by consumers included:
 - Purchase of ringtones, games, applications and other premium content.
 - **4** Payment for traffic fines and toll services.
 - ↓ Integrated financial services.

It is expected that as consumers become more comfortable using their mobile phone as a viable channel for conducting financial transactions, mobile commerce will grow. This growth will be further aided by the emergence of new services that utilize the facility.

- 2.17 In Africa, mobile commerce has virtualized the provision of banking services and simple mobile phones can serve as virtual bank offices and are being used to:
 - **4** Pay wages.
 - ↓ Serve as virtual accounts where cash can be stored for safety;
 - **4** Send money to friends and family.

⁷ Yadav S. *M-Commerce & its Security Issues*. Retrieved from <u>http://www.scribd.com/doc/54073989/3/History-of-M-Commerce</u>.

⁸ CIA. (2011). *The World Factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/fi.html .

⁹Organisation for Economic Co-organization and Development. (2007). *Mobile Commerce*. Retrieved from <u>www.oecd.org</u>.

This is done through the sending of text messages¹⁰ from one's mobile phone to another mobile user's phone for the transfer of funds. Special codes are generally required to activate or gain access to and manage these services. The facility has allowed access to people who were not able to previously enjoy financial services. With increased usage, m-commerce may present an alternative over other more conventional payment methods especially for people in the developing world¹¹.

LOCATION BASED SERVICES

- 2.18 The improved capabilities of cellular phones have afforded us another welcome development, especially for marketers. The ability to discern the approximate location of users through the use of Global Positioning System (GPS) embedded in their respective devices (especially high end smart phones) has become an important piece of data. Service providers can then use the location of a mobile subscriber to offer location specific value added services that make use of this data.
- 2.19 Generally, location based services (LBS) are offered in three forms push, pull and tracking¹²:
 - 1. Pull Service- the user initiates a request for location based services. An example of this may occur where a user requests the bus schedule in a given area.
 - 2. Push Service –the service provider initiates the request to provide a LBS to the user. In these cases the user will have to specifically give permission to the service provider to send additional information to his phone as opposed to just having the information sent to their instrument without prior consent. A typical example of this is the request to receive information from a business operator which may include discounts, coupons etc.
 - 3. Tracking service this service aims to obtain location information of a mobile terminal which may be a person, vehicle etc. An example of this is the fleet management system used by companies such as UPS to keep track of their delivery agents.
- 2.20 In the United States major networks have already started to capitalize on the growing popularity of LBS by offering services to business customers who monitor customer proximity to their outlet stores through the mobile network's location intelligence software. According to a recent survey, consumer responses to the this facility have been very positive and have at

¹⁰The Economist. (2007). A Bank in every pocket? Retrieved from

http://www.economist.com/node/10133998?story_id=10133998.

¹¹Greenwood, L. (2009, August 12). Africa's mobile banking revolution.

http://news.bbc.co.uk/2/hi/business/8194241.stm; CGAP. (2009). Poor people using mobile financial Services: Observations on customer usage and impact from M-PESA.

¹²GSMA. Location Based Services. Retrieved from <u>http://www.gsm.org/documents/se23.pdf</u>.

times even initiated purchases based on offers coming through location based alerts¹³.

- 2.21 Location based services along with mobile commerce clearly demonstrate, mobile phones have long surpassed their usefulness as simply just for voice telephony. They support a suite of new services; facilitate even new business models; and allow for wholesale changes in the provision of other core services such as even banking.
- 2.22 The growth of mobile services has also given greater visibility to services such as SMS and MMS and the part they play even in the some of the examples that were outlined earlier. As in both cases of mobile commerce and location based services, text messages can be used to initiate a request for network services. This includes transferring funds in the case of m-payments or even just accessing other premium content such as weather information. They represent a special concern in that they are a key enabler for a host of services. The regulation of the numbering resources for services connected with these messages is therefore a key concern and it shall form part of the basis of this consultation.

TECHNICAL OVERVIEW OF SMS & MMS

Short Message Service

- 2.23 Short Message Service (SMS) allows for the sending of short messages, in non-real time, of about 160 characters from either another mobile subscriber, IP address or a fax facility. The messages do not allow for images or graphics to be sent and can usually support phones across different cellular networks including GSM, CDMA and even TDMA (IS-136).
- 2.24 SMS had its genesis in Europe as early as the 1980s with contributions coming mostly from France & Germany. Key developments for this service included:
 - Acceptance by the youth culture (1995).
 - International revenues of 80 100 billion for between 3-4 trillion messages sent worldwide ¹⁴(2008).
- 2.25 The service consists of the following elements that are usually deployed in the following configuration:

¹³Butcher, Dan (2011, March 29). Location-based marketing can increase average order value, frequency, loyalty http://www.mobilemarketer.com/cms/news/advertising/9540.html

¹⁴Trosby, F. Holley, K. (2009) *Short Message Service (SMS): The Creation of Personal Global Text Messaging.* Chichester, England: John Wiley.



Source: http://www.tspt.net.et/documentation/SMS.pdf

The main functional element in the transmission of SMS is the Short Message Service Centre (SMSC) that is software resident in the network provider's network. It receives messages for delivery to mobiles, provides delivery receipts and even does billing for messaging done. The software is versatile and processes messaging from the different entities, which are shown at the left of the diagram, including:

- The web for delivery of text messages originating from the web.
- Email for delivery of text messages originating from an email.
- Voice Mail for delivery of text message notifications for voice mail messages or indicate missed calls.
- External Short Message Entities (ESMEs) this may include other SMSCs, multimedia messaging and other elements that are a part of another mobile network.

Multimedia Messaging Service (MMS) Systems

- 2.26 Multimedia messaging represents an evolution of the existing SMS messaging regime and had its genesis in 2002 by mobile operator Telenor of Norway. The service has since quickly evolved to include over 100 operators worldwide¹⁵.
- 2.27 MMS provides for richer content including graphics, sound and other media formats to be included in messages. It is not restricted to the standard length of 160 characters and has the ability to support messages of varying length. Early take-up of the service had several challenges in ensuring message delivery and even in converting formats for adaptability with subscriber handsets. However, MMS message delivery has been improving and has been further aided by the development of smartphones with larger screens; more robust networks as well as efforts to standardize the MMS product offering across networks.

¹⁵Bodic, G. (2005) *Mobile Messaging Technologies and Services: SMS, EMS, and* Chichester, England: John Wiley

- 2.28 The architecture of MMS is more complex than that used for SMS due to its ability to support multiple data formats, different charging mechanisms as well as the need to cater for mobile phones that may not have native MMS support for MMS messages. Referring, for simplicity, to the earlier diagram showing SMS architecture with two key differences:
 - 1. The SMSC is replaced by a multimedia service centre (MMSC). In some networks the SMS & MMS functionalities may reside on a single platform.
 - 2. Signalling network is mostly IP and may not have STPs. Although MMS networks will still support signalling from legacy networks through appropriate interfaces.
- 2.29 The technology also is slightly different in operation than SMS in the delivery of messages. MMS uses the wireless application protocol(WAP), which operates over the packet switched data (GPRS/3GPP) or the circuit switched data (CSD) bearers for the transport of messages through the network; while SMS uses signalling network (SS7) ¹⁶ to effect communication .

PREMIUM RATE & VALUE ADDED SERVICES

- 2.30 Premium rate services are viewed as a payment mechanism that exists for data services, specialized content and other the value added services. They are usually available over fixed lines as well as on mobile phones. With the rates applied tending to be higher than the normal charges associated with a service of a similar nature.
- 2.31 We see general characteristics of premium services where such services utilize an existing service and provide added value for the purpose of deriving incremental revenue for providers. One common example is the use of mobile messages that serve as a means for voting in reality television contests.
- 2.32 Value Added Services are said to be services that:
 - 1. Can function as an add-on service to an existing service usually attracting a higher price.
 - 2. Are not viewed as a basic service but complements existing service offerings.
 - 3. May exist on its own, operationally.
 - 4. Can function alone to provide improvement in profitability by stimulating demand for core services¹⁸.

¹⁶European Communication Commission. (2006). *Principles related to Numbering Plans for SMS short codes*. Retrieved from <u>http://www.erodocdb.dk/docs/doc98/official/pdf/ECCRep088.pdf</u>.

¹⁸ Mobile in a Minute. Value Added Services. Retrieved from <u>http://www.mobilein.com/what_is_a_VAS.htm.</u>

- 2.33 Value added services can be separated into:
 - 1. Services that can stand alone.
 - 2. Services that operates from existing equipment or as add-ons to existing services.
- 2.34 The latter type is usually of greater importance to network operators as they leverage existing equipment; may not require additional investment in infrastructure and achieves greater economies of scope. It is thus more profitable to provide these services as the fixed costs will be shared across multiple service offerings and increases the efficiency of operation of the associated equipment.
- 2.35 This increases messaging volume to the network and provides incremental revenue for the operator as messages sent for these competitions are usually not sold at the standard SMS message price.
- 2.36 Mobile Data service provides another example of a value added service that can operate on its own and is used by mobile operators to facilitate other services such as mobile banking, location based services and so forth.

Here, mobile data service:

- 1. Does not use existing services;
- 2. Does not necessarily impact on revenue derived from existing services;
- 3. Complements the underlying value proposition of the cellular phone, which is mobility.

IMPLICATIONS FOR NUMBERING

- 2.37 In the provision of premium rate services using an SMS or MMS facility, special numbering arrangements are sometimes employed. These arrangements tend to include numbering resources that are non-standard in length and with fewer digits than a typical phone number. Owing to their length these resources have been termed 'Short Codes'.
- 2.38 They typically have lengths of between 4 and 6 digits and provide a useful balance between ease of recall for the mobile subscribers and the ability to convey meaningful information. The codes are usually used to provide access to services that fall within the categories shown in the table below:

Category	Description		
Entertainment	Polling, chats, quiz, voting for radio and tv, tickets (m- tickets) using bar codes, ringtones, wallpapers.		
Advertising	Pushing purchases to targeted markets alerts.		
Commerce	M-payments, redemption of coupons, payment for toll & government services,		
Marketing	Promotions, premium contests, & subscriptions.		
Information	Premium messages (weather, jokes etc.), mobile search/location based services.		

- 2.39 Whenever a short code can be used to access the same service across different mobile networks, it is then referred to as a Common Short Code (CSC). This makes the service more accessible and improves its chances of success by allowing subscribers on different networks to participate as well.
- 2.40 Globally, the growth of these services and mobile subscriptions has resulted in increased demand for numbering resources that would allow subscribers to access these services.
- 2.41 The enthusiastic response of consumers has in many ways helped to fuel the growth of premium rate and value added services as well as redefine the requirements for numbering arrangements. Consequently, the OUR has been persuaded to take a look at this industry development in order to assess and treat with its impact on the local market.

