
Office of Utilities Regulation

**Liberalizing Telecommunications
Directory Information Markets
(Products and Services)**

A Consultative Document



OFFICE OF UTILITIES REGULATION

2001 July

Abstract

The Telecommunications Act, 2000 (the Act) designates the Office of Utilities Regulation (OUR) to function as the independent regulatory body for the telecommunications sector in Jamaica. Section 78 of the Act provides for the liberalization of the telecommunications markets on a phased basis. These markets include directory information services and products.

The provision of directory services and products is an important component of a telecommunications service provider's overall service to its subscribers. Using the information collected from subscribers upon application for telephone services, the service provider constructs what is commonly referred to as a core database. This may be developed into a comprehensive database if access to other telecommunications service providers' databases is allowed. The information in these databases is used to provide information products and services such as directory enquiry services and printed telephone directories. Currently, the only supplier of fixed line telephone service and directory information is C&WJ. As the liberalization process unfolds, the telecommunications markets, including the directory information markets are expected to become more competitive. To facilitate the development of a competitive environment in the markets for directory information services and products, the Office of Utilities Regulation intends to initiate the consultation process with the publication of this consultative document.

The consultative process on the directory information markets is expected to yield two consultative documents. The current document sets out the initial views of the OUR on the liberalization of the directory information markets. The proposals put forward in this document are intended to provide improvements in directory services and products, to prevent the misuse of customer information and generally, to create a competitive environment. Among the issues to be discussed are:

- costing and pricing of directory information products and services;
- access to directory information databases of service providers; and
- related issues of intellectual property rights and privacy.

Comments are invited from all interested parties. Submissions from telecommunications service providers will play a critical role in the liberalization process.

The second document will evolve from the discussions of the issues arising from this initial document. The second document could take the form of a Code of Conduct to govern the relationships among the suppliers of services and products in the directory information markets.

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COMMENTS FROM INTERESTED PARTIES AND CUSTOMERS

Respondents may choose to reply only to specific questions or issues in this document but comments are not confined to these issues. Failure to provide comments on all aspects of the document will not reduce the consideration given to the response.

Confidential information submitted as part of a response should be separately and clearly identified, and will be treated as such. In the interest of promoting transparent debate, respondents are requested to limit the inclusion of confidential material in responses. Respondents are encouraged to submit their responses in electronic format, so that they can be posted on the OUR's website.

Time Frame: Interested parties have a period of 50 days in which to comment on and respond to the questions included in this Consultative Document. Responses to this initial document must be submitted by September 4, 2001. Comments on these responses will be included in a revised Consultative Document to be issued by October 3, 2001. The tentative date for issuing the Determination Notice is March 4, 2002.

Table 1.0: **Timetable for Consultation Procedure**

Event	Date
Publication of 1 st Consultative Documents	07/16/01
Responses	09/04/01
Comments on the responses (1 st Consultative Documents)	10/03/01
Publication of 2 nd Consultative Document - Code of Conduct	11/01/01
Responses to 2 nd Consultative Document	12/28/01
Comments on the responses (2 nd Consultative Documents)	02/01/02
Determination Notice	03/04/02

Responses to this Consultative Document should be sent by post, fax or e-mail to:

Patrick Williams
Office of Utilities Regulation
P.O. Box 593, 36 Trafalgar Road, Kingston 10
Fax: (876) 929 3635
E-mail: pwilliams@our.org.jm

Arrangements for viewing responses

In addition to being placed on the OUR's web site, hard copies of responses will be kept in files at the offices of the OUR and will be available for viewing or to be copied by visitors to the OUR's offices. Visitors may request photocopies of selected responses at a price which just covers the cost to the OUR.

Persons who wish to view the responses should make an appointment by contacting Lesia Gregory by one of the following means:

Telephone: (876) 968 6053 (or 6057)

Fax: (876) 929 3635

E-mail: lgregory@our.org.jm

The appointment will be confirmed by a member of the OUR's staff. At the pre-arranged time the person or persons should visit the OUR's Offices at:

3rd Floor, PCJ Resource Centre, 36 Trafalgar Road, Kingston 10.

CHAPTER 1: INTRODUCTION

Purpose of the Document

- 1.1. The objective of this document is to propose changes to the markets for directory enquiry services and directory products that will facilitate the provision of more efficient and innovative services to meet the consumers' expectations. Additionally, the document contains a list of questions, which solicits the opinions of customers and interested parties on the proposals therein. This Consultation Document is not intended to exhaust discussion of the issues involved in the liberalization of these information markets. The intention is to initiate the process of consultation.

Key terms

- 1.2. The following is a list of key terms used in this document (an extended list of acronyms and other terms is found at the back of the document).
 - Directory information: This consists of categories of information including names, telecommunications numbers, addresses, type of customer (business or residential) and customer status (listed, unlisted or ex-directory).
 - Directory information services: these are services that provide directory information through the use of a telecommunications system. These services also facilitate the use of the telecommunications system. Such services include:
 - directory enquiry (DQ) services that are operator assisted and/or supplied through an automated system. There are also non-operator on-line services by which the enquirer enters queries using a computer and a modem to conduct searches.
 - Directory information products: refer to printed directories. This includes alphabetical phone books and classified business directories that are publicly available.
 - Public Telecommunications Operators (PTOs): are network operators licensed under Section 13(1)(a) of the Telecommunications Act 2000 (the Act) to provide telecommunications service.
 - Service Providers (SP's): are those who are licensed under section 13(1)(b) of the Act to provide telecommunications and related services and products to the public. They may utilize their own telecommunications network or use the network provided by others. The licences require that they provide their customers with access to a directory information service.

