

Information & Communication Technology

Statistics Report 2020



STATISTICS BOTSWANA

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Information & Communication Technology

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PREFACE

This report presents Botswana Information and Communications Technology Statistics for the year 2020. It covers statistics relating to ICT infrastructure and services, as well as the overall contribution of the Information and Communications Technology Sector to the economy.

A snap view of the results on Telecommunications shows that both mobile cellular and fixed telephone subscriptions declined in 2020. Mobile cellular telephone subscriptions decreased by 5.2 percent at total of 3,792,157 in 2020 from 3,999,244 in 2019. Fixed telephone subscriptions realised a slight decline of 1.3 percent from 141,896 in 2019 to 140,015 in 2020.

Internet subscriptions on the other hand increased by 6.4 percent in 2020, from 2,027,515 registered in 2019 to 2,156,491. Most of this growth came from mobile internet subscriptions which constituted 97.7 percent of total internet subscriptions in 2020.

In 2020, fixed to mobile telephone domestic traffic in minutes went down by 8.4 percent, while mobile to fixed telephone domestic one increased by 149.6 percent. Both international outgoing fixed telephone and mobile telephone traffic in minutes declined. International outgoing fixed telephone traffic fell by 21.8 percent while mobile telephone one went down by 20.3 percent.

The contribution of the Postal and Communication Sector to the economy in 2020 shows that value added in current prices for the sector amounted to P 5,614.6 million, which was 3.1 percent of the total Gross Domestic Product.

For more information and further enquiries, contact the Directorate of Stakeholder Relations at +267 367 1300. This publication and all other Statistics Botswana outputs or publications are available on the website at www.statsbots.org.bw and also at the Statistics Botswana Information Resource Center (Head-Office, Gaborone).

Data from different stakeholders was used in the production of this report. Statistics Botswana wishes to recognize and extend gratitude to these stakeholders for the collaboration and the immense input they made in the formulation of the report.



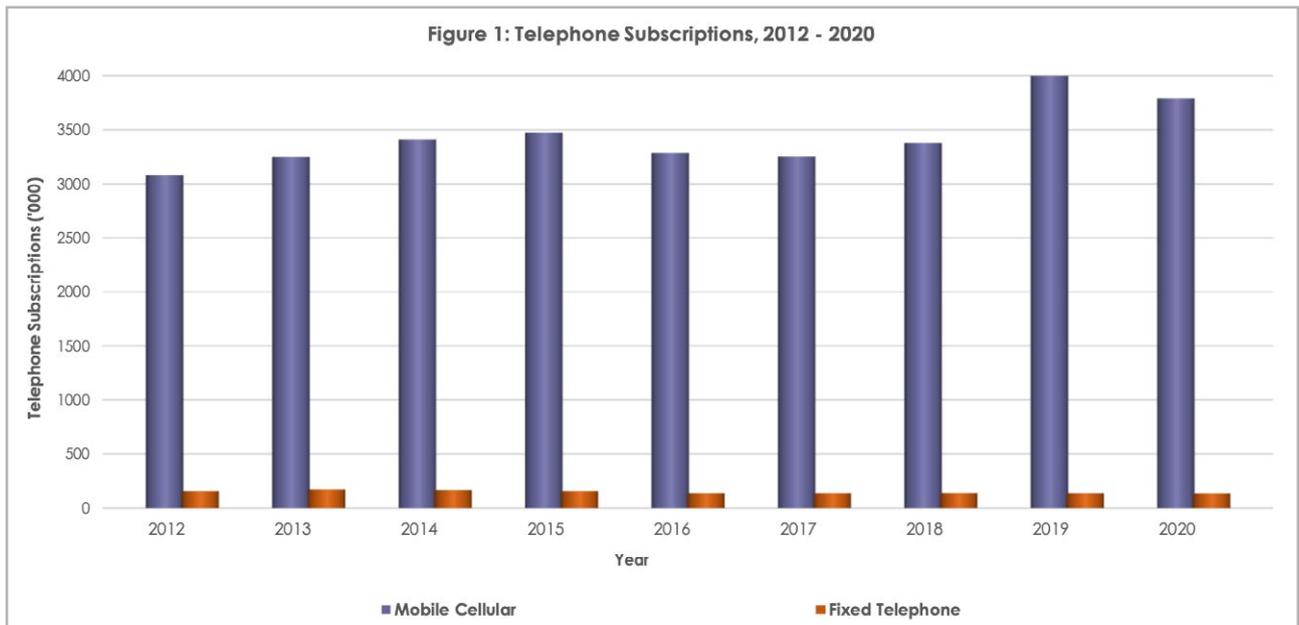
Dr. Burton Mguni
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December 2021