GLOBAL MARKET FOR PREMIUM RATE & VALUE ADDED SERVICES

2.42 While an exact figure was not readily available for all the premium rate services worldwide, a look at the growth of SMS traffic worldwide is instructive. This is shown in the following graph:



- 2.43 The following information was also garnered from research carried out across the world:
 - In the United States SMS and MMS messages were 620.2 billion and 9.3 billion respectively in mid-2008. Revenues were \$11.36 billion and \$20.97 billion (this figure however included downloads, ringtones etc.), ¹⁹respectively. As messages are a primary driver for premium and value added services, this is a useful indicator of the possible revenue of premium services in the market.
 - In the UK, SMS and MMS messages were 103.9 billion and 500 million respectively in 2009. Revenues were £2.7 billion from SMS messages²⁰.
 - Money spent on mobile music in 2007 was estimated to be \$13.7 billion in 2007. With mobile music representing such items such as ringtones, ringbacktones and even full track downloads. The largest market was in Asia, followed by Western Europe and then North America²¹.
 - The pioneering mobile money service, M-PESA in Kenya, had its inception in 2007 and has been used to transfer the equivalent of US\$1.8 billion dollars in the country between 2007 2011. The revenue from this service was US\$69.1 million in the six months leading up to September 2010 for Safaricom, the mobile carrier

¹⁹Federal Communications Commission. (2010). *14th Report FCC 10-812010*. Retrieved from <u>http://transition.fcc.gov/14report.pdf</u>.

²⁰Office of Communications. (2010). *Communications Market Report*. Retrieved from <u>http://stakeholders.ofcom.org.uk/binaries/research/cmr/753567/CMR_2010_FINAL.pdf</u>.

²¹Gartner Research Inc. (2007). *Gartner Says Consumer Spending on Mobile Music will Surpass US\$32 billion by 2010.* Retrieved from http://www.gartner.com/it/page.jsp?id=500295.

providing the service. This figure accounted for 11% of their revenue and represented an 80% increase over a similar period last year²².

- Mobile gaming was estimated to be a third of the \$60 billion mobile entertainment market in 2009²³.
- 2.44 The information above shows the significant scope of valued added services and their importance to carriers, service providers and consumers around the world.

LOCAL MARKET FOR PREMIUM RATE & VALUE ADDED SERVICES

2.45 The market for premium and value added services has been growing over the years since the time of liberalization of the telecommunications market in Jamaica as shown by the aggregate figures for both SMS messaging volumes and revenue for the mobile market in the table below:



Source: Office of Utilities Regulation

- 2.46 The local market has witnessed the emergence of a variety of premium rate services that has included:
 - The production of reality shows and contest where users are encouraged to vote via text messages;
 - The launch of mobile banking;
 - The sale of digital content over one's mobile phone; wherein which Jamaica was recognised as being one of seven countries within the

²²Mobile Monday. (2011). *Mobile Africa Report*. Retrieved from <u>http://www.mobilemonday.net/reports/MobileAfrica_2011.pdf</u>.

²³4G Americas. (2006). *Mobile Broadband: The Global Evolution of UMTS/HSPA*. Retrieved from http://www.4gamericas.org/documents/UMTS_Rel7_Beyond_Dec2006.pdf.

region that had increased sales of digital music in 2010^{24} over 2009, due mainly to an increase in the sale of ringtones;

- The launch of Mobile TV.
- 2.47 The market for premium rate and value added services have shown signs of growth. As such it will be important to ensure that this market is afforded the opportunity to grow further and take advantage of the opportunities that are already being provided in other more developed markets by ensuring the necessary regulatory provisions are in place.
- 2.48 Thus with the positive prospects for further developments, it is envisaged that:
 - A clearly defined regulatory framework will inspire confidence in those seeking to provide premium rate services that utilize numbering resources,
 - There will be an emergence of a mobile services environment for premium rate services that will encompass application providers; aggregators (that take different streams of mobile data and pass on to mobile carriers); and mobile carriers would emerge with the support of appropriate regulatory mechanisms.
 - Enable premium rate and value added services to be provided in a manner that ensures that the interest of the consumer is protected.

Q1. What other premium rate services do you think will be of interest to this market?

²⁴Jamaica Observer. (2011). *Digital Music Sales Up*. Retrieved from

http://www.jamaicaobserver.com/entertainment/Ring-tones-boost_8641955.

3.0 Regulatory and Policy Implications for Premium Rate and Value Added Services

ACCESS FOR THIRD PARTY CONTENT PROVIDERS

3.1 The provision of premium rate and value-added services involves many different players occupying different parts of the mobile value chain. Therefore, any meaningful discussion on the provision of CSC for use with these services has to include the supporting players that form this landscape, as shown in the figure of the Mobile Services Landscape below:



In this simplified diagram the key players that participate in bringing a service to the consumer are:

- Content Providers provide meaningful data or content for use by the various players in the mobile landscape. This can include music, games, video and other forms of media. Content providers interface with aggregators, application providers, and the wireless carriers to provide disparate data streams for subscriber through their respective network providers.
- Application Providers –develop the applications on which most of the mobile services run. They interface with content providers to derive meaningful data that may be transmitted to mobile aggregators for delivery.
- Aggregators usually serve as SMS (or MMS) gateways to the mobile network with connection agreements between themselves and the carriers. They provide a bulk transit facility for delivery between the mobile network providers and the application/content providers upstream. In some markets, the content provider will not be allowed to interface with the carriers directly but rather through their

selected aggregators, with whom they already have connections in place.

• Wireless Provider – is the first point of connection for a subscriber requesting network services and leverage their network infrastructure to meet these requests through the existing towers, spectrum, mobile switches and servers that they own. They will usually maintain subscriber records and manage the billing process for the requested services.

It is within this landscape that it will be necessary to examine the conditions that will allow for interoperability of services between the participants in the mobile value chain.

INTERCONNECTION

- 3.2 Interconnection serves to facilitate connectivity between different communication networks in order to facilitate the transfer of information, access to customers and other resources that may not be resident on one's network. It may exist between fixed or mobile networks or even between data or voice services and a myriad of other types of facilities and services as the demands of consumers change. It allows a network operator to:
 - 1. Gain access to facilities and services of other operators and service providers.
 - 2. Derive greater efficiency from the use of its own network resources as well as that of other operators.
 - 3. Reduce the time to market for new products and services.

Legal Context

- 3.3 Section 2, the "interpretation section" of the Telecommunication Act (2000), defines interconnection as "*the physical or logical connection of public voice networks of different carriers*".
- 3.4 Sections 29 and 30 of the Act further provide that:

" 29. Obligation to grant interconnection

29. (1) Each carrier shall, upon request in accordance with this Part, permit interconnection of its public voice network with the public voice network of any other carrier for the provision of voice services.

(2) A public voice carrier shall provide interconnection in accordance with the following principles -

(a) any-to any connectivity shall be granted in such manner as to enable customers of each public voice network to complete calls to customers of another public voice network or to obtain services from such other network;

(b) end-to end operability shall be maintained in order to facilitate the provision of services by an interconnecting carrier to the customer notwithstanding that the customer is directly connected to a different network;

(c) interconnecting carriers shall be equally responsible for establishing interconnection and doing so as quickly as is reasonably practicable.

(3) Copies of all interconnection agreements shall be lodged with the Office which may object to any such agreement in the prescribed manner.

(4) The Office may, either on its own initiative in assessing an interconnection agreement, or in resolving a dispute between operators, make a determination of the terms and conditions of call termination, including charges.

(5) When making a determination of an operator's call termination charges, the Office shall have regard to the principle of cost orientation, so, however, that if the operator is non-dominant then the Office may also consider reciprocity and other approaches.

(6) For the purposes of subsection (5), "reciprocity" means basing the non-dominant carrier's call termination charges on the call termination charges of another carrier."

"30. Interconnection by dominant carrier.

30. (1) Without prejudice to section 29, a dominant public voice carrier shall provide inter-connection in relation to a public voice network in accordance with the following principles –

(a) the terms and conditions under which it is provided shall be

(i) on a non-discriminatory basis;

(*ii*) reasonable and transparent, including such terms and conditions as relate to technical specifications and the number and location of points of interconnection; and (iii) charges shall be cost oriented and guided by the principles specified in section 33;

(b) no unfair arrangements for cross subsidies shall be made;

(c) where technically and economically reasonable interconnection services shall be so diversified as to render it unnecessary for an interconnection seeker to pay unreasonably for network components or facilities that it does not require;

(2) Each dominant public voice carrier shall keep separate accounts in such form and containing such particulars as will enable the Office to assess whether that carrier provides interconnection services in accordance with the principles specified in subsection (1)."

- 3.5 From a reading of the Act, "interconnection" is defined as being between "public voice networks of different carriers" only. This therefore means that there is no explicit statutory provision for the interconnection of other types of networks (such as data networks etc.).
- 3.6 This poses particular challenges in the regulation of the sector as the Telecommunications Industry continues to move towards convergence. This concern will be applicable to those providers that may require interconnection with other non-voice networks for the purpose of providing premium rate services.
- 3.7 At the same time however, the Act does not preclude the establishment of interconnection arrangements between other types of networks. These arrangements would be governed by the terms of contractual arrangements between the two interconnected entities.
- 3.8 An example of this is the interconnection of mobile messaging gateways between the major mobile network carriers with the terms of interconnection being governed by contractual agreement between the mobile operators. This arrangement has facilitated the transmission of text messages across mobile networks. In addition to this, interconnection has also enabled subscribers to participate in premium rate services being offered, notwithstanding, their mobile network provider.
- 3.9 The proposed ICT policy however seeks to address the issue of interconnection in a more fulsome manner by expanding the definition of interconnection. This will then allow for greater consideration to be given to other types of networks as well as offer the possibility for statutory and regulatory provisions to be made for the interconnection of other networks.
- 3.10 In addition to this, work has begun to harmonise existing mobile Reference Interconnect Offer (RIO) documents as executed between mobile operators so as ensure that the terms of the contract are homogenous across operators as well as to those entities who may be seeking interconnection.

3.11 Presently mobile interconnection is done via the PSTN for Lime and direct connectivity is not allowed to their mobile network. However with the new Mobile RIO there is a move towards having mobile-mobile interconnectivity this will be done based on a determination given by the OUR.