Legislative Framework: The Telecommunications Act (2000), Liberalization and the Role of the OUR

- 1.3. The Telecommunications Act 2000 (the Act) provides for the Office of Utilities Regulation (the Office) to function as the independent regulatory body for the telecommunications sector in Jamaica. The functions of the Office set out at section 4 (1) of the Act, include *inter alia*:
- regulating specified services and facilities;
 - receiving and processing licence applications;
 - promoting the interests of customers;
 - investigating breaches of the Telecommunications Act; and
 - promoting competition among carriers and service providers;
- 1.4. Section 78 of the Act 2000 outlines an arrangement for the liberalization of the market for telecommunication services in three phases. (See also the OUR's consultative document "Dominant Public Voice Carriers" March 2000).
- 1.5. During Phase I (18 months, from 1st March 2000 to 31st August 2001), the markets for the following services are open to competition:
- domestic mobile services;
 - data services, such as internet service provision, using C&WJ's facilities;
 - provision of single line and multi-line customer premise equipment (CPE) such as PBXs; and
 - wholesaling of C&WJ's international switched voice minutes.
- 1.6. In Phase II (beginning 18 months after the beginning of Phase I) further liberalization will introduce competition in the following markets:
- domestic voice facilities and services;
 - resale of C&WJ's switched domestic voice minutes; and
 - Internet access over facilities of subscriber television.
- 1.7. In Phase III (three years after the start of Phase I), all markets may be open to competition.

Reasons for Consultation:

- 1.8. A major role of the OUR is to regulate Jamaica's telecommunications industry. The OUR's mission is . . . "to contribute to national development by creating an environment for the efficient delivery of utility services to the customers whilst ensuring that service providers have the opportunity to make a reasonable return on investment."¹ The provision of directory services and products is an important

¹ See the OUR's Citizens' Charter.

component of the OUR's objective of ensuring that telecommunications customers receive the best services and products in terms of choice, quality and value for money. The proposals put forward in this document are intended to provide improvements in directory services and products, to prevent the misuse of customer information and generally, to create a competitive environment.

- 1.9. In accordance with Section 4(2) of the Act, in making a decision in exercise of its functions, the Office is mandated to observe reasonable standards of procedural fairness, act in a timely fashion and observe the rules of natural justice. The Office shall—
- consult in good faith with persons who are, or are likely to be affected by the decision;
 - give to such persons an opportunity to make submissions to and to be heard by the Office;
 - have regard to the evidence adduced at any such hearing and to the matters contained in such submissions;
 - give reasons in writing for each decision; and
 - give notice of each decision in the prescribed manner.
- 1.10. The Office must ensure that the privacy of consumer information is protected. Based on Section 47 (1) of the Act, every carrier and service provider is required to treat as confidential all information regarding the type, location, use, destination, quantity and technical configuration of services used by their customers.
- 1.11. This document will be the first of two Consultative Documents on the markets for directory information. The intention is to balance the needs and concerns of consumers, competitors and potential competitors. The Office invites submissions from all interested parties and in particular, the telecommunications service providers, outlining their views on future actions.

Intellectual Property Rights and Related Legislation and Agreements

- 1.12. Intellectual property rights can have a significant impact on the market for information services. Some of the issues that could be related to intellectual property rights in determining access (direct or indirect) to database information are industrial design, trademarks and protection against unfair competition.
- 1.13. As far as databases are concerned, the Copyright Act (1993) indicates that computer generated works are protected under this Act. Therefore, access to such databases via copies, electronic transfers or otherwise, without the required authorization could constitute a breach

of the Act. According to information from the World Intellectual Property Organization (WIPO) the type of works covered by copyright include computer programs and databases².

- 1.14. In the remainder of this document, Chapter 2 gives an overview of the directory information markets, Chapter 3 looks at costing and pricing issues and 4 discusses intellectual property rights, privacy issues and the liberalization of the relevant information service markets. Chapters 5 and 6 make proposals for ensuring the maintenance of privacy and access numbers respectively. Chapter 7 gives a comprehensive list of the questions from each chapter.

² See www.wipo.int/about-ip/en/copyright.htm1

CHAPTER 2: DIRECTORY INFORMATION MARKETS

The markets for directory information services and products consist of the four functional levels listed below.

Functional Levels of Directory Information Markets

- 2.1 Collection of subscriber information³ - When subscribers apply for telephone service, the telecommunications service provider (SP) collects personal information from each subscriber (such as name and address). The staff dealing with new accounts generally conducts the process of collecting and inputting subscriber details. It is usually at this point that the SP will enquire whether subscribers wish to have their details included in the directory databases for publication. Personal details are collected specifically for contractual and billing purposes. These details are also fed into a core database from which product databases are developed for the provision of directory services and printed directories, subject to the agreement of the subscriber.
- 2.2 Organization of data – Each telecommunications SP is obliged under section 48 of the Act to provide for access to a directory assistance service. The collected data are used to form a core and/or comprehensive database. The core database is constructed by aggregating the information from subscribers to the services supplied by a given telecommunications SP. The comprehensive database is usually made up of more than one core database. However, to the extent that there is no other SP, the core database would be equivalent to the comprehensive database.
- 2.3 Depending on the structure of the market, the service provider can either maintain its own comprehensive database or acquire access to the comprehensive database of another SP or an independent comprehensive database supplier (see paragraphs 4.10 - 4.12 for the current access conditions). SPs generally develop a database of their customers even if not required by law. It is desirable that the information in each individual service provider's core database be made available on request and on non-discriminatory terms to all authorized directory information service providers.
- 2.4 Product Databases – these databases are designed to satisfy various product markets. These include:
 - Directory Assistance Database - a database used for operator assisted directory enquiry services;

³ See "The Market for Directory Information Services and Products in Ireland," at www.odtr.ie.