ABBREVIATIONS

ICT	Information and Communication Technology
ADSL	Asymmetric Digital Subscriber line
ISP	Internet Service Providers
GDP	Gross Domestic Product
BOCRA	Botswana Communications Regulatory Authority

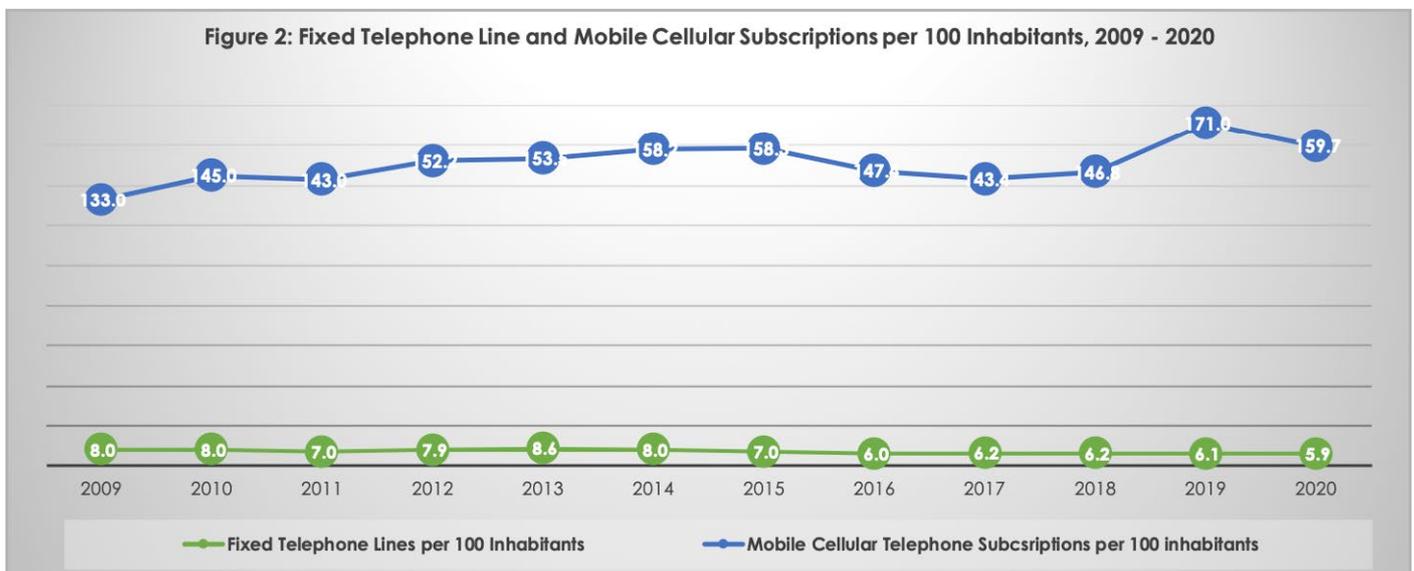
2. TELECOMMUNICATION

2.1 Fixed Telephone Lines and Mobile Cellular Telephone Subscriptions

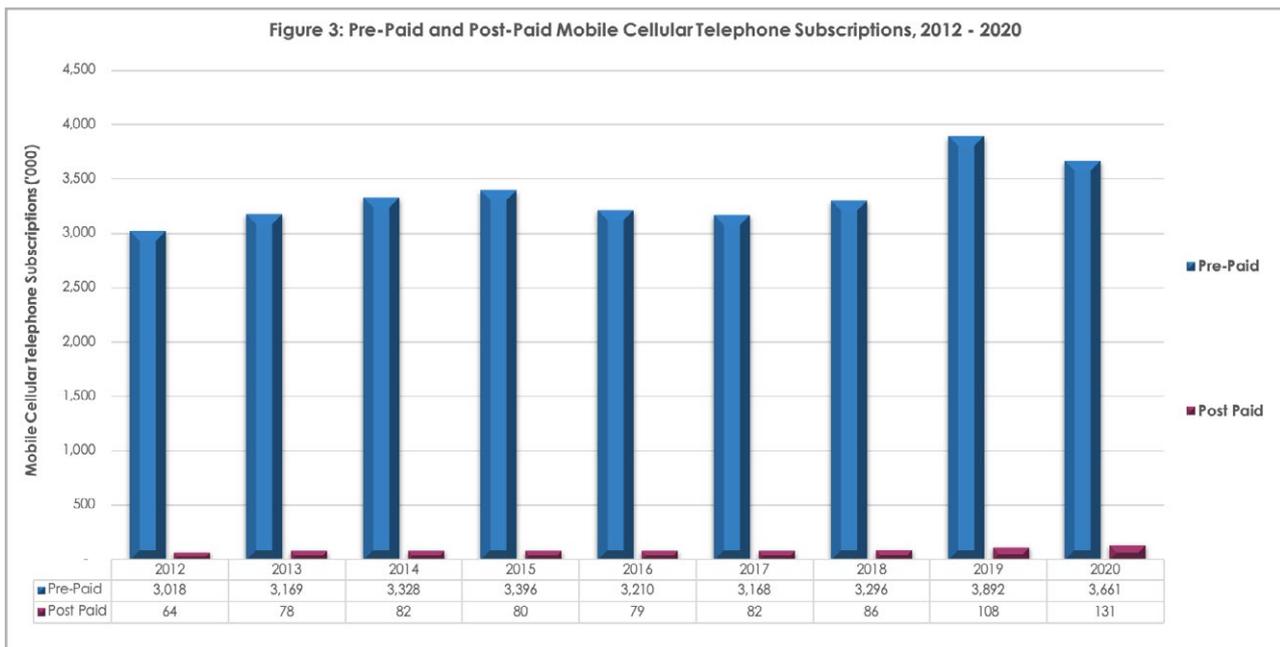


The fixed telephone lines subscriptions went down by 1.3 percent in 2020, from 141,896 recorded in 2019 to 140,015. As a result, tele-density (the number of fixed telephone lines per 100 inhabitants) went down to 5.9 lines per 100 persons in 2020 from 6.1 lines per 100 persons in 2019.