3RD PARTY ACCESS FOR SERVICE PROVIDERS

- 3.12 In the emerging paradigm of convergence in the telecommunications industry, it is clear to see that there is a broadening scope for service delivery. This is owed largely to the flexibility offered by the IP transport mechanism. Another reason for this is the necessity of supporting open access for non-traditional service providers such as aggregators, application providers and content providers in order to have a vibrant telecommunications environment. Where the terms by which a network operator allows access to its subscribers is non-discriminatory, technically feasible, nor unduly difficult for potential access seekers.
- 3.13 In this environment it is necessary to appreciate that the services to be offered will not necessarily be offered by the mobile operators themselves but sometimes in conjunction with content providers, application providers etc.
- 3.14 The pace of change within the telecommunications is of such that time to market is critical and for new services to be realized may involve partnering and allowing access to these providers for this to be done. New services also allow for network operators to have strategic advantages over other operators and as such can be crucial for competitive purposes.
- 3.15 To enable this, it will be important to ensure that access is provided in a manner that will not discourage 3rd party service providers seeking to connect with mobile networks or their affiliates.
- 3.16 Potential deterrents for service providers wishing to obtain access include:
 - 1. Cost this will be a significant driver for any decision.
 - 2. Access to facilities of network provider this is especially relevant in cases of required co-location where the equipment of service providers will be hosted of the network operators' premises and provision may have to be made for qualified personnel of the service provider to gain access to their equipment at different times.
 - 3. Systems Integration Issues this includes items related to billing and such that are needed for proper settlement and ease of customer use for the respective service.

Connectivity

3.17 The method by which 3^{rd} party service providers connect is another consideration when dealing with the question of access. This is an important

consideration as this could be a deterrent to service providers who may be seeking to provide services to subscribers on mobile networks. Access seekers may have the option to either connect directly to a carrier's messaging gateway (SMSCs, MMSCs etc.) or indirectly through dedicated third-party facilitators such as aggregators.

- 3.18 The aggregators may have connectivity to multiple network operators and this would remove the need for service providers seeking access to negotiate multiple agreements with different mobile operators.
- 3.19 Connectivity to other networks is increasingly being done by IP. This is owing to its flexibility and the ability to transport various services. Two such options that are commonly used by operators are:
 - 1. Private leased lines does not transmit data over the public internet and is very secure
 - 2. Virtual Private Network (VPN) uses existing Internet connection and firewalls controls with no internal network connection required. It is less secure than the private leased line.
- 3.20 However while these options are presented for consideration, it should be noted that IP interconnection has not been fully considered by the industry. Notably, the new mobile Reference Interconnect offer (RIO) does not treat with IP interconnection. Going forward this will be an important consideration for all participants in the process.

Q2. What issues do you find presently that are affecting access to mobile and fixed networks for access seekers?

INTEROPERABILITY OF SERVICES FOR OTHER NETWORKS & SERVICE PROVIDERS

- 3.21 The popularity of SMS and other messaging formats necessitate interoperability between service providers for smooth delivery of service across different mobile networks. Interoperability of services facilitates access to services regardless of whatever mobile network a subscriber may be on and is useful for effective service delivery.
- 3.22 One consideration is having technical standards that can facilitate the interoperability of services across the networks of mobile networks and the networks of service providers. So in that regard, it will be important to know what standards are supported via the mobile operators or through their respective aggregators.
- 3.23 Interoperability also has implications for the routing and billing of services to users. If services are advertised and there is lack of interoperability across the networks, subscribers may not be able to gain access to these services. Along with that they may also be billed for messages that they would have sent in trying to access such a service.

- 3.24 Another issue is the legal provisions given to the considerations that will foster interoperability between providers and network operators. The current regulatory framework in Jamaica is defined only for facilities providing public voice services and does not give explicit consideration to any other type of interconnectivity between networks.
- 3.25 The issue of interoperability will therefore not be driven by stipulations of the regulatory agency, but by the commercial concerns of the market place and its attendant demands. Any limitations arising from this situation will have to be settled through the facilities afforded by commercial agreements or other competing network carriers offering other options for connectivity etc.

Q3. What other considerations do you believe are necessary to facilitate the interoperability of networks?

PRESCRIPTION OF SERVICES & LEGAL REQUIREMENTS

- 3.26 The rapid evolution of telecommunications has facilitated the growth of an expanded range of services, utilizing non-traditional delivery systems and players. The provision of premium rate services is one such example of this evolution and its growth has seen more players enter into the mobile value chain as the mobile services landscape has evolved.
- 3.27 One such player that has emerged in this landscape is the content provider. Locally, content providers have expressed an interest in obtaining numbering resources which will allow subscribers to access their services over existing telecommunications networks. However, their participation is likely to be hampered by the current legal and regulatory framework.
- 3.28 According to Section 8 of the Telecommunications Act, the OUR "shall assign numbers to carriers and service providers...". Further, an entity shall not provide a 'specified' service unless they are duly licensed under Section 13 of the said Act.
- 3.29 Under the provisions of the Telecommunications Act (2000), specifically Section 13 dealing with the grant of licences, the law prescribes three main types of licences whereby:

"13. Grant of Licence

Upon receipt of a recommendation from the Office pursuant to section Licence. 11(4), the Minister may, subject to subsections (2) and (3) -

- in the case of an application for a carrier licence, grant that licence authorizing the licensee to own and operate the facilities specified to own and operate facilities specified in the application;
- *in the case of an application for a service provider licence, grant that licence authorizing the licensee to provide the services specified in the application.*

- *in the case of an application for a dealer licence, grant that licence authorizing the licensee to sell, trade in or import any prescribed equipment";*
- 3.30 Pursuant to Section 9(2) of the said Act:

"a person shall not provide a specified service to the public in Jamaica unless that person is the holder of a service provider licensed under Section 13".

- 3.31 In the provision of these services it is expected that all applicants will be mindful of the general provisions made regarding the use of numbering resources as set out in the provisions of the Telecommunications Act (2000) to:
 - *"Promote the interest of customers, while having due regard to the interests of carriers and service providers"* (Section 4 (1) (c));
 - *"Promote competition among carriers and service providers"* (Section 4(1) (f));
 - "Assign numbers for telecommunications services to carriers and service providers on a non-discriminatory basis" (Section 8(1)).
- 3.32 These provisions are laid out in the determination on numbering published by the OUR in 2003.
- 3.33 Telecommunications is defined as "the transmission of intelligence by means of guided or unguided electromagnetic, electrochemical or other forms of energy, including but not limited to intelligence:
 - (a) In the form of:
 - (*i*) Speech, music and other sounds;
 - (ii) Visual images, whether still or animated;
 - (iii) Data or text;
 - (iv) Any type of signal;
 - (b) in any form other than those specified in paragraph (a);
 - (c) in any combination of forms; and
 - (d) transmitted between persons and persons, things and things or persons and things;
- 3.34 Further to this a "telecommunications network" is defined as:

"a system or any part thereof, whereby a person or thing can send or receive intelligence to or from any point in Jamaica, in connection with the provision of a specified service to any person";

3.35 Telecommunication services are defined as:

"a service provided by means of a telecommunications network to any person for the transmission of intelligence from or within Jamaica without change in the content or form and includes any two way or interactive service that is provided in connection with a broadcasting service or subscriber television service".

- 3.36 Further to this the Act defines a specified service as a *"telecommunications service or such other service as may be prescribed"*. The term "prescribe" denotes the formal determination and declaration of a service to be a specified service. This is done through a formal determination from the Office for any particular service to be considered a specified service.
- 3.37 For the purposes of this Act, a specified service is provided to the public if :
 - a) It is supplied, directly or indirectly, for a fee to a person other than:
 - i. A connected person or any of its employees or officers;
 - ii. A closed user group;
 - b) It is connected to a public network; or
 - c) It provides customers with the capability to use the service for originating specified services to or terminating such services from the public switched telephone network.
- 3.38 In addition to this the Act also sets out how these services may be granted to the public under the set licensing regimes. In this regard, the Act clearly states under Section 9 that:
 - (1) A person shall not:

(a) own or operate a facility in Jamaica unless that person is the holder of a carrier licence granted under section 13;

(b) provide specified services to the public by means of that facility unless the person is also the holder of a service provider licence granted under section 13;

(c) sell, trade in or import any prescribed equipment unless that person is the holder of a dealer licence granted under section 13;

(d) engage in bypass operations.

(2) A person shall not provide a specified service to the public in Jamaica unless that person is the holder of a service provider licence granted under section 13.

"No person shall provide a specified service to the public in Jamaica unless that person is the holder of a service provider licence granted under Section 13 (of said Act)".

3.39 The Act goes on further to state that under Section 9:

Subsections (1) and (2) shall not apply to the following facilities to the extent that they are:

(a) used solely on a single premises.

(b) not connected to any other system and are run solely by a person for domestic purposes;

(f) used solely by an aeronautical, maritime or other industry or organization to provide services to its members that share a common business purpose other than the supply of telecommunication services.

LEGAL ISSUES SURROUNDING "CONTENT"

- 3.40 The telecommunications Act does not provide any explicit legal definition for what "content" is nor does it make mention as to what a content provider is. This makes their classification difficult without any formal definition in law.
- 3.41 This has implications with respect to obtaining numbering resources as the Act only provides for number resources to be assigned to carriers and service providers. Under this regime the issue then arises whether prospective content providers may be considered a service provider (or carrier) for the purpose of obtaining numbering resources. Another consideration is if the services they would provide can be designated a "specified service"; this would then allow them to apply for a service provider licence under Section 13.
- 3.42 A service provider is licensed to "provide services" to the public that may involve the use of its own facilities or the facilities of another entity thereby making it a non-facilities service provider. It will be then necessary to consider if the networks of these newer providers can be classified as "telecommunications networks" with the requisite ability to offer "specified services".
- 3.43 The Act defines a telecommunications network as a system or any part thereof, whereby a person or thing can send or receive intelligence to or from any point in Jamaica, in connection with the provision of a specified

service to any person. Prospective service provider's service offering must be done in such a manner in the pursuit of providing of a specified service so as to be designated a telecommunications network according to the legal statutes.

- 3.44 Under the proposed ICT policy, the issue of content is to be addressed across a range of platforms with respect to public interest issues such as decency etc. However, with the promulgation of this document, the possibility exists for the formal definition of what content is through a specific Content Policy. It will also assist in assessing what is offered and aid in the formation of a definitive regulatory framework for the treatment of the issue of content as well as possibly provide some guidance as to what maybe considered a content provider.
- 3.45 However while the existing regime holds, one can draw from some international experiences as the question of handling new providers is up for consideration.

