Universal Service or Universal Access - Jamaican Issues.

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Abstract

The liberalisation and introduction of competition in telecommunications markets across the globe have resulted in increase penetration rates, more choices and massive investments for countries especially those at the "developing" stages. Jamaica has been experiencing tremendous growth in its penetration rate due mainly to the rapid expansion of the mobile market. Since liberalisation, billions of dollars have been invested in the economy.

However, despite the changes that have been taking place in the telecommunications industries globally, not all consumers will benefit for one reason or another. There will be customers who cannot afford to pay for the services being provided as well as there will be areas that operators consider to be uneconomic and therefore will choose not to serve. Universal service/access (universality) programmes are designed to address these concerns.

The purpose of this paper is to give an overview of the current universality policies being pursued by Jamaica. These policies include single voice services to all households irrespective of location; reasonable access to public payphone throughout the Island; free calls to emergency services and; Internet access to public institutions – schools, public libraries and post offices. In addition, design and implementation procedures are being developed to accomplish these policy objectives.

1. Introduction

Background

Prior to March 2000, Cable and Wireless Jamaica Limited (CWJ) had a monopoly on telecommunications services in Jamaica by way of an exclusive licence (issued in 1988) to provide services for twenty-five years with the option of renewal after that time period. As a consequence of negotiations between the

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Government of Jamaica (GOJ) and CWJ, an agreement was arrived at in September 1999 to terminate CWJ's monopoly and liberalise the telecommunications industry on a phased basis. Three phases were agreed on: Phase 1, from March 1, 2000 to August 31, 2001, saw the liberalization of the mobile market, and resale of international voice minutes etc. In Phase 2, September 1, 2001 to February 28, 2003, all licenses issued in Phase 1 (except mobile) in addition to others such as: Domestic carrier licences; resale of domestic voice minutes; and the provision of internet service provider (ISP) licences to subscriber television (STV) licences holders could have been issued. Phase 3, began March 1, 2003. During this period all services, including international voice telephony services, are subject to competition.

On March 1, 2000 the Telecommunications Act 2000 (hereafter referred to as the Act) came into effect. Part VI of the Act sets out the principles governing the provisions of universal service/access. It outlines the obligations of a provider and also describes the minimum level of basic telecommunication services that are to be supplied by a designated provider.

Universality (Universal Service/Access)
Universality is the broad term which encompasses both universal service and universal access. Universality is based on three fundamental principles: *Availability, accessibility and affordability.* Availability is where service, that is, the telecommunications network, is present in the specified area. Accessibility is where customers are able to use the network on a non-discriminatory basis, that is, every customer who desires the services of the network can access and utilise it. Affordability addresses the level of consumer spending on telecommunication services as a percentage of the individual's total consumption spending or income. The service might be available and easily accessible but the individual might not be able to purchase it at the prevailing price.

Universal Service
"Universal service (US) policies generally focus on promoting or maintaining 'universal' availability of connections by individual households to public telecommunications networks…Universal Service is a practical policy objective in many industrialized countries. However it is not economically feasible in most developing countries."[2] The Office of Telecommunications[3] (Oftel) refers to universal service as: *"affordable access to basic telecommunication services for all those reasonably requesting it regardless of where they live."*[4] According to the International Telecommunications Union (ITU): Universal service *"refers to*

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[2] See "Telecommunications Regulation Handbook", edited by Hank Intven. Page 6-1.

[3] The Office of Telecommunications is the telecommunications regulator in the United Kingdom.

[4] Quotation from Oftel's consultative document: "Universal Telecommunications Services: A Consultative Document on Universal Service in the UK from1997 (December 1995)", page 9.
http://www.oftel.gov.uk/publications/1995_98/consumer/univ_1.htm

availability, non-discriminatory access and wide-spread affordability of telephone service. The level of universal service is statistically measured as the percentage of households with a telephone.[5] Universal service is generally applicable in developed countries where there is relatively good network coverage and high teledensity. The focus in these countries is mainly on affordability. The idea is that since the network is already in place, the objective then is to design mechanisms that will ensure sustainable access.