Mobile cellular telephone subscriptions declined by 5.2 percent in 2020, from 3,999,244 subscriptions registered in 2019 to 3,792,157. Mobi-density (the number of mobile cellular telephone subscriptions per 100 inhabitants) decreased from 171.0 subscriptions per 100 inhabitants in 2019 to 159.7 subscriptions per 100 inhabitants in 2020. For more details refer to **Table 1** and **Table 2** in Appendix I and **Figure 1** above and **Figure 2** below.



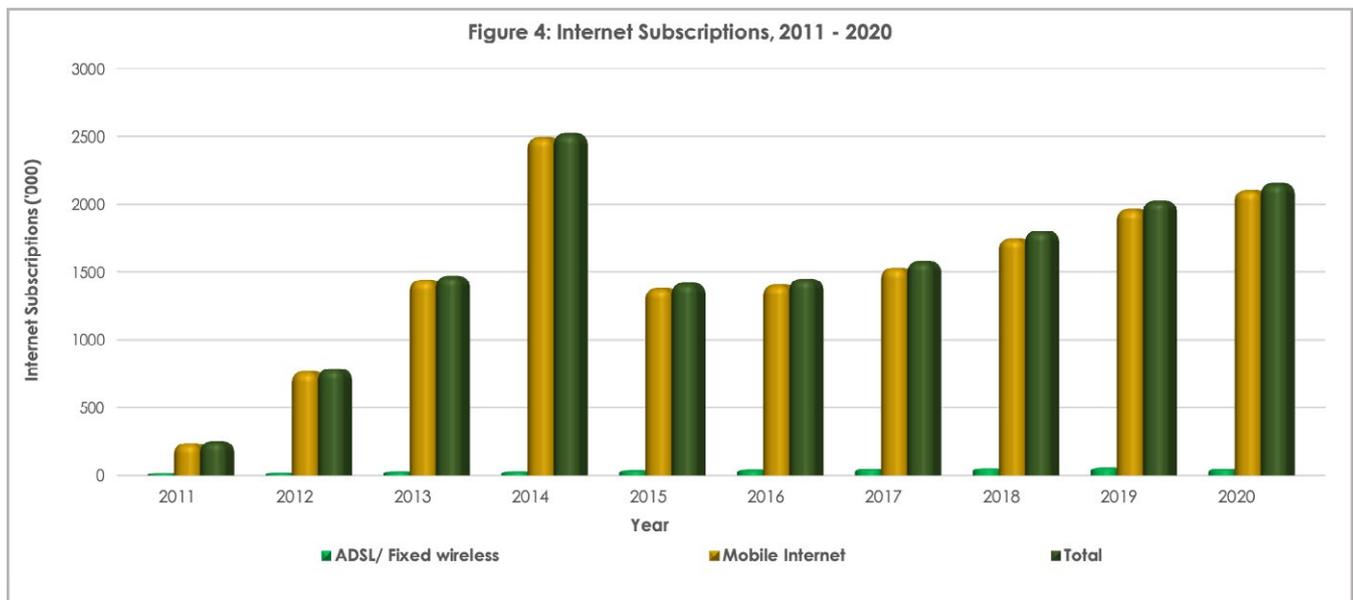
1.2 Pre-paid and Post-paid Mobile Cellular Telephone Subscriptions