- Phone book databases; and
- Electronic databases (these are on-line non-operator assisted directory enquiry services) that may be accessed via the Internet.

2.5 Directory information products and services – The product databases are used to provide products and services to customers. These include:

- Directory enquiry (DQ) services. The supply of these services requires the establishment of a DQ call centre that is staffed by DQ operators with access to a directory assistance database. The chief cost driver is the number of call minutes⁴. The number of operators (and call centres) required is likely to vary with the number of call minutes. The cost of servicing each call will depend on several factors. These include the distribution of call minutes throughout the day and the conveyance of calls. The cost of conveyance over the network to reach the DQ call centre will vary with the number of call minutes and the time of day that calls are made.
- Printed telephone directory
- Printed telefax and telex directory
- Electronic telephone directory (for example, the Real Jamaican Yellow Pages on the Internet).

Core and Comprehensive Databases

Market Definition

2.6 Using the information collected from subscribers upon application for telephone services, the service provider (SP) constructs what is commonly referred to as a core database. This may be developed into a comprehensive database if access to other SPs' databases is allowed (see paragraph 2.2 for a distinction between core and comprehensive databases). The markets for core and comprehensive databases are usually referred to as upstream markets (this also includes product databases). Since currently the only supplier of fixed line telephone service and directory information in Jamaica is C&WJ, their core database can be referred to as a comprehensive database. As the market for fixed line service becomes competitive⁵, the difference between C&WJ's core and a comprehensive database will become apparent as other fixed line SPs develop their own core databases. Additionally, if the DQ service is expanded to include information on mobile subscribers, the distinction between both will become even more apparent.

⁴ The total number of calls multiplied by the operator time per call.

⁵ The market will be open to competition as of September 2001.

2.7 It is the OUR's opinion that each SP's directory information constitutes a separate market. This is similar to the view expressed by Office of Telecommunications (OFTEL) in its consultative document on directory information services⁶. If each SP's core database could be considered to be comprehensive, the implied high degree of substitutability between them would suggest that there is a single market. However, this is not so. In relation to demand side substitutability, an individual SP's directory information is not a close substitute for another SP's directory information, but rather, they are complements. Substitutability will only exist to the extent that subscribers subscribe to more than one SP. Similarly, supply side substitution may also be limited since it is not likely that other entities (SP or otherwise) can enter the market easily (see paragraph 2.8).

Barriers to Entry

2.8 If entry into the market for comprehensive database is dependent on the collection and compilation of information on customers from other networks on a cost-effective basis, this would constitute a barrier to entry. The directory information collected by a SP is also used for billing and customer relations; hence, the incumbent SP benefits from economies of scope. The economies of scope would constitute a barrier to entry since it would be more costly for another organization to contact those customers again to get the same information. Additionally, customers are likely to be reluctant to supply this information to an organization other than their SP. Further, since C&WJ is the only supplier of directory information (from the only comprehensive database in the market), and given the extent of entry barriers, it is difficult to identify any demand side or supply side substitution possibilities.

Market Power

2.9 The possibility exists that other service suppliers may wish to offer comprehensive databases that are substitutes for the incumbent's database. However, collecting and compiling this information in a database is likely to be exceedingly difficult without access to the incumbent's directory information on its customers. This suggests that each SP has the potential for market power in relation to its core database.

2.10 Since C&WJ is the only supplier of a core and comprehensive database in the local telecommunications market, it possesses market power that may be used to extend its control in downstream markets⁷. In fact, given the height of entry barriers, and the

⁶ Provision of Directory Information Services and Products, September 1997.

⁷ The downstream markets for directory services and products include DQ service, printed and electronic directories.

unavailability of substitutes, C&WJ is in a dominant position with respect to the provision of directory information in a comprehensive database.

Question 1: Do you agree that C&WJ is in a dominant position in the provision of directory information in a comprehensive database?

2.11 If it is determined that C&WJ has proprietary rights over its customers' directory information, and they refuse to make this information available to potential suppliers (PTOs or independent suppliers) on a cost oriented and non-discriminatory basis, this would prevent entry into the markets for directory information and hence, prevent the development of a competitive environment. In such a scenario, the OUR may have to impose regulatory requirements on C&WJ to facilitate competition.

Directory Services and Products (Downstream Markets)

2.12 Current Services and Products:

- i) Printed telephone directory
- ii) Printed telefax and telex directory
- iii) Telephone directory enquiry – the National Directory Enquiry Service.
- iv) Electronic Telephone directory (the Real Jamaican Yellow Pages on the Internet).

2.13 Whenever it is desired to contact an individual or a business entity (by telephone) the products and services that provide the required information are chiefly supplied by one company, C&WJ. C&WJ's printed directory and electronic telephone directory have listings of Government agencies and ministries (Government or blue pages); residential, professional and business listings (White pages); and classified listings (Yellow pages). Customers can access the directory enquiry (DQ) operator by dialing the short access code 114.

2.14 In using the DQ service or the telephone directory, there is no guarantee that a search will yield the required information since some customers have chosen not to be "listed". In order to preserve their privacy, some customers choose the ex-directory option. Customers have the choice of being ex-directory from any one or a group of the information databases or printed directories.