INTERNATIONAL BEST PRACTICES

3.46 The Jamaican regulatory regime has not provided a definitive framework for the treatment of non-traditional service providers that may intend to offer premium rate and value added services. It is therefore instructive to see what measures other jurisdictions have employed to address these issues and the regulatory provisions that have been made to deal with such.

Ireland

- 3.47 Ireland has designated a set range of numbers in a specified format for premium services. Any service utilising that range is assumed to be providing a *Premium Rate Telecommunication Service*.
- 3.48 According to Section 6 of the Communications Regulation (Premium Rate Services and Electronic Communications and Electronic Communications Infrastructure) Act 2010:
 - 1) A person who intends to provide a specified premium rate service shall, before doing so, submit an application to the Commission for a licence to provide that service.
- 3.49 According to the said statutes a premium rate service *means a service that has all of the following characteristics:*
 - a) it consists in the provision of the contents of communications (other than a broadcasting service) through an electronic communications network or by using an electronic communications service, which may include or allow the use of a facility made available to the users of the service,

b) there is a charge for the provision of the service which exceeds the cost attributable to communications carriage alone, and

the charge referred to in paragraph (b) is paid by the end user of the service directly or indirectly to the provider of the electronic communications network or electronic communications service used in connection with the provision of the service by means of a billing or other agreed payment mechanism;

3.50 Further to this the Act defines a premium rate service provider as:

A person who does any or all of the following, for gain:

- a) provides the contents of a premium rate service,
- b) exercises editorial control over the contents of a premium rate service,
- c) packages together the contents of a premium rate service for the purpose of facilitating its provision,
- *d)* makes available a facility as part of a premium rate service,
- *e)* transfers a premium rate service from a content provider to one or more electronic communications networks, or
- *f)* provides the electronic communications service over which a premium rate service is provided, or provides the electronic communications network over which a premium rate service is transmitted²⁹;

<u>Canada</u>

3.51 Canada defines a premium rate text message, 'Premium SMS', as:

'a short messaging service that charges a premium price point that is to the Customer. A premium price point is considered to be anything a consumer is charged that differs from the cost charged by their WSP to send regular standard rate text messages'.

3.52 Further to this they also define content providers as:

'means third-parties who wish to offer services to customers'

3.53 The Canadian Wireless Telecommunication Association (CWTA) operates a registry for the administration of short codes within the country. They

²⁹Irish Statute Book. (2010). *Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010.* Retrieved from http://www.irishstatutebook.ie/pdf/2010/en.act.2010.0002.PDF.

maintain no explicit licensing requirements for those wishing to provide premium rate services as well as obtain short codes³¹.

Singapore

- 3.54 The licensing framework allows for two kinds of licenses:
 - 1. Facilities Based Licence (FBO) Operators who deploy any form of telecommunication networks, systems and facilities to offer telecommunication switching and/or transmission capacity and/or services to existing licensed telecommunication operators; businesses; and/or consumers must apply for a Facilities-Based Operator (FBO) licence.
 - 2. Service Based Licence (SBO) Operators who lease telecommunication network elements (such as transmission capacity, switching services, ducts, fibre) from FBO licensees to provide telecommunication services to third parties or resell the telecommunication services of FBOs parties must apply for a Services-Based Operator (SBO) licence³².
- 3.55 A premium rate service is:

'Any value-added service provided over a public telecommunications network which consists of;

- a) the provision of content to any person including but not limited to content such as information, news, updates, data, quizzes, jokes, greeting messages, ringtones, wallpapers, logos and games for which charges are imposed over and above the standard network charges of the relevant network operator;
- b) the provision of a facility to any person including but not limited to facilities for chat services, contest participation, charitable fundraising and vote lines for which charges are imposed over and above the standard network charges of the relevant network
- c) a combination of (a) and (b),

but shall not include value-added services provided by network operators such as auto redial, back-up SIM card, call barring, call directory, call divert, call transfer, call waiting, caller ID, caller number non-display, conference

³¹ TXT.ca. (2009). *Canadian Common Short Code Application Guidelines*. Retrieved from <u>http://www.txt.ca/english/business/doc/Canadian Common Short Code Application Guidelines Ver</u> <u>sion 1 0.pdf</u>.

³² Infocomm Development Authority of Singapore. (2000). *IDA Licensing Framework and Guidelines Following Announcement of Full Liberalisation of the Telecommunication Market*. Retrieved from http://www.ida.gov.sg/News%20and%20Events/20060926142213.aspx?getPagetype=20.

call, favourite numbers, IDD, missed call alert, multi-SIM card, number retention, number porting, mobile voice and message roaming, speed dial, voicemail or video call services;'

3.56 In Singapore, a public telecommunications network:

'means any fixed or mobile telecommunications network in Singapore;'

3.57 In addition to this a premium rate services provider:

> 'means a licensee that engages in the provision of a premium rate service. For the avoidance of doubt:

- a) Network operator that enables a third party premium rate service provider to provide a premium rate service over its network shall not be treated as the premium rate service *provider of that service;*
- b) A network operator who itself provides a premium rate service over its network shall be treated as the premium rate service provider of that service; and
- c) where a licensee, such as an aggregator, facilitates the provision of a premium rate service that is controlled, managed or operated by any other party who is not a licensee, the facilitating licensee shall be treated as the premium rate service provider of that service and shall be responsible for complying with this Code notwithstanding that the service is controlled, managed or operated by the other party³³';

Considerations

- 3.58 The jurisdictions provide examples that will allow for the local consideration of the issues raised to be looked at against international experience bearing in mind the existing regulatory framework. What can be seen is that other jurisdictions have defined premium rate services as a specified service as well as have dedicated numbering resources for premium rate services (Ireland).
- 3.59 In this regard, it may be useful to consider the issue if the designation of a particular specified service(s) could offer the benefit of facilitating new providers given the structure of our regulatory regime.
- 3.60 In other instances, numbering resources are made available through a registration system (Canada) whereby numbering resources are offered to

³³ Infocomm Development Authority of Singapore. (2006). IDA Code of Practise for the Provision of Premium Rate Services. Retrieved from http://www.ida.gov.sg/News%20and%20Events/20060926142213.aspx?getPagetype=20.

applicants once mobile operators have agreed to run the code applicant's campaign on their mobile network.

- 3.61 This could be another option to consider if the licensing of newer providers is not possible based on the legal stipulations that exist in Jamaica. The newer service providers could be simply registered so as to allow them access to short code numbering resources for use under an existing licensed operator.
- 3.62 On the basis on this discussion it will then be necessary to see how the requests of these newer providers can be duly accommodated through a responsive regulatory framework. A framework that will be cognisant of their numbering needs and the attendant requirements attached to running a premium rate or value added service.

Q4. Do you believe that there are some entities that may need short code numbering resources that are not being catered to by the existing regulatory framework? In this regard what changes do you feel would be necessary to facilitate them?

Q5. What are your views on a short code registration system for newer providers? How would you like to see this system run?

Q6. Do you believe that premium rate services should be designated a specified service?

4.0 Consumer Protection with Regard to Premium Rate and Value Added Services

- 4.1 The delivery of premium services to subscribers may include the provision of paid services as well as "free" services to consumers. Along with this fact, the ownership of a mobile device is dispersed across different age groups, who may seek to access these services by virtue of the fact that they possess a mobile telephone. In this manner, the delivery of the content provided by service providers through mobile networks poses challenges to consumers that must be addressed by all relevant stakeholders. It is hoped that by seeking to outline a framework for the provision of these services that:
 - 1. Consumers will be protected from such abuse as may arise from the use of these premium rate services;
 - 2. Proper guidelines will be laid out to ensure that the use of these services will not provide content deemed to be inappropriate, injurious or emotionally disturbing to members of the public.
 - 3. Arrange for proper mechanisms to bar (and possibly screen) the delivery of content from those who may not be eligible to those may not want to receive it.

TARIFF TRANSPARENCY

- 4.2 In the provision of these services, it will be necessary to consider the underlying tariffs that users are expected to pay and the issues related to them in the provision of premium rate services to the public. This will be of critical importance so that services can be offered in as an efficient manner as possible with due regard to the users of the service. In addition to this it will be necessary to ensure billing for these services is conducted in transparent manner to the party that is being charged for the service. When done in such a manner it:
 - Reduces the likelihood of any discrepancies arising owing to wrongful billing and prevent abuses arising from the billing practices of the service providers;
 - Inspires confidence in the users of the service;
 - Allows the user to be kept abreast of any material changes in the pricing of the service.
- 4.3 It will be necessary to ensure that the regulatory framework for services that are to utilise short codes is cognizant of the importance of tariff transparency and address the issues relevant to them. So that subscribers may know about the underlying charges of premium rate services and what particular risks are posed to consumers if they are not properly informed.

- 4.4 Along with this concern, is the issue of what particular arrangements should be used to facilitate tariff transparency when dealing with services utilizing short codes. For example, some European countries (such as the UK) have utilized tariff dependent numbering ranges to ensure transparency of prices for premium rate services (a list of some countries and their charges are shown in Annex 3 for reference).
- 4.5 Another consideration would be to know if there are prospective services that may require special tariff considerations. This would ensure that the regulatory framework is sufficiently responsive to their needs. This could include subscription services, video services or even those that could involve the delivery of physical items.

Q7. What considerations should be given to the issue of tariff transparency?

Q8. What particular arrangements should be made to facilitate tariff transparency in services that will be utilizing short codes (for example price points, tariff dependent numbering ranges etc.)?

Q9. What prospective services do you envisage will require special tariff considerations?

PREVENTION OF ABUSE

4.6 Premium rate services using short codes have become very widespread. The growth of the services also carries with it increased risks to subscribers as more and more entities vie to offer premium rate services. As such it will be necessary to identify where the possibility of abuse may exist in an effort to protect the consumer interest.

Advertising

- 4.7 The communication of information about a premium service is done in many ways using the print media, the web, and even text messages for example. So it is therefore necessary that any advertisement relays information about the nature of the premium rate service being advertised.
- 4.8 Advertising done in an effective manner will not lead to false expectations from consumers. In addition to this, it will also reduce the likelihood that charges related to any premium rate service will not be fully understood by the user.
- 4.9 An example of this has been the use of the word 'free' has been used in the advertising of any service to consumers. This has caused problems for subscribers in other countries such as Singapore for example and the use of the term is carefully regulated. Care should be taken so that the word connotes what is meant and the specific terms and conditions under which this designation is used.