In 2020, pre-paid mobile cellular telephone subscriptions went down by 5.9 percent at 3,660,785 subscriptions, from 3,891,733 recorded in 2019. However, post-paid mobile cellular telephone subscriptions rose by 22.2 percent in 2020, from 107,511 recorded in 2019 to 131,372. Pre-paid mobile cellular telephone subscriptions constituted 96.5 percent of total mobile cellular telephone subscriptions in 2020 while post-paid made up 3.5 percent only of the total. This is illustrated in **Figure 3** above and **Table 2** in **Appendix I**.

1.3 Internet Subscription

Internet subscriptions increased by 6.4 percent in 2020, from 2,027,515 subscriptions registered in 2019 to 2,156,491. Mobile internet subscriptions went up by 7.2 percent in 2020 while fixed internet subscriptions declined by 19.7 percent. See Figure 4 below and Table 3 in Appendix I for more details.



Internet subscriptions per 100 inhabitants increased from 86.7 in 2019 to 90.8 in 2020. This resulted from the increase in mobile internet subscriptions per 100 inhabitants, from 84.0 subscriptions in 2019 to 88.7 in 2020. More details are in **Table 1** in **Appendix I**.

1.4 Telephone Traffic

Telephone traffic comprises Domestic calls, International calls and Short Message Service (SMS).

A total of 4,990.0 million minutes of domestic fixed to fixed telephone traffic occurred in 2020, a decline of 25.8 percent from 6,725.3 million minutes registered in 2019. Domestic fixed to mobile telephone traffic also decreased by 8.4 percent from 7,332.1 million minutes in 2019 to 6,715.8 million minutes in 2020.

On net and off net mobile telephone traffic in minutes, however, went up by 43.6 percent and 20.3 percent respectively in 2020. On net mobile telephone traffic increased from 4,425.3 million minutes in 2019 to 6,356.8 million in 2020. Off net mobile telephone traffic went up from 587.2 million minutes in 2019 to 706.6 million in 2020. Mobile to fixed telephone traffic also increased by 149.6 percent in 2020 as compared to the previous year.

International outgoing fixed telephone traffic decreased by 21.8 percent, from 750.4 million minutes recorded in 2019 to 586.5 million in 2020. International outgoing mobile telephone traffic also fell by 20.3 percent in 2020; from 40.5 million minutes in 2019 to 32.3 million.

In 2020, both on net and off net SMS traffic decreased compared to the year 2019. On net SMS traffic fell from 594.2 million minutes recorded in 2019 to 458.9 million minutes in 2020, registering a 22.8 percent decline. Off net SMS traffic decreased by 47.1 percent in 2020, from 525.3 million minutes recorded in 2019 to 277.8 million minutes. The details are shown in **Table 1.1** below and more details in **Table 4 in Appendix I**.