Universal Access
"Universal access (UA) generally refers to a situation where every person has reasonable means of access to a publicly available telephone [or other telecommunication services]. UA may be provided through pay phones, community telephone centers, teleboutiques, community internet access terminals and similar means."[6] This approach is generally taken in developing countries where there is poor network development and low teledensities. In this case, governments' objective is to ensure every citizen has reasonable public access to the network at affordable rates.

Some General Objectives of Any Universality Programme
Objectives common to universality programmes include:

1)   Promotion of national, political, economic and cultural cohesion;

2)   Promotion of balanced distribution of income and population within the country;

3)   Elimination of disparity between urban and rural areas;

4)   The full participation of society in the information and communication based economy.

The Importance of Universality
The liberalization of the telecommunications industry is intended to bring benefits to consumers. Customers would now have more choices in who supplies their telecommunication services and moreover, since more operators would be competing for the consumer's dollar, they would have an incentive to increase service quality and price their products competitively in order to retain customers. However, not all consumers will benefit to the same degree or in the same way from liberalization and competition. There might be potential customers and

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[5] Taken from the International Telecommunications Union (ITU) and the Spanish-American Association of Research Centers and Telecommunications Companies publication: "Universal Service in the Americas", February 2000.
[6] See "Telecommunications Regulation Handbook", edited by Hank Intven. Page 6.1.

areas that operators consider to be uneconomic at prevailing market conditions and therefore may choose not to serve. A typical company would tend to invest in markets where supernormal profits are being made or in markets that are not yet being served but have the potential to provide reasonable returns on investments.

Universality policies provide an opportunity for uneconomic customers and areas to get access to basic telecommunication services. Apart from direct benefits, numerous external economic benefits can be derived from the provision of universal service/access. As the number of customers on a network increases, so does the value to all customers on that network – customers now have access to a larger number of users. Also, since telecommunication provides a means of communication; it sometimes can be used as an alternative to other services such as transportation.

Purpose and Structure of Paper
The purpose of this paper is to give an overview of the current universality policies being pursued by Jamaica. Even though the process is at the consultative stage, it is the view of the author that there are valuable lessons to be grasped. The rest of the paper is organized as follows: Section two outlines the legal framework; section three discusses market efficiency and access gap concepts; section four explore the services to be offered by designated provider(s); section five outlines the proposed option for choosing universal service/access providers; section six addresses universal service/access funding; section seven looks at other issues related to universal service/access provision such as service to the disabled; finally, section eight provides a conclusion to the paper.

2.   Legal Framework

The Telecommunications Policy
The Telecommunications Policy of 1998 (the Policy) embraced two fundamental principles:

> 1)   Jamaica will utilize telecommunications as an engine of growth so as to contribute to the revitalization of the Jamaican economy and;

> 2)   Jamaica will introduce competition in telecommunications industry and take advantage of convergence to ensure that Jamaicans have access to the most advanced technology at affordable prices.

WTO/ABT Commitments

As one of the signatories to the World Trade Organisation (WTO) Agreement on Basic Telecommunications (ABT), Jamaica is bound by the principles put forward by this organization. The WTO principle on universal service states that:

> *"Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member."*

Rate Rebalancing

The Policy recognized the disparity between the rates charged for domestic versus international calls and acknowledged that the rates for domestic telephone service were being subsidized by profits obtained from international calls by the incumbent operator. Accordingly, any growth, expansion and introduction of competition in the telecommunications sector would need to be examined against this background. Therefore, although many customers would benefit from rate rebalancing, others could be negatively affected. The Policy foresaw appropriate transitional measures and targeted assistance being developed to address these concerns. The OUR was assigned responsibility for developing rate rebalancing strategies to deal with these issues.