- 2.15 There is currently no listing of mobile numbers in any of the directories. Prior to September 1, 2000, the usage (call) rate for accessing the cellular network (fixed line to mobile) was paid by both the calling and receiving parties⁸. It is likely that this pricing mechanism suppressed the demand for listing. That is, the fact that mobile customers had to pay for unsolicited calls acted as a disincentive to listing. Additionally, privacy concerns also limit the demand for listing.
- 2.16 Regarding fax numbers, these are generally not identified in C&WJ's printed or other directories. Clause 6.1 of the Jamaica Telephone Company's (JTC) terms and conditions of service (1985)⁹ could have contributed to the listing of some fax numbers as telephone numbers. This clause states that customers are not allowed to connect directly or indirectly, any equipment or apparatus to the Company's network without the prior consent in writing from the Company. The fact that written consent was required may have signaled to consumers that the connection would be disallowed or that a charge may be imposed for such connections. The terms and conditions were revised as of June 1, 2000.

Market Definition

- 2.17 The products and services listed in paragraph 2.12 are in some instances, demand side substitutes. For example, the demand for DQ services may be substituted for the use of printed telephone directory. Notwithstanding this, they are not close substitutes since they are updated at different frequencies. Further, printed directories themselves may not be substitutes for each other as their contents are likely to differ considerably (as in the case of the telefax and telephone directories). Therefore, each would be in a separate market.
- 2.18 In relation to supply side substitutability, the production technologies used to produce these products and services differ significantly in some instances. For example, the techniques used to produce the Real Jamaican Yellow pages¹⁰ could not be used to produce and supply printed directories.

Barriers to Entry

- 2.19 The entry barriers will vary from one product market to another. In the DQ service markets, barriers to entry include those mentioned in

⁸ As at September 1, 2000, C&WJ moved to a pricing system of calling party pays.

⁹ These terms and conditions of service for JTC (December 1985) were adopted by Telecommunications of Jamaica (TOJ) when it came into existence in 1987 and subsequently by C&WJ.

¹⁰ This is C&WJ's Internet telephone directory that facilitates searches by name, parish, town/city and business type.

paragraph 2.8, cross subsidies, transfer pricing issues (see paragraphs 3.2 and 3.3) and access codes (see Chapter 6).

2.20 Economies of scale constitute an entry barrier in the markets for printed directories. During 1995, an investigation conducted by the UK Competition Commission (formerly the Monopolies and Mergers Commission) found that average printing costs reduced as print runs tend toward 100,000, with further declines as print runs tend toward two million. Other barriers to entry include access to directory information and the bundling of printed directories (particularly the telephone directories) with the telephone line.

2.21 It should also be noted that revenues derived from advertising in the Yellow Pages of a telephone directory are usually a significant source of revenue for service providers in directory information markets. These revenues are used to offset the production costs of these directories.

Question 2. What are the obstacles to providing/using directory enquiry services? Industry respondents should outline any obstacles they encounter in provision and comments from users should focus on difficulties in using these services with suggestions as to how they might be overcome?

Question 3. Identify any additional directory service products that could be provided? Are there technical difficulties or bottlenecks preventing the provision of these products?

CHAPTER 3: COSTING AND PRICING

- 3.1 The applicable charges for directory information should reflect the cost of collecting and providing this information. This means that revenues from the sale of directory information to internal or external purchasers must approximate appropriately measured costs.

Vertical Integration and Abuse of Market Power

- 3.2 Vertically integrated firms with market power (in at least one vertical level), have the potential to distort competition through the use of discriminatory practices. Since C&WJ is a vertically integrated firm with market power (particularly in the upstream markets), C&WJ could possibly abuse this power by selling products and services to its downstream business units at a lower price than it sells to its competitors in those markets. This practice is likely to retard effective competition.

Accounting Separation

- 3.3 In order to secure effectively competitive markets for directory information services and products, accounting separation is critical. An appropriate level of disaggregation of an integrated firm's¹¹ accounts will guard against price discrimination and cross subsidies. The accounting requirements should be capable of identifying transfer charges among C&WJ's various business units. This will allow the OUR to ensure that C&WJ does not apply dissimilar charges for equivalent transactions. That is, its transfer charges must be equivalent to its comparable price to its competitors. Further, it should also ensure that prices (of intermediate or end-user products and services) are sufficient to cover costs.

Charging Principles

- 3.4 DQ Services – The pricing of directory assistance or DQ services is a classic case of mispricing.¹² Currently, there is no explicit charge by C&WJ for requesting a telephone number through the DQ service operator. The implicit charge per customer is the total cost divided by the customer base. Since the charge for customer access approaches zero with an expanding customer base, it is likely that the demand for the service is higher than if an appropriate charge reflecting the cost of the service was applied to users only. In order to supply these services, a PTO must employ telephone operators and/or install and maintain an automated system to respond to enquiries. Since the total cost of supplying these services is usually

¹¹ That is, an integrated firm that possesses market power.

¹² See L. Hyman et al, (1997). *The New Telecommunications Industry: Meeting the Competition*, Public Utilities Reports Incorporated, Vienna, Virginia.

allocated over the customer base, including those customers who do not use the DQ services, the user of the DQ service does not pay the full cost of the service.

- 3.5 Liberalization could lead to a price that explicitly reflects costs. That is, instead of varying negatively with the size of the customer base, prices could be directly related to the costs of supplying the service to users. Consequently, there will be a negative impact on demand, as the cost to each user of the DQ service will rise.
- 3.6 Notwithstanding the above, it should be borne in mind that each customer on a network stands to benefit from the provision of DQ services. Even if a customer is not a user of the DQ services, if that customer is listed or can be contacted in any way through the DQ service operator, that customer derives an external benefit from the provision of those services. This externality will be captured if the cost of services is spread over the network's customer base.