Table 1.1: Domestic and International Telephone Traffic (Minutes), 2012 - 2020

Telephone and Short Message Service Traffic	2012	2013	2014	2015	2016	2017	2018	2019	2020
	<i>Minutes ('000 000)</i>								
Domestic Calls									
From Fixed Telephones to Fixed Telephones	180.0	164.1	2,856.0	2,180.2	5,404.6	7,756.9	7,305.6	6,725.3	4,990.0
From fixed Telephones to Mobile Cellular Telephones	120.8	130.3	2,144.0	442.3	6,317.5	8,076.2	7,554.8	7,332.1	6,715.8
On Net Mobile Cellular Telephone Calls	1,477.0	2,012.6	2,017.3	3,435.9	2,135.8	1,677.4	2,274.4	4,425.3	6,356.8
Off Net Mobile Cellular Telephone Calls	498.1	507.5	639.5	698.0	719.5	529.1	471.7	587.2	706.6
From Mobile Cellular Telephones to Fixed Telephones	118.0	14.4	47.8	38.7	36.2	30.4	26.7	92.1	230.0
International Calls									
Outgoing from Fixed Telephones	23.1	25.5	696.8	946.2	880.0	991.9	892.4	750.4	586.5
Incoming to Fixed Telephones	10.0	-	-	-	-	-	-	-	-
Outgoing from Mobile Cellular Telephones	60.5	70.4	64.9	59.6	55.0	37.0	34.8	40.5	32.3
Short Message Service									
On Net	813.7	888.9	866.0	814.9	735.0	600.5	553.0	594.2	458.9
Off Net	461.5	319.5	571.6	596.8	555.0	626.4	549.3	525.3	277.8
	<i>Quarterly Percentage Change</i>								
Domestic Calls									
From Fixed Telephones to Fixed Telephones	...	(8.8)	1,640.3	(23.7)	147.9	43.5	(5.8)	(7.9)	(25.8)
From fixed Telephones to Mobile Cellular Telephones	...	7.9	1,546.0	(79.4)	1,328.3	27.8	(6.5)	(2.9)	(8.4)
On Net Mobile Cellular Telephone Calls	...	36.3	0.2	70.3	(37.8)	(21.5)	35.6	94.6	43.6
Off Net Mobile Cellular Telephone Calls	...	1.9	26.0	9.2	3.1	(26.5)	(10.9)	24.5	20.3
From Mobile Cellular Telephones to Fixed Telephones	...	(87.8)	232.8	(19.0)	(6.7)	(15.8)	(12.4)	245.5	149.6
International Calls									
Outgoing from Fixed Telephones	...	10.4	2,631.7	35.8	(7.0)	12.7	(10.0)	(15.9)	(21.8)
Incoming to Fixed Telephones	...	-	-	-	-	-	-	-	-
Outgoing from Mobile Cellular Telephones	...	16.4	(7.8)	(8.3)	(7.7)	(32.6)	(5.9)	16.4	(20.3)
Short Message Service									
On Net	...	9.2	(2.6)	(5.9)	(9.8)	(18.3)	(7.9)	7.5	(22.8)
Off Net	...	(30.8)	78.9	4.4	(7.0)	12.9	(12.3)	(4.4)	(47.1)

Source: Information and Communication Technology Statistics, Statistics Botswana

Note: "-" denotes zero

"..." denotes no data

2. CONTRIBUTION OF POSTAL AND COMMUNICATION SERVICES TO GDP

The contribution of the Postal and Communication Sector to the economy in 2020 shows that in current prices, the sector contributed a value added of P5, 614.6 million, which was 3.1 percent of total Gross Domestic Product. In real terms (2006 prices), the sector's contribution stood at P3, 264 million, which made up 3.6 percent of total GDP. See Table 2.1 below for more details.

Table 2.1: Contribution of Communication & Postal Services To Gross Domestic Product, 2006 - 2020

Year	Current Prices				Constant Prices			
	Total GDP (P Million)	Postal & Communication Services Value Added (P Million)	Postal & Communication Services Contribution To GDP (%)	Postal & Communication Services Annual Growth Rates (%)	Total GDP (P Million)	Postal & Communication Services Value Added (P Million)	Postal & Communication Services Contribution To GDP (%)	Postal & Communication Services Annual Growth Rates (%)
2006	59,106.9	857.5	1.5	16.9	59,106.9	857.5	1.5	15.8
2007	67,152.7	1,002.0	1.5	16.9	63,999.1	995.4	1.6	16.1
2008	74,720.9	1,332.8	1.8	33.0	67,996.1	1,257.2	1.8	26.3
2009	73,462.3	1,605.4	2.2	20.5	62,792.8	1,420.0	2.3	13.0
2010	86,867.5	1,930.5	2.2	20.2	68,170.1	1,605.3	2.4	13.0
2011	104,979.8	2,173.8	2.1	12.6	72,293.3	1,732.0	2.4	7.9
2012	109,870.4	2,393.5	2.2	10.1	75,514.8	1,864.3	2.5	7.6
2013	125,158.3	2,644.3	2.1	10.5	84,080.7	2,018.1	2.4	8.3
2014	145,868.4	3,058.3	2.1	15.7	87,569.5	2,214.2	2.5	9.7
2015	146,066.3	3,465.2	2.4	13.3	86,082.6	2,372.0	2.8	7.1
2016	170,564.1	3,956.6	2.3	14.2	89,787.5	2,531.1	2.8	6.7
2017	180,102.9	4,387.8	2.5	10.9	92,394.9	2,706.9	2.9	7.0
2018	190,365.3	4,802.3	2.5	9.4	96,533.1	2,897.2	3.0	7.1
2019	197,503.6	5,262.6	2.7	9.6	99,454.0	3,096.8	3.1	6.9
2020	180,798.7	5,614.6	3.1	6.7	91,604.1	3,264.3	3.6	5.4