Universal Service/Access

The GOJ's objective is to ensure that every household, including rural and the urban poor, has access to basic telecommunication services. In addition, the Government intended to use telecommunications technology (or Information and Communication Technologies) to enhance education, health and national security as such schools, hospitals and the disabled should all benefit from these provisions.

The Policy acknowledged that a significant level of investment would be needed to achieve universal service and as such proposed universal access, (if necessary), in the short to medium term as a transitional phase to universal service. The Policy also indicated that no private monopoly would be encouraged and the provision of universal service/access would not be limited to the incumbent. The OUR is expected to have responsibility for developing and/or approving any net costs incurred by operators designated to provide universal service/access. In addition, the Office would be required to recommend the most appropriate funding mechanism.

The Telecommunications Act 2000
The Telecommunications Act 2000 came out of the 1998 Telecommunications Policy. Part VI of the Act deals specifically with universal service/access. It gives the Minister the responsibility for the development and implementation of any universality programme in Jamaica. The role of the OUR is limited to modification of an existing scheme, as requested by the Minister. This is outlined in Section 39(1)(a) and (b):

(1) *Subject to this section the obligation to provide universal service shall be determined -*

(a) *by an agreement between the Minister and a licensee and;*

(b) *on the recommendation of the Office, in accordance with Section 42.[7]*

However, the OUR can act as advisor to the Minister on telecommunications issues as outline in Section 4(1)(g) of the Act:

The Office shall regulate telecommunications in accordance with this Act and for that purpose the Office shall-

Advise the Minister on such matters relating to the provision of telecommunications services as it thinks fit or as may be requested by the Minister.

Section 39(2) outlines the principles under which a universal service/access obligation should be provided:

a) *to the extent technically feasible and economically reasonable, to promote access to single line voice telephone services throughout the Island to persons regardless of place of residence or work;*

b) *to ensure that payphone services are reasonably accessible to customers on an equitable basis;*

c) *to permit access to free calls to emergency services; and*

d) *to the extent technically feasible and in so far as the necessary resources are available, to promote internet access throughout the Island in schools, public libraries and post offices.*

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[7] Section 42 of the Act deals with modification of an existing scheme.

These are broad principles that encompass both universal service and universal access and will impact both economic and uneconomic customers and areas.

An economic customer is a person, household or institution who can afford to pay the full economic cost of telecommunication services provided while an uneconomic customer is one who cannot afford to pay the full economic cost of the service provided. Uneconomic customers may be found in both economic and uneconomic areas.

An economic area is an area that is considered by the operator to be commercially viable to offer service. An uneconomic area on the other hand, is one that is not considered commercially viable. An area can become uneconomic[8] as a result of several factors. One such factor, for example, would be the closure/pull out of the main employer(s) in the area. This would leave many people in the area unemployed and probably unable to pay their bills. Another factor is migration. People tend to move to areas where they have easy access to social and economic opportunities. This is common in rural areas where some residents migrate to urban centres with the hope of 'making a better life.'

Obligation of New Mobile Operators
The two new mobile operators, Mossel Jamaica Limited (Digicel) and Oceanic Digital Jamaica Limited, are required, individually, to provide 90% geographic coverage within five years after receiving their licences according to Schedule 2 of the Domestic Mobile Provider Licence 2000 which states "*the licensee shall provide 90% geographic coverage of Jamaica within five (5) years of the grant of this licence.*" The licences were granted on March 14, 2000 therefore it is expected that mobile coverage should be reasonably accessible across the Island by March 2005. It should also be noted that no obligation was placed on CWJ, however, the OUR is of the view that increase competition in the market will force the incumbent to match the services and coverage being offered by the other mobile operators.

3.   Market Efficiency and Access Gaps

Market Efficiency Gap refers to the difference between the level of telephone penetration under monopoly conditions and the level under optimal or competitive conditions. Access Gap refers to a state where the market is competitive and fully developed but some consumers are still unable to access the network because of affordability constraints or operators have decided not to

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[8] It is worth noting that not all areas are originally economic; some areas are inherently uneconomic because of factors such as low population density and difficult terrain.

rollout in certain areas because of economic or other reasons. In other words, Access Gap is a state where the market has reached its "affordability frontier". Beyond this frontier, regulatory intervention is necessary. Intervention may include regulatory provisions and/or public financial subsidies to motivate operators to maintain or expand beyond this frontier.