Subscription Services

- 4.10 Subscription services are usually defined by a subscriber electing to opt-in to a service being provided by a service provider for a standard length of time usually for a fee. Such services include special messages, news, jokes etc. and subscribers will usually pay one fee upfront to receive content from the provider for the length of the subscription period that they have paid for.
- 4.11 Subscription services vary and usually are provided as a recurrent charge to the user. With a recurrent charge the possibility for abuse is somewhat higher than a service attracting a one-time charge.
- 4.12 Subscription services also utilise common short codes to provide access to mobile users on various networks. In addition to this, other channels have at times been used to allow subscription to these services. This includes access over the web as well as through interactive voice response (IVR) systems via the telephone network. As such these services may pose particular challenges and require special consideration when utilising short codes due to the various access mechanisms that they may employ.

Q10. What particular mechanisms should be put in place to protect subscribers who may wish to participate in premium rate subscription services that utilize short codes?

Q11. Should specific charging limits be set for premium rate subscription services purchased by subscribers during a given timeframe (You may refer to Annex 3 for data on the charging policies in selected countries)?

Privacy of User Data

- 4.13 With any subscription to a premium service, there will be a data trail created by the subscriber. This data trail would be able to give different pieces of information to other interested parties such as:
 - 1. Subscriber preferences,
 - 2. Frequency of usage of the medium for purchases etc.
 - 3. Spending patterns with regard to the specific services paid by the subscriber.
- 4.14 The need for management of this information would therefore constitute a valid concern for any user. For with this information the user can be targeted by providers of similar services which may become a nuisance to unsuspecting consumers.
- 4.15 Under Section 47 of the Telecommunications Act, the following terms are stipulated:

"Every carrier and service provider shall regard and deal with as secret and confidential, all information regarding the type, location, use and

destination, quantity and technical configuration of services used by their customers"

4.16 These terms shall be subject to Section 47 (2) of the Act that states under certain conditions:

"A carrier or service provider may:

- 1. Disclose such information to the Office or pursuant to the provisions of any law for the time being in force which requires such disclosure for the purpose of the investigation of a criminal offense;
- 2. Disclose such information with the written consent of the customer;
- 3. Disclose such information where the disclosure is necessary in defence of the carrier or service provider in any proceedings brought against that carrier or service provider."
- 4.17 The issue of fraud is also a constant threat in that consumers may be presented with offers from unscrupulous agents as well as face issues arising from the loss of critical personal information.

SPAM

- 4.18 The success of mobile messaging has created another concern for mobile users. The threat of unwanted mobile messages, more popularly known as spam, has become a global problem. Spam constitutes unwelcome communication to users through the mobile network from 3rd parties.
- 4.19 The messages can originate from parties that may purport to be selling a product, advertising a service or may simply be unscrupulous agents trying to get further personal information that may compromise the user's financial well-being.
- 4.20 In any respect the nature of these messages serves to undermine the effectiveness of the mobile messaging channel. Where existing mobile carriers have allowed access to their messaging gateways to other parties, such as aggregators, there can be an added burden placed on carriers to ensure that they monitor their connection partners as well.
- 4.21 In this manner customers can become exposed if effective policies are not in place to guard against SPAM messages being propagated through these agents that are connected to mobile messaging gateways as well.

Q13. What are your views on SPAM and what measures are being taken to protect consumers against SPAM?

Q14. What measures do you believe should be put in place to monitor connected agents (aggregators etc.) that terminate messaging volumes to the carrier's gateway?

PROTECTION AGAINST CERTAIN TYPES OF CONTENT

- 4.22 Premium content is often varied in its offerings to mobile users and can range from simple weather information to paying for concert tickets for a concert. The variety and the flexibility of the services being offered to the public does raise the question of whether all content will be suitable for the wide spectrum of users that now enjoy mobile services from their phones.
- 4.23 A question then arises of what content is appropriate and for whom as the classification of content and the regulation of said content rank as two distinct issues. This is especially relevant in light of the ubiquity of mobile phones and their usage by particularly vulnerable groups such as young children and even teens.
- 4.24 The proposed ICT policy will seek to develop a Content Policy to examine the issue of content on a broader level. However in the meantime there is still some uncertainty as to how to the issue will be treated with.
- 4.25 Another issue is that of whether the short code numbering range should reflect particular content categories. This could serve to indicate to subscribers the nature of the content or even the possible tariffs related to a service utilising a particular range of common short codes.

Q15. Do you believe that mobile content should be rated? If so, what system should be used to classify mobile content be rated?

Q16. What measures should be used to protect against content that could be considered to be offensive for vulnerable groups such as children etc.?

Q17. Do you believe that the short code numbering range should be used to classify content categories as a means of protecting the consumer?

CUSTOMER COMPLAINT & REDRESS

- 4.26 In the operation of any premium rate service, customer issues will arise from time to time that will need to be addressed. Such issues are commonplace and the strength of a provider's response will ultimately decide how well their service does in the market. For a commercial entity the first point of contact is usually through a telephone number contact centre given to them when the service is advertised; a website or an email address. However it is done, the important issue is that a mode of contact is provided to them that is sufficiently responsive to their needs.
- 4.27 Premium rate services are usually provided by 3rd party providers through existing mobile operators. This can be an issue for customers if there are not adequate measures for customer complaint and redress taken by these providers. This problem is further compounded in cases where the premium rate service campaign is short lived; fraud or abuse may have occurred and no means for customer redress had been made available by the service provider.

4.28 Another issue is that of the time that consumers should be afforded to register their complaint for any abuse they may have suffered while using a premium rate service. For where there are cases of abuse, the subscriber may not be immediately become aware of for redress to be sought with regard to the specific offense. This is especially relevant where the premium rate service may be provided by a 3rd party service provider.

Q18. Should a time limit be set on how long customers should have in lodging a complaint? How long should this be?

Q19. What measures do you think should be put in place by operators and 3^{rd} party service providers, who may be utilising their networks to provide a premium rate service, to treat with consumer complaints?

BARRING MEASURES AND FACILITIES

- 4.29 The use of any premium rate service may expose consumers to charges and possible abuse. This is especially relevant to subscription services that may involve recurrent charges. As such consideration will have to be given to meaningful measures that will offer additional protection for users of premium rate services.
- 4.30 Another issue is whether the design of the numbering plan should reflect the classification of content and tariff categories. This feature could be used to assist consumers in barring unwanted content or reduce their exposure to numbering ranges with higher tariffs. In Finland, for example, network operators are required to provide barring mechanisms that will allow for the barring of specified premium rate SMS number categories³⁵.
- 4.31 Some premium rate services provide operational features within their service offering to assist subscribers with respect to barring of said services. This includes *keywords* as well as additional channels such as telephone IVR systems to assist in this regard.
- 4.32 In some instances consumers may also be given the option to bar all chargeable premium rate services from their phone. This can serve to reduce the likelihood of 'bill shock' from the mobile operator³⁶ and abuse from these services.

Q20. What barring measures and facilities do you think should be provided to the users of any service?

Q21. Do you think that consumers should have the option for universal barring for all chargeable premium rate services?

³⁵ Electronic Communications Committee. (2006). *Principles Related to Numbering Plans for SMS short Codes*. Retrieved from <u>http://www.erodocdb.dk/docs/doc98/official/pdf/ECCRep088.pdf</u>.

³⁶Singapore Business Review. (2011). IDA steps in to stop "bill shock". Retrieved from <u>http://sbr.com.sg/telecom-internet/news/ida-steps-in-halt-%E2%80%9Cbill-shocks%E2%80%9D</u>.

5.0 Numbering Resources

THE ROLE OF NUMBERING

- 5.1 Numbering is a finite public resource, and a key strategic concern in the evolution of the telecommunications and information marketplace. It must be carefully controlled so as to ensure that is it properly utilized and that access is allowed for all relevant stakeholders in the provision of ICT services.
- 5.2 Numbering influences how telecommunications networks are designed, calls routed, tariff arrangements and how services are deployed. In that regard numbering is a national concern which also has international considerations. Numbering also has the ability to convey meaningful information that is sometimes used commercially for branding and other identification purposes.

BASIC STRUCTURE OF A NUMBERING PLAN

5.3 The basic numbering plan for Jamaica is part of the North American Numbering Plan (NANP) which serves the United States and its territories, Canada, the Bahamas, Bermuda, the Dominican Republic, and fifteen (15) Caribbean territories. The NANP has the following 10-digit format:

NXX	NXX	XXXX	
(ABC)	(DEF)	(GHIJ)	
Area Code	Central Office Code Station Number		
Alca Code	Directory Number		

5.4 N = digits 2 through 9; X = digits 0 through 9 and the format is further described as ABC-DEF-GHIJ for reference. The three most significant digits, ABC, denote the Numbering Plan Area (NPA – area code); the next three digits DEF denote the central office code or exchange area; and the last four digits GHIJ give the line or station number. The combination of DEF-GHIJ is the seven digit number that comprises a subscriber's telephone number.

EXISTING SYSTEM FOR SHORT CODES AND LIMITATIONS ALONG WITH PROPOSALS

- 5.5 The National Numbering Plan designated NXX codes with the formats 'N00' and 'YYY' (e.g. 200, 300, 400..., and 222, 333, 444...), and the legacy '976' NXX, as numbering ranges that would typically be used for value-added services, charged at special rates or premium rates, with or without content.
- 5.6 The numbering resource currently used for mobile premium services is NXX '444'. However, this NXX is used to provide 7-digit numbers (similar to the

'976' numbers which are used for premium rate services on the fixed networks) which cannot be classified as short codes. So the need exists for a workable plan for short codes for mobile networks.

- 5.7 If the YYY numbering resources were to be deployed as YYY-XXX codes, this could produce a six digit number that could be classified as a short code. This however would limit the number of these codes available to 1000 for each YYY resource. That is, YYY-000 to YYY-999.
- 5.8 In addition, the codes would be limited in the amount of meaningful information they would be able to convey as the three most significant digits would be fixed across the range of subsumed codes. However, the use of the YYY codes would make it easier to dial numbers with less than seven (7) on the fixed network without number translation conflicts or timing delays.
- 5.9 Short Codes that are used to represent (or spell) meaningful words or have other valuable significance are referred to as *vanity codes*; whilst others that have no representational value may be referred to as *random codes*. For example, '34448' can be used to represent 'FIGHT' using the standard telephone keypad and would be considered a vanity code.
- 5.10 Thus, the N00-XXX and YYY-XXX could reduce the inherent appeal that these codes could have to service providers.
- 5.11 However with the coming of the new 10-digit dialling further options will be available for consideration for use as short codes. This shall be looked at in the following section as well as the implications with respect to the use of short codes on carrier networks.