Question 4: Should the price of DQ service reflect cost to the users based on benefits received or should this cost be spread over the customer base? Why?

- 3.7 The OUR is of the opinion that it is desirable to outline its proposed charging principles. In identifying the appropriate level of charges, it is proposed that the Office adopt the charging principles used by OFTEL¹³. The order of importance of the principles will vary from one situation to another. These principles are listed below:

Cost Causation

- 3.8 This principle suggests that costs should be borne by the customers (whether at the intermediate or end-user level) who caused the cost to be incurred. This will improve the efficiency of the market by sending the correct pricing signal to consumers, and hence, eliminating the excess demand/supply situation. That is, assuming there are no externalities.

Distribution of benefits and externalities

- 3.9 In the presence of externalities, the cost causation principle must be modified to ensure that costs are allocated according to the benefits derived from the use of a service or product. Externalities (positive or negative) occur when the benefits and/or costs of a production process are not internalized. These externalities yield costs and/or

¹³ See *Provision of Directory Information Services and Products Annex F (1997)*, OFTEL, United Kingdom.

benefits for economic agents (individuals or firms) who have no incentive to account for these effects. Thus, prices based on the cost causation principles are not likely to be efficient unless adjustments are made to account for these effects, so that allocative efficiency can be achieved.

Cost minimization

- 3.10 To achieve efficiency, cost minimization is required. Economic efficiency relies on the adoption of cost reducing technologies and the achievement of operational efficiency.

Effective competition

- 3.11 Cost minimization is only likely to be achieved if effective competition exists. Charges should be at a level that encourages efficient entry and discourages inefficient entry.

Reciprocity and symmetry

- 3.12 For equivalent services supplied on a reciprocal basis, charges may be symmetrical. This will facilitate efficiency by reducing market distortions. However, where technologies vary, symmetrical charges may not be appropriate.

Practicability

- 3.13 The mechanism for determining charges must be practical. That is, in term of implementation. This is important since the cost varies with the degree of complexity built into such mechanisms.

**Question 5: Are there any objections to the proposed charging principles?
If yes, state the basis of the objections.**

Access to DQ Services

- 3.14 Currently, only the incumbent telecommunications operator C&WJ maintains and operates a directory enquiry (DQ) database. New mobile entrants can provide DQ services to their customers by two possible ways: buying such services from C&WJ or self-provision.¹⁴ The Reference Interconnection Offer (RIO) provides for entrants to acquire DQ services from C&WJ. Direct access to the C&WJ DQ database on terms and conditions that are non-discriminatory is required if entrants are to self-provide directory services. (For a full discussion, see paragraph 4.9 -4.12).

¹⁴ See OUR consultative document: Assessment of Cable and Wireless Jamaica's Reference Interconnection Offer (RIO), December 2000.

CHAPTER 4: INTELLECTUAL PROPERTY RIGHTS, PRIVACY ISSUES AND THE LIBERALIZATION PROCESS

- 4.1 As a precursor to the discussion on the liberalization process, intellectual property rights and privacy issues must be examined. The resolution of these issues will determine the liberalization path that the industry follows.

Intellectual Property Rights

- 4.2 Intellectual property rights can have a significant impact on the market for information services. Issues related to rights regarding industrial design and service marks may affect access (direct or indirect) to database information.
- 4.3 Jamaica is a member of the World Intellectual Property Organization (WIPO). The WIPO has as its objective, *inter alia*; “the modernization and enhancement of the efficiency of the administration of the various agreements which seek to improve the protection of intellectual property rights”. In addition, Jamaica is a signatory to the World Trade Organization (WTO). In an attempt to fulfill its WTO obligations under the Trade-Related aspects of Intellectual Property Rights (TRIPS) Agreement, Jamaica has passed three (3) Intellectual Property Acts. These are:
- (i) The Copyright Amendment Act (in force since September 3, 1999);
 - (ii) The Layout Designs (Topographies) Act (in force since September 3, 1999); and
 - (iii) The Trademarks Act, enacted July 26, 1999.
- 4.4 Based on information provided on the Ministry’s (Commerce and Technology) web site¹⁵, the current Copyright Law does not explicitly protect intellectual property in relation to transmissions over digital networks. This indicates that protection in the digital environment for e-commerce and similar activities in Jamaica is not assured.
- 4.5 As far as databases are concerned, the Copyright Act (1993) indicates that computer generated works are protected under this Act. Therefore, access to such databases via copies, electronic transfers or otherwise, without the required authorization could constitute a breach of the Act. According to information from the

¹⁵ See the Ministry of Commerce and Technology web site: www.mct.gov.jm/portfolio/copy_right.htm

WIPO the type of works covered by copyright include computer programs and databases¹⁶.

Privacy Issues

- 4.6 Several EC member as well as Hong Kong and New Zealand are among the countries that have introduced data protection and/or privacy legislation. For example, the New Zealand *Privacy Act 1993* applies 12 information privacy principles to all 'personal information' irrespective of the form in which it is held. All 'agencies' are covered by this Act unless they are specifically exempted. The exceptions include the news media in their news activities, the courts in their judicial capacity and members of Parliament in their official capacities. There is no exception for telecommunications agencies (operators or otherwise). Thus, this Act encompasses both private and public sectors. Currently, Jamaica does not have any such legislation.
- 4.7 In the absence of this kind of legislative framework in Jamaica, codes or rules of conduct/practice could be issued pursuant to Section 71 of the Telecommunications Act 2000 (the Act). The Office has the powers under this Section to make rules relating to any matter that it considers necessary or desirable in carrying out its functions under the Act.
- 4.8 The issues related to the use of personal information supplied to PTOs for input into the DQ database is critical to the liberalization process. Since this information is generally supplied pursuant to establishing a telephone service contract and for billing purposes, it is not clear if PTOs have the right to use of this information for other purposes. Further, even if the PTO has the proprietary rights to this information, it is not clear what are the constraints on those rights. Clarification of these issues will determine the extent to which these information service markets can be open to competition.