The OUR believes that the application of these two concepts is critical to the development of any universality programme in Jamaica. The voice telephony market (fixed and mobile) is still in its developmental stage and therefore more time is needed to truly assess any access gap that might occur. The intention is to allow the market to develop to its full potential before any assessment is done. The OUR believes that a suitable time to conduct this assessment would be after the expiration of the mobile operators' licence obligation. It is believed that at this time the market efficiency gap would have been realised and any remaining gap (access gap) would require regulatory intervention. A study would have to be conducted to determine the number of households without service at that time. In addition, the study would also assess the cost of providing service to these households.

4. Universal Service/Access Services

As set outline in Section 39(2) of the Act, there are four services that define basic telecommunications services from a universality perspective in Jamaica. These are:

(a) Single line voice telephony services;

(b) public payphones services;

(c) free calls to emergency services; and

(d) internet access to public institutions - schools, public libraries and post offices.

Each of these will be discussed in turn below.

Single Line Voice Services
The Act speaks to the provision of single line voice services to every household across the Island irrespective residence or work. However, it does not specify the means by which voice telephony services should be provided – whether by fixed (line or wireless) and/or mobile technology. Generally, existing fixed line operators have been designated universal service/access providers. However, the OUR is of the view that the provision of universality should be technology

neutral and therefore should not be limited to any specific technology. In other words, whichever technology can provide the required services at the least possible cost should be the technology of choice.

Currently, there are five operators providing single line voice services on the Island – Two fixed line providers and three mobile operators. Together, they have over 1.85M subscribers. Mobile customers account for approximately 75.1% of this number. The proliferation of mobile phones on the Jamaican landscape is remarkable. The number of subscribers has increased by approximately 324.2% in just over two years (March 2001 to July 2003) since the entry of the first competitor in the market. The average yearly growth rate has been approximately 108.1% over the period. However, there has been 5.1% reduction in the number of fixed lines. These unprecedented changes in the sector have propelled the country's penetration rate[9] to over 71.7% and the household penetration rate[10] in the region of 74.2%. Jamaica has now joined a growing list of countries that have been reporting more mobile than fixed line phones. The ratio of mobile phones to landline in Jamaica, as at July 2003, is approximately 3:1.

An explanation for the significant increase in the mobile market is the change in the pricing policy of operators. A "calling party pays" (CPP) principle was introduced to replace the "receiving party pays" principle. The CPP scheme facilitates a prepaid calling plan of which over 90%[11] of mobile customers are on. The introduction of competition in the market has also stimulated growth. Competition has brought about more choices, lower prices and an increased opportunity for people to access telecommunication services.

All respondents, except CWJ, to the first phase of the consultative process agreed with the OUR's approach that the provision of single line voice services should be technology neutral. CWJ argued that, internationally, fixed line technology is the one chosen by regulators and governments to provide voice services for universal service purposes. However, the OUR maintains its view that provision of service should be technology neutral. Mobile technology is currently providing single line voice services so it would be uneconomical to use universality funds to expand CWJ fixed network to provide the same services that consumers can get from mobile operators. In addition, the prepaid packages being offered by the mobile operators are currently addressing the affordability needs of many customers who would probably otherwise not have services. Further, as a result of the growth in the single line voice market compared to

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[9] Penetration rate here means the total number of telephone lines (fixed and mobile) per 100 inhabitants.
[10] Penetration rate here means the total number of telephone lines (fixed and mobile) per 100 households.
[11] This figure is based on information provided to the OUR by the industry up to October 2002.

Internet access in public institutions,[12] the OUR is proposing that priority should be given to the latter.