INTRODUCTION OF NEW AREA CODE AND 10-DIGIT DIALLING

- 5.12 The planned introduction of a new area code by early 2013 will change the current standard 7-digit local dialling format to a 10-digit format.
- 5.13 This change will provide greater flexibility in the formulation and use of short codes in both the fixed and mobile networks. Five- or six-digit short code with full use of digits for 'vanity' purposes will be possible. There will be a wider range of options for those who intend to convey meaningful information in short codes. This however raises questions regarding the timing of the introduction of a new Common Short Code Regime.
- 5.14 A quick review of the CSC code ranges utilised in the United States, Canada Latin America, and the United Kingdom presented earlier in Chapter 3 is collated for easier comparison:

	Countries and Respective Short Code Ranges ³⁷			
No. of Digits	Canada	USA	UK	Latin America
a 5 b	10000-99999	20000-999999	50000-899999	
e 6	100000-9999999	222222-899999		900000-9999999

5.13 In the table above, two format implementations (5-digit as well as 6-digit short codes) are shown for the different countries. These are informed by the need to have codes available to work with different services and as such flexibility is important.

PROSPECTIVE USES OF SHORT CODES

- 5.14 As mentioned earlier, different countries have utilized short codes in many ways, for marketing, advertising, information, voting, gaming and even commerce. Some prominent examples include:
 - Reality based TV-shows where votes are sent from subscribers in via a text message to a short code for their favourite contestant.
 - In London, motorists can pay for a ticket to drive in the city by sending a text to a particular short code. A message is then sent to the mobile user as proof of payment for the facility.
 - Subscribers purchase tickets to events by sending a message to a short code. A barcode is then generated and sent to the subscriber's telephone to be presented at the event to gain entry.
 - The delivery of live and recorded video to mobile users can be accessed by dialling a short code. During the call users may be able to access different options via an IVR.
 - Used to transfer money and make payments in Africa.
- 5.15 The range of uses for short code is very wide and therefore care should be taken to allow the market to have the flexibility in offering services that are competitive without any bias towards any particular technology.

ALLOCATION OF SHORT CODES

5.16 A critical determination will be how to manage and allocate short codes in line with the needs of the Industry.

³⁷ Taken from the short code registry for each jurisdiction: <u>www.short-codes.com</u> (UK); <u>www.txt.ca</u> (Canada); <u>www.usshortcodes.com</u> (USA); and <u>www.latinshortcodes.com</u> (Latin America)

- 5.17 This will facilitate ease of service definition and provide guidance to service providers as to possible ranges they may be expected to operate in when they are seeking to launch premium rate services.
- 5.18 Some of these are given for North America and the UK with a more detailed description to chapter to follow in Section 6.

Code Range	Description of Range
50000-59999	Reserved for future use & dual UK/ROI use.
60000-69999	Open-ended fixed fee per message or call or open-ended for time dependent services.
70000-77999	Reserved
78000-78999	Payment for products/services that is not intended for delivery on the phone.
79000-79999	Payment for goods/services that are for adults (18 & over) that is not intended for delivery on the phone.
80000-89999	Open-ended fixed fee per message or call or open-ended for time independent services.
89000-89999	Open-ended fixed fee per message or call or open-ended time dependent services aimed at an adult (18 years and over) audience including PP+ defined Sexual Entertainment Services.

5.19 In the UK, the number ranges are allocated as shown in the table below:

Source: www.short-codes.com

- 5.20 In the case of Canada however, there are just two categories given for short codes over both five (5) and six (6) digit code lengths. These are:
 - 1. Common Short Codes where these are codes that two or more wireless operators providers agree to participate in by allowing access via third party aggregators and application providers.
 - 2. Private Short Codes these are programmes that are restricted to private use and are not classified as common programmes.

The Canadian CSC regime is given to broad provisions with specific limitations on such items as alcohol, tobacco and even gambling pending special permission by the CWTA.

5.21 In the United States and the Latin American no specific consideration was given to categories, leaving the range open for full use.

Q22.What categories of services do you believe will be relevant to the Jamaican market for the purpose of defining service ranges?

MANAGEMENT OF SHORT CODES

- 5.22 Efficient and effective Management of the short code regime is essential for proper use by all qualified stakeholders. Proper management will also serve as a mechanism for the on-going monitoring and alignment of the use of short codes with the needs of the market through a responsive numbering framework.
- 5.23 Under the Telecommunications Act of 2000, the OUR has been given the specific responsibility to "assign numbers for telecommunications services to carriers and service providers on a non-discriminatory basis".
- 5.24 So any regime that it is to be promulgated will have to have regard for this mandate and derive appropriate processes to guide the desired ends of a CSC scheme.
- 5.25 Different approaches have been employed in the management of short code regimes with respect to the regulator and industry interests. Some jurisdictions that have implemented a short code scheme include:
 - Canada where the CWTA administers the CSC alongside other • wireless operators through the Short Code Council (SCC). The SCC works to set policy and rules for the use of CSCs. The CWTA has been specifically chosen to by operators to be the main point of contact for those interested in obtaining CSC; maintain an inventory of codes-in-use and those codes that are available for use by interested parties³⁸.
 - United Kingdom-The CSC is managed by mobile operators through the Short Code Management Group (SCMG) who have been given the task of managing set ranges by OFCOM. These ranges are further sub-divided amongst different mobile providers. As such anyone wanting a CSC in a particular range will have to apply to the mobile operator managing that particular range³⁹.
 - United States- the registry for CSC has been contracted to Neustar Inc. who has been assigned a number range that they manage for use by those interested in obtaining short $codes^{40}$.
- 5.26 It will be necessary to consider, with input from the industry and other stakeholders, what mode of management would be best suited to local needs for the proper use of these numbering resources.

Q23. What approach do you support for the management of short codes; should it be through an industry group or simply left to the regulator?

³⁸ TXT.ca. (2011). Canadian Common Short Code Application Guidelines. Retrieved from

http://www.txt.ca/english/business/doc/Canadian Common Short Code Application Guidelines Version 1 0.pd

<u>f</u>. ³⁹ Short-Codes.com. (2011). Retrieved from <u>www.short-codes.com</u>.

⁴⁰ Common Short Code Administration. (2011). Retrieved from <u>www.usshortcodes.com</u>.

Q24. If you support the formulation of an Industry group: who should comprise this body; what specific issues would you like them to consider as a body?

ELIGIBILITY CRITERIA FOR ASSIGNMENT AND USE OF SHORT CODES

- 5.27 The Telecommunications Act (2000), under Section 8, requires the assignment of numbering resources in a non-discriminatory manner to carriers and service providers.
- 5.28 Implicit in any application for the resource, therefore, is the eligibility requirement for the applicant to be a licensed network operator or service provider.
- 5.29 For this reason, criteria for the assignment of CSCs will have to carefully considered and be in the best overall interest of the scheme. Following are examples of requirements in other jurisdictions:

REQUIREMENTS	COMMENTS
• Details of Programme – number of short codes needed, pricing, nature of services to be deployed etc.	
• Applicant must have acceptance for 2/more mobile companies.	
• Related fees, deposits etc.	
• Adherence to relevant Industry codes of conduct.	
• Connectivity with related carriers or their nominated agents will need to be established.	
• UK registered company number, contact details, address, contact name, company name.	Applicants will have to register for an account through the site <u>www.short</u> -
• Abide by code scheme rules.	code can be reserved.
• Abide by other co-regulatory rules - PP+ code for premium services etc.	
• All reserved codes must be made "active" on at least one mobile network or the code will be reclaimed to the general pool.	
	 REQUIREMENTS Details of Programme – number of short codes needed, pricing, nature of services to be deployed etc. Applicant must have acceptance for 2/more mobile companies. Related fees, deposits etc. Adherence to relevant Industry codes of conduct. Connectivity with related carriers or their nominated agents will need to be established. UK registered company number, contact details, address, contact name, company name. Abide by code scheme rules. Abide by other co-regulatory rules – PP+ code for premium services etc. All reserved codes must be made "active" on at least one mobile network or the code will be reclaimed to the general pool.

	• Applicants will have to request activation of reserved short codes via cross network care form.	
IRELAND	 Name of applicant (name of body corporate if a business) Names, addresses of relevant contact persons provided by application (in the case of body corporate name, addresses and contact of relevant directors) Business address of applicant and in the case of a company registered address of company if different from that of applicant's address. Adherence to relevant code rules pertinent to premium services licensees. 	

- 5.30 In summary, the application process should ensure that the applicants:
 - 1. Provide relevant company details including contact information, address etc.
 - 2. Provide information on the respective carrier(s) or their nominated agents (aggregators etc.) for interconnectivity who will run the campaign. It will also be necessary to conclude these arrangements before any campaign can be launched.
 - 3. Provide details of the nature of the underlying service that will be using the short codes applied for, including duration, ready for service date etc.
 - 4. Commit to honour all relevant code(s) of conduct tied to the use of the short codes obtained; and other pertinent codes of conduct that may govern the provision of premium services to the public.

Q25. What information do you believe that prospective applicants should provide as well as what other information do you believe should be considered form the list given above?

6.0 Common Short Code Scheme Requirements

A number of jurisdictions have implemented short codes schemes for the numbering of premium rate services. As such it will be necessary to examine the features that should be considered when looking to implement such a regime. This will be necessary for the smooth operation and management of the short code numbering resources that will be required for use with premium rate services.

DESCRIPTION OF THE CSC SCHEME

- 6.1 The Office should have responsibility for the assignment of CSC numbering resources for use with specified services and in accordance with its mandate under Section 8 of the Telecommunications Act (2000).
- 6.2 Thus, the short code scheme should:

"Have regard to the role that numbers can play in conveying useful information to customers";

"Promote fair and open competition";

"Promote efficient use of numbers";

"Ensure that sufficient numbers are available for the current and reasonably anticipated future needs of carriers and service providers".

- 6.3 The scheme should clearly set out the respective responsibilities of carriers, service providers and the Office regarding the administration and use of short codes numbering resources.
- 6.4 The scheme should detail the specific number ranges to be included and determine whether specific number ranges should be allocated to particular categories of services (such as video services, micropayment, etc.) or any other relevant feature.
- 6.5 The CSC scheme should also be governed by an appropriate CSC Assignment Guidelines which would define processes and requirements such as:
 - 1. The eligibility criteria for applicants for CSC numbering resources;
 - 2. The application procedure for those seeking to obtain numbering resources for use with their respective service(s);
 - 3. The refusal process, the reasons for such refusal by the code administrator, as well as the avenues of appeal by an applicant;
 - 4. Disposal or return of resources by code holders;

5. The conditions under which numbering resources should be issued; sanctions for any breaches committed; as well as outline conditions under which numbering resources should be reclaimed.