Question 6: Does the SP have proprietary rights to the information in the DQ database or the printed telephone directory?

Question 7 (a): What are the constraints (if any) on those rights?
7(b): What should these constraints be?

¹⁶ See www.wipo.int/about-ip/en/copyright.html

The Liberalization Procedure

Reference Interconnection Offer (RIO)

- 4.9 Consistent with Section 48 of the Act, mobile entrants, as well as other providers of public voice services are obligated to supply their retail customers with access to directory assistance services. The RIO provides for conveyance to the relevant operator centre(s) and the use of an 'operator'. However, the option of indirect access alone is likely to be viewed as excessively restrictive. Ideally, both indirect and direct access should be available.
- 4.10 Concerning direct access, Digicel¹⁷ has requested immediate access to the DQ database as opposed to being constrained to acquiring these services from C&WJ. Although this is a reasonable request, the liberalization process involves complex issues that may take some time to unravel. Thus, the liberalization procedure is likely to be lengthy, requiring wide public consultation with customers in relation to the kind of services required and public consultation with competitors regarding the type of services they are willing to provide. Additionally, there are issues relating to intellectual property rights (see paragraph 1.13 - 1.17) and the confidentiality and use of customer information (see paragraph 3.2 - 3.4). There are also technical and operational issues associated with direct access to the DQ database: cost and charging, timing, and availability of updates. In recognition of these issues, the Office seeks the input of the existing and potential service providers, customers and other interested parties in making a decision on the liberalization of these markets.
- 4.11 The Office is concerned that the database could be used in a discriminatory manner if liberalization is not effectively executed. Appropriate guidelines need to be established to prevent the existing carrier and service provider from placing entrants at a competitive disadvantage. Where possible, the Office is interested in facilitating the creation of an environment where the market outcome is realized. However, where the unfettered market outcome is not the most efficient, regulation and competitive safeguards will be instituted.

¹⁷ Digicel Jamaica Limited is the new entrant in the mobile market.

4.12 Giving consideration to these issues, the Office has decided (see Determination 4.4 of the OUR's Determination Notice on C&WJ's RIO) that the "... existing provision in the RIO will allow entrants to provide directory assistance ... to their retail customers. (But), ... as a competitive safe guard, the Office has determined that the RIO should stipulate that:

- information supplied by interconnect seekers through the DQ interconnect service offered by C&WJ will not be used (by C&WJ) to gain unfair competitive advantage over rivals.
- directory assistance services offered by C&WJ must satisfy the principle of non-discrimination."

Further, the Determination Notice also states that direct access to the DQ database is to be delayed until the Office has consulted on the matter.

The Impact of Liberalization

Printed telephone directories

4.13 Presently, each customer (business and residential) pays for telephone directories as a part of their monthly line rental charges.¹⁸ The directory is updated annually and is issued on a per line basis.

4.14 Liberalization could allow for the possibility of other PTOs supplying different telephone directories. As a consequence of competition, consumers could be given the choice of not purchasing a directory and consequently, having a lower phone bill. Alternately, customers could be given the options of paying for each call to the directory assistant and/or prepaying for a specific number of calls instead of buying a telephone directory. It should also be noted that competition is likely to facilitate innovation that will improve the quality and timeliness of directory publications. This will improve consumer welfare and could have a favourable impact on call volumes.

4.15 It is also possible that a third party (an independent provider) could supply printed telephone directories with the use of revenues from the Yellow Pages to allow it to cover costs.

Directory Enquiry (DQ) services

4.16 Similar to printed telephone directories, DQ services could be provided by different companies at different prices for differentiated services. For example, DQ service providers could allow their ex-

¹⁸ Line rental charges are currently below cost due to cross-subsidy. However, these charges will progressively reflect full cost as re-balancing proceeds.

directory customers to receive calls through the DQ service without disclosing their telephone number or other customer information.

- 4.17 The current listing choices of customers are limited to two options:
- printed telephone directories and DQ service listing;
 - non-publication in the printed directory and non-disclosure by DQ service providers (that is, ex-directory).
- 4.18 Liberalization could lead to an expanded choice for listing. These could include:
- Ex-directory with the option of call completion via the DQ service operator (that is, the subscriber's directory information would not be disclosed but the caller would be connected to the subscriber; and
 - Exclusion from direct marketing.
- 4.19 Given the proliferation of networks that facilitate roaming, DQ service operators could consider offering access to international databases. There are suppliers that can provide cost-effective database access and DQ solutions in multiple languages and varying technical requirements. Such systems allow the operator of the service provider to search international DQ databases in a seamless, efficient manner. In addition to call completion, DQ service providers could offer additional optional services such as short message delivery. This extension of the DQ service could be a direct source of additional revenue as well as facilitating increased traffic.

Question 8: Do you think all the markets for directory information should be open to competition? If not, identify (with justification) those markets that should be open to competition.

Exclusion from Telemarketing.

- 4.20 There are several ways in which telephone numbers can be passed to telemarketers. These include "infomercial" 800 numbers and other 800 numbers to which a subscriber's telephone number is supplied. Credit card companies are also notorious for selling credit card information to telemarketers. It is also possible that the telephone service provider could sell its subscribers' ex-directory information to telemarketers.