Source: National Accounts, Statistics Botswana

APPENDIX I: TELECOMMUNICATIONS

Table 1: Information & Communication Technology Infrastructure and Access, 2009 - 2020

Year	Fixed Telephone Lines	Fixed Telephone Lines per 100 Inhabitants	Mobile Cellular Telephone Subscriptions	Mobile Cellular Telephone Subscriptions per 100 inhabitants	Internet Subscriptions	Internet Subscriptions per 100 Inhabitants	Fixed Broadband/ADSL Subscriptions	Fixed Broadband/ADSL Subscriptions per 100 Inhabitants	Mobile Broadband Subscriptions	Mobile Broadband per 100 Inhabitants
	Number									
2009	144,195	8.0	2,390,868	133.0	110,600	6.0	10,000	0.6	100,600	6.0
2010	139,695	8.0	2,644,982	145.0	140,360	8.0	11,978	0.7	128,382	7.0
2011	149,578	7.0	2,900,263	143.0	254,649	13.0	15,707	1.0	238,942	11.0
2012	160,488	7.9	3,081,726	152.2	788,643	39.0	18,838	1.0	769,805	37.0
2013	174,165	8.6	3,246,787	153.5	1,472,026	72.0	27,819	1.3	1,444,207	68.0
2014	169,236	8.0	3,410,507	158.2	2,524,013	117.1	27,867	1.3	2,496,146	115.8
2015	160,490	7.0	3,475,327	158.3	1,420,991	64.7	36,845	1.7	1,384,146	63.1
2016	142,122	6.0	3,288,986	147.4	1,451,107	65.0	41,833	1.9	1,409,274	63.2
2017	141,207	6.2	3,249,903	143.4	1,581,855	69.8	48,901	2.2	1,532,954	67.6
2018	142,481	6.2	3,381,228	146.8	1,804,449	77.2	55,390	2.4	1,749,059	74.8
2019	141,896	6.1	3,999,244	171.0	2,027,515	86.7	62,058	2.7	1,965,456	84.0
2020	140,015	5.9	3,792,157	159.7	2,156,491	90.8	49,823	2.1	2,106,669	88.7
	Annual Percentage Change									
2009	...	...	...	...	...	...	...	...	...	...
2010	(3.1)	-	10.6	9.0	26.9	33.3	19.8	16.7	27.6	16.7
2011	7.1	(12.5)	9.7	(1.4)	81.4	62.5	31.1	42.9	86.1	57.1
2012	7.3	13.2	6.3	6.4	209.7	200.0	19.9	-	222.2	236.4
2013	8.5	8.5	5.4	0.9	86.7	84.6	47.7	30.0	87.6	83.8
2014	(2.8)	(7.0)	5.0	3.1	71.5	62.6	0.2	(0.6)	72.8	70.3
2015	(5.2)	(12.5)	1.9	0.1	(43.7)	(44.7)	32.2	29.9	(44.5)	(45.5)
2016	(11.4)	(14.3)	(5.4)	(6.9)	2.1	0.5	13.5	11.7	1.8	0.1
2017	(0.6)	3.8	(1.2)	(2.7)	9.0	7.3	16.9	15.0	8.8	7.0
2018	0.9	(0.7)	4.0	2.4	14.1	10.6	13.3	9.8	14.1	10.6
2019	(0.4)	(1.9)	18.3	16.5	12.4	12.4	12.0	12.0	12.4	12.4
2020	(1.3)	(2.8)	(5.2)	(6.6)	6.4	4.8	(19.7)	(20.9)	7.2	5.6

Source: Botswana Communications Regulatory Authority (BOCRA)