Public Payphones
As mentioned before, Section 39(2)(b) of the Act speaks to the provision of reasonable access to payphones throughout the Island. However, the OUR believes that in order to fulfill this requirement, certain principles will have to be taken into consideration. First, the demand for public payphone services has reduced significantly since the introduction of competition in and the continued growth of the mobile market. Secondly, payphones should be readily available in cases of emergency. Thirdly, vandalism and maintenance have driven the cost of operating payphones to alarming levels. The OUR is proposing that any programme that will be implemented for payphone services throughout the Island should take into consideration these concerns. In other words, a combination of these issues could be used to design and develop a reasonable programme for universal payphone access.

Emergency Services
All voice service providers are mandated to provide free access (call) to emergency services such as the police, ambulance and fire. To date, and to the best of the OUR's knowledge, all such operators are fulfilling this requirement so there is no need to elaborate on this issue.

Internet Access in Public Institutions
The Act makes provision for Internet access to schools,[13] public libraries and post offices across the Island. Currently the number of public institutions connected to the Internet is very low. Only 9.6%, 9% and 33.3% of the schools, post offices and public libraries respectively, are connected. (See Tables 1 and 2 below for more detail).

The Act speaks to the provision of Internet access in public institutions but it did not specify at what level. The OUR is postulating the view that the level of connection should be broadband (high-speed) and not narrowband (dial up) for reasons such as speed, economic efficiency/development and 'always on' connection. In addition, the OUR is proposing that the universal service/access fund should fund the provision of hardware and software (computers and internet terminals) to public institutions. Further, the OUR believes that some form of funding would be required from the universal service/access fund to cover the monthly bills of schools. The model that is probably most appropriate for schools is one where an assessment is done to determine how much money the average school would be able to contribute toward its monthly bill (in line with government

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12 See discussion on Internet access in public institutions below.
13 Schools here refer only to public educational institutions at the primary and secondary levels.

policy guidelines). Once this is determined, the universal service/access fund would contribute the difference on a monthly basis. However, it is believed that public libraries and post offices would require little or no funding since they will be allowed to charge users for the services provided.

Table 1: Statistics for Libraries and Post Offices in Jamaica.

	Libraries	Post Offices	% of Libraries	% of Post Offices
Total	132	310		
Number With Telephone Service	76	67	57.6	21.6
Number With Internet Service	44	28	33.3	9.0

Table 2: Statistics for Schools at the Primary and Secondary Levels in Jamaica.

	Primary	Primary and Junior High	Junior High	All-Age	High	Total	% of Schools
Number of Schools	353	88	1	350	153	945	
Population	197128	59736	464	87387	187811	532526	
Number With Telephone Service	226	55	1	111	147	540	57.1%
Number With Internet Service	20	1	0	13	57	91	9.6%

5.   Choosing/Selecting Universal Service/Access Provider(s)

In the initial consultative process, the OUR postulated two approaches that could be applied in the selection of potential universal service/access providers – Competitive Bidding and "Pay or Play".

The competitive bidding approach is a process where operators bid against each other to serve potential customers. The objective is be to award the contract to the company with the lowest bid, that is, the one requiring the least amount of subsidy. The agency responsible for the bidding process would be required to set

the terms and conditions of the contract. Some of the terms and conditions of the contract could include, but not limited to the following:

a) Area(s) or institutions to be served;

b) the minimum quality of service;

c) the applicable tariff structure;

d) roll out period for services to be provided;

e) maximum subsidy;

f) penalty for non-fulfilment of terms of contract.

The two most successful instances of competitive bidding to date are to be found in Chile and Peru. The Chilean program focused on providing public phones in every community. In 1995, the country targeted approximately 6000 communities and by 1999 it was successful in installing public phones in 5916 of these districts. The records[14] indicate that during this period the level of subsidy paid out by the authorities to operators amounted to 50% less than budgeted. Over two million people benefited from the project! See Table 3 below.