4.21 Research conducted among UK ex-directory customers indicated that 21%¹⁹ of these customers would opt to be listed in the DQ services (for call completion) if they had the option of not being included in direct marketing or tele-marketing activities. Locally, it is also possible that this option would improve listings. In an effort to satisfy customers' concerns of their information being used for telemarketing, the Office suggests that:

- all new customers be given the option of being excluded from telemarketing. Additionally, this option should also be offered to all existing customers.
- All databases and products containing directory information should clearly indicate which customers have chosen the option of not being targeted by telemarketers.

Question 9: Are you in agreement with the Office's suggestions as stated in paragraph 4.21?

Information sharing

4.22 In order to provide more complete information about customers of different telecommunication networks and foster a competitive environment in the market for DQ services, customer information must be shared with the new entrants. For example, it is desirable for the incumbent fixed line service provider (C&WJ) to supply its customer information to mobile service operators offering DQ services. Also, in order for fixed line service provider(s) to offer call completion DQ services to its customers (for example), mobile operators must provide access to their databases.

4.23 If it were agreed that a competitive framework should be adopted, each PTO would, at the minimum, be required to supply access to their directory information. The directory information of each PTO is likely to be unique and would be considered as complements rather than substitutes. The existing situation is such that there is no other DQ database in the local market but that of C&WJ. The conditions of access and use of DQ information could be stipulated in a Code of Practice (see Chapter 5).

Liberalization options

4.24 Generally, in situations where liberalization is possible, the Office seeks to facilitate the creation of an environment where the market outcome is realised, with the pre-requisite that the expected

¹⁹ "Your Directory Information – an OFTEL Consumer Guide" September 1997 at www.oftel.gov.uk/consumer/conguide.htm.

outcome is the most efficient. Section 48 of the Act seems to suggest that several different liberalisation options are possible. The liberalisation options include:

- i) full liberalisation – where all products and services are open to competition with unrestricted entry;
- ii) limited entry liberalisation – where all products and services are open to competition with entry restricted to service providers and carriers;
- iii) limited product market liberalisation – where entry is only allowed in the DQ service market; and
- iv) Single independent database owner/operator – C&WJ would relinquish proprietorship of the database to a single private commercial entity, but all other products and services will be open to competition.

4.25 Total liberalisation based on the free market-principle is expected to yield the optimal solution. This option is expected to facilitate competitive pricing, increased innovation and product differentiation, leading to improved consumer welfare. However, unrestricted entry is likely to lead to increased concerns about privacy, which may result in an increase in the number of ex-directory customers. This would reduce the value of the database.

4.26 In the short run it may seem more attractive to pursue option four. This may be seen as the most cost-effective option for the industry. The establishment and maintenance of one comprehensive database is likely to be cheaper than having several duplicates. However, the long run effect is likely to be a reduced incentive to innovate. Therefore, this option is likely to lead to a decline in consumer welfare over time.

4.27 It should be noted that there are different paths to liberalization based on options one to three. It is recommended that the players in the market should determine the specific path chosen. That is, provided that the market is allowed to operate with minimum

interference and achieve the optimum outcome. This chapter considers the following competitive paths to liberalizing access to the DQ database:

- (1) Individual comprehensive databases with all listed customers across public telecommunications networks (PTN);
- (2) Individual databases consisting only of customers listed on the same PTNs. Each service provider (SP) will be required to provide access to their DQ databases at cost based rates and on a non-discriminatory basis.

4.28 The second path is likely to yield the optimal solution since it facilitates access to all the required information without duplication. The success of this method of operation is largely dependent on the negotiation of access charges. Already, this is proving difficult, as the DQ access rates in the RIO reflect an apparent increase over the offer in the initial RIO.²⁰

Question 10(a): *Are there other liberalization options that the Office should consider?*

10(b): *What is the preferred option?*

²⁰ See Reference Interconnection Offer - Tariff Schedule - March 30, 2000 and March 8, 2001.

CHAPTER 5: PROPOSALS TO ENSURE THE MAINTENANCE OF PRIVACY

- 5.1 The *Act* opened the way for increased competition in the telecommunications market. Licences were issued to three competing mobile telecommunications companies. A second mobile SP, Digicel, started operations in April 2001, joining the established incumbent C&WJ. The third operator is expected to commence operation before the end of 2001.
- 5.2 Each entity is a private sector operator subject to the *Act*, but there is no specific legislation for data protection or privacy. Although the *Act* addresses the issue of privacy in relation to customer information, there is no direct provision for the disclosure of customer information to other carriers or service providers or for that matter, any other entity.
- 5.3 Section 47(2)(b) of the *Act* offers a possible approach. This Section suggests that a carrier or service provider may disclose such information with the written consent of the customer. However, obtaining approval by this means may prove to be too costly and inefficient. For new customers, consent could be obtained upon application but existing customers would have to be surveyed to get their approval.
- 5.4 However, a simpler approach is to develop a Code of Practice (constituting subsidiary legislation) which sets out the rules governing specific concerns relating to the treatment of data and privacy issues. This could be developed by way of a second consultative document. The rules embodied in the Code of Practice would be prescribed by the Office pursuant to Section 71 of the *Act*, making them binding on all service providers or carriers offering access to DQ services and directory products.
- 5.5 An alternate option is to amend the licences of service providers and carriers such that the licensees are required to adhere to a mutually agreed Code of Practice.
- 5.6 In developing the Code of Practice, consideration must be given first and foremost to the customers' expectations of how directory information will be used. These expectations encompass (but are not limited to):
 - the requirement that persons requesting a telephone number should provide the surname and address address of the individual whose number is being

requested.