Note: "..." denotes no data

"-" denotes zero

Table 2: Telephone Subscriptions by Quarter, 2012 - 2020

Year	Telephone Subscriptions							
	Mobile Cellular			Fixed Telephone	Mobile Cellular			Fixed Telephone
	Pre-Paid	Post Paid	Total		Pre-Paid	Post Paid	Total	
	Numbers				Annual Percentage Change			
2012	3,017,884	63,842	3,081,726	160,488	...	...	...	...
2013	3,169,148	77,639	3,246,787	174,165	5.0	21.6	5.4	8.5
2014	3,328,284	82,223	3,410,507	169,236	5.0	5.9	5.0	(2.8)
2015	3,395,758	79,569	3,475,327	160,490	2.0	(3.2)	1.9	(5.2)
2016	3,209,519	79,467	3,288,986	142,122	(5.5)	(0.1)	(5.4)	(11.4)
2017	3,168,194	81,709	3,249,903	141,207	(1.3)	2.8	(1.2)	(0.6)
2018	3,295,636	85,592	3,381,228	142,481	4.0	4.8	4.0	0.9
2019	3,891,733	107,511	3,999,244	141,896	18.1	25.6	18.3	(0.4)
2020	3,660,785	131,372	3,792,157	140,015	(5.9)	22.2	(5.2)	(1.3)

Source: Botswana Communications Regulatory Authority

Note: "..." denotes no data

Table 3: Internet Subscriptions by Year, 2011 - 2020

Year	Internet Subscriptions					
	ADSL/ Fixed wireless	Mobile Internet	Total	ADSL/ Fixed wireless	Mobile Internet	Total
	Numbers			Annual Percentage Change		
2011	15,707	238,942	254,649	...	...	...
2012	18,838	769,805	788,643	19.9	222.2	209.7
2013	27,819	1,444,207	1,472,026	47.7	87.6	86.7
2014	27,867	2,496,146	2,524,013	0.2	72.8	71.5
2015	36,845	1,384,146	1,420,991	32.2	(44.5)	(43.7)
2016	41,833	1,409,274	1,451,107	13.5	1.8	2.1
2017	48,901	1,532,954	1,581,855	16.9	8.8	9.0
2018	55,390	1,749,059	1,804,449	13.3	14.1	14.1
2019	62,058	1,965,456	2,027,515	12.0	12.4	12.4
2020	49,823	2,106,669	2,156,491	(19.7)	7.2	6.4

Source: Botswana Communications Regulatory Authority

Note: "..." denotes no data

Table 4: Domestic and International Telephone Traffic by Quarter(Minutes), 2012 - 2020

Telephone and Short Message Service Traffic										
	Domestic Calls					International Calls			Short Message Service	
	Fixed to Fixed Telephone Traffic	Fixed to Mobile Telephone Traffic	On Net Mobile Telephone Traffic	Off Net Mobile Telephone Traffic	Mobile to Fixed Telephone Traffic	Outgoing Fixed Telephone Traffic	Incoming Fixed Telephone Traffic	Outgoing Mobile Telephone Traffic	On Net	Off Net
Year	Numbers									
2012	180,023,710	120,777,738	1,476,951,319	498,071,407	117,988,866	23,111,572	10,007,784	60,537,589	813,670,066	461,501,381
2013	164,112,553	130,260,542	2,012,563,382	507,520,871	14,363,268	25,506,911	-	70,447,823	888,916,435	319,509,736
2014	2,855,976,715	2,144,037,524	2,017,304,306	639,476,627	47,799,787	696,782,887	-	64,944,902	866,038,692	571,605,111
2015	2,180,243,317	442,293,755	3,435,939,267	698,003,464	38,735,981	946,245,244	-	59,571,104	814,896,796	596,797,881
2016	5,404,551,408	6,317,485,436	2,135,768,302	719,460,328	36,150,079	880,046,555	-	54,968,279	734,996,577	555,018,219
2017	7,756,881,623	8,076,234,897	1,677,396,502	529,125,900	30,443,995	991,907,499	-	37,022,908	600,508,567	626,385,527
2018	7,112,184,902	7,946,123,985	2,274,354,118	471,662,469	26,662,896	892,424,820	-	34,839,230	552,999,004	549,260,865
2019	6,725,344,846	7,332,058,357	4,425,255,173	587,242,577	92,131,916	750,414,583	-	40,540,260	594,224,351	525,309,238
2020	4,990,018,833	6,715,808,135	6,356,776,072	706,611,281	229,955,631	586,466,439	-	32,330,529	458,901,791	277,753,038
Annual Percentage Change										
2012	...	...	...	...	...	...	...	...	...	...
2013	(8.8)	7.9	36.3	1.9	(87.8)	10.4	-	16.4	9.2	(30.8)
2014	1,640.3	1,546.0	0.2	26.0	232.8	2,631.7	-	(7.8)	(2.6)	78.9
2015	(23.7)	(79.4)	70.3	9.2	(19.0)	35.8	-	(8.3)	(5.9)	4.4
2016	147.9	1,328.3	(37.8)	3.1	(6.7)	(7.0)	-	(7.7)	(9.8)	(7.0)
2017	43.5	27.8	(21.5)	(26.5)	(15.8)	12.7	-	(32.6)	(18.3)	12.9
2018	(8.3)	(1.6)	35.6	(10.9)	(12.4)	(10.0)	-	(5.9)	(7.9)	(12.3)
2019	(7.9)	(2.9)	94.6	24.5	245.5	(15.9)	-	16.4	7.5	(4.4)
2020	(25.8)	(8.4)	43.6	20.3	149.6	(21.8)	-	(20.3)	(22.8)	(47.1)