Table 3: Summary of the Results of the Bidding Process in Chile

Year	Projects	Localities	Inhabitants in Localities (000)	Maximum Subsidy (USD m)	Subsidy Granted (USD m)	Subsidy Per Person (USD)
1995	34	726	240	3.1	2.1	8.75
1996	18	1632	762	4.2	0.9	1.18
1997	70	2146	772	20.4	8.1	10.49
1998	27	858	229	8.9	5.5	24.02
1999	34	554	154	5.5	4.4	28.57
Total	**183**	**5916**	**2157**	**42.1**	**21.0**	**9.74**

Source: "Telecommunications Regulation Handbook". Edited by Hank Intven. Page 6-31.

The Peruvian program started out in 1998 with a pilot project to provide 213 localities/communities with access to payphones. With a budgeted maximum subsidy of US$4M, the successful bidder was able to provide the service for about 59% less. The project was completed in just over a year. After the

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[14] See "Telecommunications Regulation Handbook". Edited by Hank Intven. Page 6-31.

completion of the pilot project, service was extended to include public Internet telecentres. In late 1999 three projects were tendered with the intention to install 1937 public payphones and 236 public Internet telecentres.

Something noticeable happened during the process. The regulator modified the bidding arrangements. In an effort to arrive at the lowest cost for the three projects combined, the regulator allowed simultaneous bidding. Operators were allowed to bid for any combination of the projects offered. The results were very encouraging. Of the maximum amount of US$50M allocated, the bidders requested only US$10.99. Bidder A won the bid for project 3 meanwhile projects 1 and 2 were awarded to Bidder B. Tables 4 and 5 below give a summary of the bidding process and the results.

Table 4: Example of Multiple Projects Bidding Procedure in Peru.

	Project 1	Project 2	Project 3	Project 1 & 2	Project 1 & 3	Project 2 & 3	Project 1,2 & 3
Bidder A's Bids:	100		50		130		
Bidder B's Bid:	80	50	60	120	130	100	180
Bidder C's Bid:	90	45		130			

Source: "Telecommunications Regulation Handbook". Edited by Hank Intven. Page 6-35.

Table 5: Summary of the Results of the Bidding Process in Peru

Project	Localities	Inhabitants in Localities (k)	Maximum Subsidy (USD m)	Subsidy Granted (USD m)	Subsidy Per Person (USD)
South	534	136	14.0		
Central South	1029	303	27.0		
Jungle North	374	141	9.0		
Total	**1937**	**580**	**50.0**	**10.99**	**18.95**

Source: "Telecommunications Regulation Handbook". Edited by Hank Intven. Page 6-36.

The pay or play approach is a process whereby an operator can choose to serve an uneconomic customer, area or institution, voluntarily. The idea is that if an operator serves potential customers voluntarily, that is "play", then the efficient cost of providing this service is deducted from the amount that otherwise would have been payable into the universal service/access fund by the operator. In other words, a subsidy[15] would be made available to the company providing the

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[15] That is the difference between the net costs incurred in providing service and its contribution to the fund.

amount it is required to contribute to funding of universal service/access is less than the net costs it incurs in providing the service to these customers.

This approach has the potential of introducing competition in the provision of universal service/access and even innovation in the products and services provided. The packages offered by operators would have to comply with guidelines specified by the Ministry or the Office. For example, the company's pricing policies would need to be approved by the Office before any funding is granted.

The general views of the respondents suggest that the competitive bidding approach would be more appropriate for Jamaica. As such, the OUR is proposing that a competitive bidding approach is applied in the selection of potential universal service/access provider(s).

6. Funding Universal Service/Access

Mechanisms Used to Fund Universal Service/Access
Several mechanisms are used to fund universal service/access. The following is a list of options proposed by the OUR in the first consultative document:

a) **General taxation:** the government levy a tax on the society and use the proceeds to fund universal service/access;

b) **Interconnect charges:** the universal service provider (USP) is allowed to inflate its interconnect charges and use the additional revenues to finance universal service/access;

c) **Cross subsidies:** the incumbent is allowed to price one or more of its service(s) above cost and use the additional revenues to subsidize other services and expand its local network;

d) **Universal service fund (USF):** operators in the industry contribute to a fund which is used to cover the net cost of universal service/access. Two types: (1) A physical fund that is administered either by the regulator or some other independent body and (2) a virtual fund where operators make their contributions directly to the USP instead of pooling the money in a physical fund.