Q26.What other considerations do you feel should be given to the CSC scheme as described above?

REQUIREMENTS FOR PREMIUM RATE SERVICES USING SHORT CODES

Transparency

- 6.6 It is expected that all services that are to utilize CSCs should be clear with regard to their purported nature. This information should be detailed in the application to the OUR as well as in further communication with the public.
- 6.7 Appropriate means should be available for users to interact with the service provider to enable them to gain information before and during their time of participation in a premium rate service; pricing details for a particular service; information on the nature of the service; as well as contact information for the provider of the service etc.

Consumer Protection

6.8 Services that are to be provided to the public should have sufficient provisions to protect the interest of consumers. This is important so as to ensure that the service provided will have regard for the Telecommunications Act that states:

"That the Office may have regard to whether the specified services are provided efficiently and in a manner designed to protect the health and wellbeing of users of the service and such members of the public as would normally be affected by its operation"

- 6.9 Service providers should therefore have due regard for the following provisions when providing premium rate services to the public:
 - 1. Methods of redress for consumer complaints and appeals;
 - 2. Adequate protection against abuse spam etc.
 - 3. Protection against certain types of content.
 - 4. Adequate barring measures for consumers.
- 6.10 These considerations and related subject matters with regard to consumer protection are further explored under the section relating to Chapter 4 *Consumer Protection with respect to Premium Rate Services.*

Code of Conduct

- 6.11 It will also be necessary for the respective code holder to honour the relevant code(s) of conduct that pertains to services that will utilize common short codes within the industry. The code will cover the marketing and advertising of premium rate and value added services as well as other pertinent issues that may not be covered under the regulatory ambit of the OUR. It will be developed in further consultation with members of the Industry.
- 6.12 This will be separate from the Rules and Assignment guidelines as set by the OUR as numbering administrator, that will specifically address the issues relating to the administration and management of the short code numbering resource that are to be used in premium rate services.

Q27.What further requirements should there be for services utilising short codes?

APPLICABLE SERVICES

- 6.13 The use of CSC for any premium rate service should be made in a manner that conforms to all relevant laws of Jamaica.
- 6.14 Services that could require CSCs could easily include campaigns that involve:
 - 1. Games, chat services, charity events, ringtones, wallpapers;
 - 2. Competitive voting, mobile coupons (m-coupons), mobile ticketing (m-tickets);
 - 3. Location services, Subscription services, advertising, purchase of consumer goods;
 - 4. General information services weather, news, sports, businesses updates, etc.
- 6.15 This list is not exhaustive as each application will be considered on its merit and treated accordingly. However, in the case of some services restrictions may be necessary owing to what the service purports to offer to the public, risks to vulnerable groups or ones that may involve financial transactions. Of key concern could be:
 - 1. Services that act as a mechanism for the transfer of funds between parties or to pay for particular goods or services;
 - 2. Services that guarantee message delivery to third parties for a fee;
 - 3. Special forms of content that may not be suitable for all subscribers Adult content, gambling etc.

- 6.16 Some campaigns, based on their nature of the service they provide will require special considerations to protect vulnerable groups such as specific notifications along with "*opt-in*" requirements.
- 6.17 Along with this some services may require the input of other regulatory agencies in Jamaica, such as financial transactions, which may require the need to address specific concerns such as money laundering etc. As such further consultations may be necessary in order to develop the appropriate regulatory framework for these services.

INDUSTRY EXPERIENCES

The following is an overview of cases which may be considered as best practices with regard to the implementation of a short code regime. This may be used to guide considerations about the implementation of a short code regime.

The United Kingdom

Background:

- 6.18 In the United Kingdom, operators traditionally offered a number of services that used short codes. The codes were initially shared among mobile operators under an informal arrangement with each operator being uniquely identified by the initial two digits of the short code.
- 6.19 In 2003 it was decided to formalize that process and begin a system of administration for short codes using a common code of practice. This included the formation of a Short Code Management Group (SCMG) comprising all mobile operators.

The SCMG acts as the administrator for the range of short codes that have been assigned by the Office of Communications (OFCOM). The scheme provides for 40,000 codes ranging from '50000' to '89999' with specific portions assigned to different operators to administer.

Operation of Scheme:

- 6.20 The codes are managed to allow for various content providers and service providers to obtain them. Applicants are able to apply for and reserve codes or query and view their allocations, with the exception of the *5xxxx* codes, through a website at <u>www.short-codes.com</u>. The website is jointly run by the operators that manage the short codes under the SCMG.
- 6.21 Once approval for a short code account has been granted the successful applicant is then free to view the website for the short code they desire. Codes are listed on the site along with their status: *reserved, active, or available.*
- 6.22 The successful applicant may reserve a particular short code for a maximum period of three (3) months, at the end of which the target service should have been activated on the networks of at least two (2) of the mobile operators that

manage the scheme, under the terms of a commercial agreement. No more than five (5) codes across the entire range that are not 'active' on at least two (2) of the participating networks maybe be held by any one party at any time. Any exemptions to this rule will be at the discretion of the SCMG council.

6.23 At present there is no cost for the reservation of a short code, however there will be a cost involved for the activation of the code on respective networks.

Regulation & Consumer Best Practice:

- 6.24 Service providers that utilise short codes to provide premium rate and value added services to the public are expected to:
 - Observe the Code of practise established for such servcies.
 - The regulations set out by Phonepayplus (<u>www.phonepayplus.org</u>) that regulates all premium services offered via a telephone or mobile phone. They are recognised by OFCOM and empowered under the UK Telecommunications Act of 2003 (Section 120).
 - The provisions of the code of conduct, that has been signed off on by four (4) of the operators, as laid out by the Independent Mobile Classification Body (IMCB). The IMCB is a subsidiary of phonepayplus and have defined a classification framework for mobile content that is suitable for 18-year old and over.
 - The standards set by the respective operator(s) on whose network the campaign is to be run.
 - The rules established by OFCOM, that works with the SCMG to promote the effective use of numbering resources and who has promulgated the idea of co and self-regulation for resources outside the *1xxxx* (known as Type A short codes)⁴¹ range.

<u>Canada</u>

Background:

6.25 The Canadian short code regime arose out of an arrangement between Wireless Service Providers (WSP) and the Canadian Wireless Telecommunications Association (CWTA) in July 2003. It was decided that a Short Code Council comprising at least one representative of each WSP and the CWTA should be formed. The CWTA was selected as the administrator for the scheme and given the responsibility to maintain a registry for the CSCs and make codes available on the behalf of WSPs.

Operation of Scheme:

6.26 The Codes maintained by the CWTA are five (5) and six (6) digits in length, and are categorised as follows:

⁴¹Short-Codes.com. (2011). Retrieved from <u>www.short-codes.com</u> web site.

5 DIGITS	
10000 – 39999	Common Short Codes
40000 - 49999	Private Short Codes
50000 - 99999	Common Short Codes
6 DIGITS	
100000 – 399999	Common Short Codes
400000 - 499999	Private Short Codes
500000 - 999999	Common Short Codes
Source: ht	tp://clients.txtnation.com/home

- 6.27 The codes are available to content developers, application service providers and marketers for connectivity with participating wireless providers.
- 6.28 Applicants will be required to:
 - Negotiate the terms of connectivity with a WSP either directly or indirectly (through an aggregator) through a mutually acceptable means. Obtain support from at least two (2) competing WSP for your campaign or your application for the code.
 - Pay a non-refundable deposit equivalent to the cost of leasing the short code for the first three (3) months at the time of submission of your application.
 - Provide information on the number of codes needed; the nature of respective campaigns to be launched as well as the cost to consumers for the services to be offered.
- 6.29 Once the application has been reviewed it is passed on to the WSPs for their review, as well. WSPs will make their comments and indicate whether they are interested in participating in the campaign on offer. As indicated above, applicants must obtain the support of at least two (2) WSPs before activation can be done.
- 6.30 Testing of an assigned code is carried out at this stage and is required before its activation on the respective participating networks.

Regulation & Consumer Best Practice:

- 6.31 Upon successful completion of this testing and launch of the service, applicants are expected to adhere to the following:
 - The CSC code of conduct with regard to the underlying services provided through the short code.

• On-going compliance testing with the CWTA with regard to the code of conduct as well as other prescribed behaviour outlined in the *Canadian Common Short Code Application Guidelines*⁴².

The United States

Background:

- 6.32 The Cellular Telecommunication & Internet Association (CTIA) in 2003 led the initiative to establish a short code regime in the United States. The CTIA represents wireless carriers and other professional groups concerned with telecommunications in the States.
- 6.33 The CTIA acts as administrator for the common short code regime in the States alongside Neustar Inc. that operates the short code registry⁴³. The registry keeps track of the codes available for use by interested parties with its principal interface being through their Common Short Code Administration (CSCA) website <u>www.usshortcodes.com</u>.
- 6.34 The establishment of the CSCA was followed by a six-fold increase in short code leases between 2003 and 2006. Over the same period, SMS volumes increased by at least 37% every 6 months⁴⁴.

Operation of Scheme:

6.35 The scheme offers both five and six-digit codes to code applicants for use with their respective services as shown in the table below:

No. of digits	Code Range
5	20000 - 999999
6	222222 – 899999

Source: www.usshortcodes.com

- 6.36 Applicants seeking to lease a short code first apply for a CSCA account through the common short code website <u>www.usshortcodes.com</u>. Each applicant is allowed to order up to twenty (20) short codes with one order.
- 6.37 This allows for a lease of the intended code for up three (3), six (6) or twelve (12) month periods. The cost of the lease depends on whether a random code or a 'select' (sometimes referred to as vanity) is requested.

 ⁴²TXT.ca. (2009). Canadian Common Short Code Application Guidelines Version 1.0. Retrieved from http://clients.txtnation.com/attachments/token/3m0ua19wc8r6vj5/?name=Canadian - Common Short Code Application Guidelines.pdf.
 ⁴³ Phone State (2002) City of the state of

⁴³ Phone Scoop. (2003). *CTIA*, *NeuStar Offer Common SMS codes*. Retrieved from <u>http://www.phonescoop.com/articles/article.php?a=714</u>.

⁴⁴ Mobile Marketing Association. (2006). *Academic Review: Understanding the Common Short Code: It's Use, Administration, and Tactical Elements.* Retrieved from http://www.mmaglobal.com/uploads/Academic Review Sept 2006.pdf.

6.38 To complete the order, the applicant must provide details of the service that they will be providing through the short code. This will serve to inform wireless carriers of the details of their campaign. Once completed, the information collected from the applicant will then be sent to wireless carriers for activation. The terms of this arrangement will be subject to the commercial terms agreed to by the code applicant and the operators.