- the fact that information on ex-directory customers should not be listed in either the printed directory, the DQ directory or other directories.

Question 11: *Do you agree that the rules embodied in a Code of Practice should constitute the subsidiary regulatory framework for access to directory information and databases?*

Question 12: *Is specific legislation for data protection necessary?*

CHAPTER 6: ACCESS NUMBERS FOR DQ SERVICES

- 6.1 In the interest of conserving numbering resources, it would be desirable to continue using the existing short access code 114 for all subscriber access to DQ service providers. Each service provider would configure their network to deliver 114 calls to their respective DQ call centres. Further, subscribers' familiarity with 114 will facilitate a seamless transition from the existing single DQ service provider to multiple DQ service providers.
- 6.2 To the extent that new DQ service providers wish to distinguish their service from that of the incumbent, it would be preferable to have separate access codes. What seems to be common in the industry is the use of three-digit access codes. However, given the scarcity of three-digit access codes similar to the existing 114, to provide a reasonable amount of numbers that can be allocated to competing DQ service providers, four digit access codes could be allocated to all DQ service providers.

Customer Access to DQ Services

- 6.3 The provider of public voice services is obligated to provide access to at least one provider of DQ services. However, if a competitive option for supplying DQ services is chosen, it is necessary that each service provider offer its customers access to all DQ services. To facilitate this, a unique access code would have to be provided to all DQ service providers.

Question 13: *Are there any objections to the continued use of 114 to access DQ services (irrespective of service provider)? If yes, indicate the basis of any objection?*

Question 14: *In the interest of deepening competition, should all SPs be mandated to provide customer access to other DQ service suppliers?*

CHAPTER 7: LIST OF CONSULTATION QUESTIONS

- Question 1:** *Do you agree that C&WJ is in a dominant position in the provision of directory information in a comprehensive database?*
- Question 2.** *What are the obstacles to providing/using directory enquiry services? Industry respondents should outline any obstacles they encounter in provision and comments from users should focus on difficulties in using these services with suggestions as to how they might be overcome?*
- Question 3.** *Identify any additional directory service products that could be provided? Are there technical difficulties or bottlenecks preventing the provision of these products?*
- Question 4:** *Should the price of DQ service reflect cost to the users based on benefits received or should this cost be spread over the customer base? Why?*
- Question 5:** *Are there any objections to the proposed charging principles?
If yes, state the basis of the objections.*
- Question 6:** *Does the service provider (SP) have proprietary rights to the information in the DQ database or the printed telephone directory?*
- Question 7 (a):** *What are the constraints (if any) on those rights?*
7(b): *What should these constraints be?*
- Question 8:** *Do you think all the markets for directory information should be open to competition? If not, identify (with justification) those markets that should be open to competition.*
- Question 9:** *Are you in agreement with the Office's suggestions as stated in paragraph 4.21?*
- Question 10(a):** *Are there other liberalization options that the Office should consider?*
10(b): *What is the preferred option?*

Question 11: *Do you agree that the rules embodied in a Code of Practice should constitute the subsidiary regulatory framework for access to directory information and databases?*

Question 12: *Is specific legislation for data protection necessary?*

Question 13: *Are there any objections to the continued use of 114 to access DQ services (irrespective of service provider)? If yes, indicate the basis of any objection?*

Question 14: *In the interest of deepening competition, should all SPs be mandated to provide customer access to other DQ service suppliers?*

ACRONYMS

C&WJ	-	Cable and Wireless Jamaica
CPE	-	Customer premise equipment
DQ	-	Directory Enquiry
EC	-	European Commission
OFTEL	-	Office of Telecommunications (United Kingdom)
OUR	-	Office of Utilities Regulation
PBX	-	Private Branch Exchange
PTO	-	Public Telecommunications Operator
PSTN	-	Public telecommunications Network (fixed line and mobile networks)
RIO	-	Reference Interconnection Offer
SP	-	Service Provider
TRIPS	-	Trade-Related aspects of Intellectual Property Rights
WIPO	-	World Intellectual Property Organization
WTO	-	World Trade Organization

GLOSSARY OF TERMS

- Call Completion - Service by which the DQ operator does not give out the customer's number but connects the enquirer to the subscriber and gives the subscriber the option of accepting the call.
- Computer Generated Works - A work generated by a computer in circumstances such that the work has no human author.
- Copyright - A legal term describing the rights given to creators for their literary and artistic works.
- Determination Notice - This constitutes the final position of the Office in relation to an issue.
- Ex-directory - The option of not being listed in the printed directory or directory enquiry services.
- Intellectual Property - Include the rights relating to:
- Literary, artistic and scientific works,
 - Inventions in all fields of human endeavours,
 - Industrial designs,
 - Trade marks, service marks, and commercial names and designations,
 - Protection against unfair competition,
 - And all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields. (See WIPO's web page).
- Listing - Subscriber's name, address and telephone number in the printed, DQ or electronic directory.

- Public Telecommunications Operator - A network operator providing telecommunications service to the public.
- Public Switch Telephone Network (fixed line network) - The telecommunications network of the major operator(s), on which calls can be made to all customers on the said network.
- Service provider - Those who provide telecommunications or related services to the public. They may have their own telecommunications network or use the network provided by others.
- The Office - The Office of Utilities Regulation
- Telemarketing - In the context of this document, telemarketing includes situations in which companies call consumers in an effort to sell their goods and services.