The general consensus from respondents is that an independent agency (a physical fund) should be established to oversee the development and implementation of the universal service/access programme. This agency would

be responsible for collecting and disbursing funds as well as setting the criteria for services to be provided.

It is generally argued that the most appropriate means by which operators should be assessed with respect to contribution to the fund is revenue. This is the approach that Jamaica intends to take. However, to ensure the efficient collection of contributions from the industry, charges will only be levied on operators with service provider licences. Therefore all revenues, net of any interconnection and/or leased line payments to other operators, generated from the provision of services prescribed under the Telecommunications Act 2000 using a service provider licence, will form the basis for contribution to the fund. The Act stipulates that only a maximum of five (5%) of the industry revenue should go toward this programme.

7.   Other Issues

Other issues being considered by the OUR with respect to universality in Jamaica are: Service to the disabled community, minimal disconnection and effective monitoring and review.

Service to the Disabled Community
The Planning Institute of Jamaica (PIOJ) reports that an estimated five (5) percent[16] of the population, (over 100,000 persons), have some form of disability. Of this figure, 29.1 % are physically disabled and 14.1% have multiple disabilities. The National Policy on Disability provides guidelines on how disabled people should be treated. One such guideline is equal opportunities for the disabled community. Some of the services that could be considered for the disabled group include, but not limited to the following:

a)   provision of free directory information service to customers who are unable to use a telephone directory;

b)   priority fault repair services;

c)   reasonable access to payphones by wheelchair users;

d)   delivery of bills in Braille, large print or even on computer disk for customers who are visually impaired;

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[16] According to the 2000 Edition of the of the PIOJ's "Economic and Social Survey Jamaica 2000."

e) cheaper calls for text phone users; ability to call other customers who do not have text phones. (Text phones are designed for the hearing-impaired).

Disconnection

The provision of universal service/access to a customer should not be viewed as a luxury item but instead a necessity. The objective should be to satisfy the individual's basic telecommunications need. With this view in mind, programmes could be implemented to keep the customer on the network. Some of these include call barring, prepaid packages, low user packages and limited minutes.

The objective should be to minimise or even eliminate disconnection. Everyone benefits when the customer remains on the network. As the company's customer base increases, so does the value of the network. Subscribers would now be able to communicate with more people thus increasing the utility obtain from the network. The company benefits in terms of increase revenue and brand image. If the customer is disconnected, the company would not only forego revenues from outgoing calls and access charges but also revenues from incoming calls.

Monitoring and Review

For the universality programme to be successful, there must be effective monitoring and review. The OUR and other regulatory agencies would have to ensure that the guidelines and standards laid down for the provision of service are adhered to by the USP(s). Review is just as important as monitoring. Given the rapid changes in technology and the industry, it follows that the definition of universal service/access will have to be constantly reviewed to ensure that services provided to customers remain current. Presently, Internet service is not a requirement for households; however, in the not too distant future this idea might have to be revised to accommodate service to every household across the Island.

8. Conclusion

The continued developments in the telecommunications market will no doubt continue to bring increase benefits to the citizens of Jamaica. Mobile operators have already commenced provision of Internet access to their subscribers over their mobile phones as well as wireless access via laptops and PDAs – the possibilities are endless.

After the conclusion of the consultative process on universality, the next stage is for the OUR to make recommendations of its findings to the Minister with responsibility for telecommunications who will then put the necessary procedures in place for implementation of the programme. However, it is worth noting that

the Minister has the option of accepting all or part thereof or rejecting the OUR's recommendation. Whichever route the Minister decides to take; it is hoped that the programme would have met its objectives within the time specified by him.

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