Regulation & Consumer Best Practice:

- 6.39 Successful applicants to the scheme are expected to observe the following rules governing code use and provisions for consumer protection:
 - 1. The CTIA acceptable user policy⁴⁵ dealing with the lawful use of the code.
 - 2. The Mobile Marketing Association US consumer best practices⁴⁶.
 - 3. Any stipulations as set down by the respective network operators.

Latin America

Background:

- 6.40 The establishment of a short code regime in Latin America was done in 2010 when the CTIA partnered with America Movil and Telefónica to provide a seamless cross network messaging across Latin America. This solution allows for access to a market of approximately 400 million subscribers and is intended to ease the hassle of launching campaigns using short codes⁴⁷ in the region. The initiative established:
 - The CTIA as the overall administrator for the scheme in the region. •
 - Syniverse Technologies as the registry for the CSC scheme with responsibilities for payment and for code search through the portal www.latinshortcodes.com.

The scheme will be operational in over twenty countries in the region including: Guyana, Argentina, Chile, Brazil, Costa Rica, Mexico and Venezuela, to name a few.

6.41 The code currently offers a 6-digit short codes that range from 900000 to 999999. This provides approximately one (1) million codes at the launch of the scheme. The initiative operates somewhat similar to the scheme in the United States.

⁴⁵CTIA Business Resources. (2009). CSCA AUP. Retrieved from http://www.ctia.org/business_resources/short_code/index.cfm/AID/11650

⁴⁶Mobile Marketing Association. (2011). Consumer Best Practices Guidelines. Retrieved from http://mmaglobal.com/bestpractices. ⁴⁷CTIA. (2010). CTIA – The Wireless Association Announces New Latin America Short Code Initiative. Retrieved

from http://www.ctia.org/media/press/body.cfm/prid/1933 .

Operation of Scheme:

- 6.42 Applicants will apply through the LASCA short code portal <u>www.latinshortcodes.com</u> for an account. They will then provide details of their request such as the number of short codes required, nature of campaign to be run and other relevant information. They are allowed to apply for a maximum of five (5) short codes per order.
- 6.43 A lease for a given CSC will be for either three (3), six (6) or twelve (12) months with an option to renew. The option to renew may be for three (3), six (6) or twelve (12) months as well. If the option to renew is not taken up by the expiration date, the CSC will then be allowed to age for sixty (60) days before being allowed back into the general pool of numbers for reassignment.
- 6.44 The cost to lease a short code will vary depending on the type of short code selected, whether it is a random code or a select code. The fees are non-refundable and not contingent on whether or not a mobile carrier agrees to run the applicants' campaign on their network; which will be dependent on the applicants' ability to successfully negotiate arrangements with carriers or their delegated agents.
- 6.45 Once approval for use of the CSC has been obtained from the registry, wireless providers will be notified via email of the assignment and at that time the code holder will have exclusive use to that CSC for the period of the lease. The successful applicant, however, will be allowed to transfer or sublease the CSC under the terms of the arrangement.
- 6.46 The applicant is expected to honour the terms of the short code lease agreement as well as ensures that their prospective carrier(s) has provisions for consumer opt-in. A code of best practice is also given by LATAM CSCA⁴⁸ as a guide.

- 6.47 The proper management and administration of short code resources will be essential to facilitate innovation within the sector. It will also enable service providers who may desire to provide premium rate services to the public, to obtain numbering resources in a more efficient manner.
- 6.48 Another benefit of these experiences is that we have seen different models emerge with respect to the management of the scarce numbering resource through partnership with Industry players. This has helped to increase access to the short code resource and has allowed for greater take-up of these services.

Q28. What particular features of the Industry experiences highlighted do you think will be applicable in Jamaica?

⁴⁸ Latin Short Codes. (2011). *Best Practices: Operating a Successful Campaign*. Retrieved from www.latinshortcodes.com.

Summary of Questions

Chapter 2

Q1. What premium services do you think will be of interest to this market?

Chapter 3

Q2. What issues do you find presently that are affecting access to mobile and fixed networks for access seekers?

Q3. What other considerations do you believe are necessary to facilitate the interoperability of networks?

Q4. Do you believe that there are some entities that may need short code numbering resources that are not being catered to by the existing regulatory framework? In this regard what changes do you feel would be necessary to facilitate them?

Q5. What are your views on a short code registration system for newer providers? How would you like to see this system run?

Q6. Do you believe that premium rate services should be designated a specified service?

Chapter 4

Q7. What considerations should be given to the issue of tariff transparency?

Q8. What particular arrangements should be made to facilitate tariff transparency in services that will be utilizing short codes (for example price points, tariff dependent numbering ranges etc.)?

Q9. What prospective services do you envisage will require special tariff considerations?

Q10. What particular mechanisms should be put in place to protect subscribers who may wish to participate in premium rate subscription services that utilize short codes?

Q11. Should specific charging limits be set for premium rate subscription services purchased by subscribers during a given timeframe (You may refer to Annex 3 for data on the charging policies in selected countries)?

Q12. What are your views on the privacy of consumer data and what should be done to protect it, especially where 3^{rd} parties are involved in the provision of these services?

Q13. What are your views on SPAM and what measures are being taken to protect consumers against SPAM?

Q14. What measures do you believe should be put in place to monitor connected agents (aggregators etc.) that terminate messaging volumes to the carrier's gateway?

Q15. Do you believe that mobile content should be rated? If so, what system should be used to classify mobile content be rated?

Q16. What measures should be used to protect against content that could be considered to be offensive for vulnerable groups such as children etc.?

Q17. Do you believe that the short code numbering range should be used to classify content categories as a means of protecting the consumer?

Q18. Should a time limit be set on how long customers should have in lodging a complaint? How long should this be?

Q19. What measures do you think should be put in place by operators and 3^{rd} party service providers, who may be utilising their networks to provide a premium rate service, to treat with consumer complaints?

Q20. What barring measures and facilities do you think should be provided to the users of any service?

Q21. Do you think that consumers should have the option for universal barring for all chargeable premium services?

Chapter 5

Q22. What service categories do you believe will be relevant to the Jamaican market for the purpose of defining service ranges?

Q23. What approach do you support for the management of short codes; should it be through an industry group or simply left to the regulator?

Q24. If you support the formulation of an Industry group: who should comprise this body; what specific issues would you like them to consider as a body?

Q25. What information do you believe that prospective applicants should provide as well as what other information do you believe should be considered form the list given above?

Q26.What other considerations do you feel are relevant to the CSC as described?

Q27.What further requirements should there be for services utilising short codes?

Q28. What particular features of the Industry experiences highlighted do you think will be applicable in Jamaica?

Switched Interconnection products	Unbundled Network Components	Interconnection of Packet Switched Networks	Co-location & Sharing of Common Facilities	Interconnection of Services
 Fixed network products Transit Exchange of International Traffic Origination (local, double transit, single transit) Termination (local, double transit, single transit) Wholesale of end user products (subscription, traffic) Mobile network products Termination Roaming (national, international) Wholesale of end user products (subscription, traffic) Origination 	Network Access Lines Raw Copper Shared Access Bit stream access Fiber Access Mobile Transit Lines (National, International) Fiber (dark fiber, lit fiber) Coax Radio links Satellite Sub-marine cables Other infrastructures Switching Functions Local Switching Tandem Switching Network Management, directory service functions etc. Subscriber Listings Operator Services Directory Assistance Others	Interconnection of IP Networks • Bilateral peering • Public peering • Transit (hierarchical bilateral) Interconnection of other packet switched networks • ATM • SDH • Ethernet (Constant, variable or available bit rate)	Installation of telecom facilities • At local exchanges • At concentration points Sharing of ducts Sharing of mast	Web Browsing Instant messaging Services VoIP Other Applications

Annex 1 Interconnection Products

Source: ICT Regulation Toolkit

Annex 2 List of TARIFFS CHARGED in selected Countries

Country	Tariff	Exchange ⁴⁹	Jamaican	
Country		Rate (J\$)	Low (\$)	High (\$)
Canada	\$0.15 , \$0.25, \$0.50, \$0.75, \$1.00, \$1.25, \$1.50, \$1.75, \$2.00, \$3.00, \$4.00 and \$5.00 .	87.73	13.16	439
Singapore	SGD0.20, SGD0.30, SGD0.50, SGD0.60, SGD0.80, SGD1.00, SGD1.50, SGD2.00, SGD2.50, SGD3.00,SGD3.50, SGD4.00, SGD4.50, SGD5.00,SGD6.00, SGD10.00, SGD15.00, SGD20.00, SGD30.00.	109.44	21.89	3283
United	Vodafone: 6p, 12p, 15p, 18p, 20p, 25p, 35p, 50p, 60p, 75p, 1.00 GBP, 1.20 GBP, 1.50 GBP, 2.00 GBP, 2.50 GBP, 3.00 GBP, 3.50 GBP, 4.00 GBP, 4.50 GBP, 5.00 GBP, 10.00 GBP	137.01	8.22	1370
Kingdom	T-Mobile:12p , 15p, 20p, 25p, 35p, 50p, 75p, 1.00 GBP, 1.20 GBP, 1.50 GBP, 2.00 GBP, 2.50 GBP, 3.00 GBP, 3.50 GBP, 4.00 GBP, 4.50 GBP, 5.00 GBP, 10.00 GBP .	137.01	16.44	1370

Table showing the allowable price points in selected countries:

Source: http://clients.txtnation.com for tariffs

⁴⁹Indicates rates were obtained from Bank of Jamaica website (<u>www.boj.org.jm</u>) for rates for the US dollar and the GBP. Bloomberg (<u>www.bloomberg.com</u>) was consulted for cross rates for the SGD using available data as at the 15th, May, 2011.

Annex 3 List of chargeable limits for Premium Services in selected Countries.

Table showing the allowable charging limits in selected countries for premium services:

Country	Description	Exchange Equivalent (\$J)
UK	1. Services provided should not cost more than	1. \$4,110.30
	£30 per user, per day. (Limits may vary for different services according to PPP consent.)	2. \$646.50
	2. Subscription messages using MO/MT	
	messages no more than £4.50 in 7 days (incl. of joining fees etc.)	
Singapore	No listed price cap, however moves are afoot to	
	All services must show frequency & exact no. of messages to be sent to user.	-
Canada	1. Micropayment is limited \$20 per user per	1. \$1,754.60
	month. 2. Transactional payments have limit of \$40(4x maximum tariff).	2. \$3,509.20
Source: http://clients.txtnation.com		