Source: Botswana Communications Regulatory Authority

Note: "-" denotes zero

"..." denotes no data

APPENDIX II: DEFINITION

1.1 Radio

A radio is a device capable of receiving broadcasting radio signals, using popular frequencies such as FM, AM, LW and SW. It includes a radio set intergraded in a car or an alarm clock but excludes radios integrated with a mobile phone, a digital audio player.

1.2 Television

A TV (Television) is a stand – alone device capable of receiving broadcasting television signals, using popular access means such as over – the – air , cable and satellite. It excludes TV functionality intergraded with another device, such as a computer or a mobile.

1.3 Fixed Telephone

Fixed telephone lines refer to a telephone line connecting a customer's terminal equipment (e.g. telephone set, facsimile machine) to the public switched telephone network (PSTN) and which has a dedicated port on a telephone exchange. This term is synonymous with the terms main station or Direct Exchange Line (DEL) that are commonly used in telecommunication documents. It may not be the same as an access line or a subscriber.

1.4 Mobile Cellular Phone

A mobile cellular phone refers to a portable telephone subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN. This includes analogue and digital cellular systems, as well as IMT-2000 (3G). Users of both post-paid subscriptions and pre-paid accounts are included.

1.5 Internet

A world-wide public computer network which provides access to a number of communication services including services including the World – Wide Web and carries email, news, entertainment and data files. Access may be any device enabling internet access (not only a computer). It may also be by mobile phone. PDA, Games Machine, Digital TV etc.

1.6 Broadband

Connection to the internet at speed equal to/ or greater than 256 kilobits per second, as the sum of capacity in both directions.

1.7 Digital Subscriber Line (DSL)

Technologies that provide digital data transmission.

1.8 Asymmetric Digital Subscriber line (ADSL)

DSL with different speed for upstream and downstream.

1.9 Intranet

Refers to a network using the same protocol as the internet and allowing communication within an organization. It is typically set up behind a firewall to control access.

1.10 Extranet

An extranet is a private, secure extension of an internet running on Internet protocol. It allows selected external users to access some parts of an organization's intranet.

1.11 Website

Location on the wide world web identified by a web address. Collection of web files on a particular subject that includes a beginning file called a home page. Information is encoded with specific languages (Hypertext mark – up language (HTML), XML, Java) readable with a web browser, like Netscape's Navigator or Microsoft's Internet Explorer.

1.12 Local fixed telephone traffic (minutes)

It consists of effective (completed) fixed telephone line traffic exchanged within the local charging area in which the calling station is situated. This is the area within which one subscriber can call another on payment of the local charge (if applicable). This indicator should be reported in the number of minutes.

1.13 National (fixed) trunk telephone traffic (minutes)

National (fixed) trunk (toll) traffic consists of effective (completed) fixed national telephone traffic exchange with a station outside the local charging area of the calling station. The indicator should be reported as the number of minutes of traffic.

1.14 International outgoing fixed telephone traffic (minutes)

This covers the effective (completed) fixed traffic originating in a given country to destinations outside that country. The indicator should be reported as the number of minutes of traffic.

1.15 International incoming fixed telephone traffic (minutes)

Effective (completed) fixed traffic originating outside the country with a destination inside the country. The indicator should be reported as the number of minutes of traffic.

1.16 Outgoing national mobile minutes

Total number of minutes made by mobile subscribers within a country (including minutes to fixed lines and minutes to other mobile subscribers).

1.17 SMS Traffic

Total number of mobile Short Message Service (SMS) sent, both to national and international destinations



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