

Utilization Of Internet Connection Via VSAT In Internet Cafes In The City Of Kindu

SIFA MUGALU Jolie¹

¹Ct ISC – KINDU

Corresponding Author : SIFA MUGALU Jolie



Abstract: In this article, our main concern was to identify the reasons why VSAT-linked internet cafes can no longer exist in Kindu, whereas we previously had more than five: Cyber Horizon, Télé-Centre, Cyber Café, Cyber Anglican, etc.

After a brief examination we conducted of the real facts regarding the non-use of VSAT connections by internet cafes in the city of Kindu, we arrived at the following results:

Wanting to know whether internet cafes still exist in Kindu and whether they use VSAT connections, we found that 6 respondents, or 24% of the total of 25 surveyed, state that their internet cafe still exists, but no longer with a VSAT connection. And 19 respondents, or 76%, state that their internet cafes no longer exist, and their VSAT connection is gone as well.

· 40%, or 10 out of 25 respondents, state that internet cafes using VSAT connections would be important because of their high speed, while 24%, or 6 respondents, say it is because of the speed in updating software, and 9 respondents, or 36%, state it is because of the powerful and interesting bandwidth compared to GSM connections.

This situation is a consequence of competition among internet access providers in the city of Kindu, with resulting consequences such as saturation of GSM network connections and low download speed.

Keywords: Utilization, Connection, Internet Cafe, Link, Internet.

INTRODUCTION

The technological revolution underway for centuries has continuously given birth to a multitude of technologies.

Today, as everyone knows, computing has escaped its original territory, namely calculation (accounting), corporate functions, payroll, to name a few; to reach the sharing of material or immaterial resources, whether remote or not, between computer equipment; real-time or delayed discussions, downloading electronic files, etc., which have become daily practices for thousands of internet users scattered around the world, although requiring appropriate equipment and incurring costs.

For over sixty years, computer networks have held a prominent place in our societies and companies (regardless of the size of the company). But the biggest difference comes from the fact that not everyone uses the same equipment, and therefore not everyone has the same connection quality or results depending on time and data volume.

In Maniema province, particularly in the city of Kindu, for more than 10 years we have noticed that the internet cafes that were once the pride of our city have disappeared, and more seriously, the type of internet connection via VSAT has completely vanished and been forgotten, the causes of which are practically not well identified.

We started from certain observations in the city of Kindu, among which we noticed an attempted disappearance of internet connection via VSAT lines in local internet cafes, NGOs, and even state services, despite all the advantages this technology

offered; and in this specific case: TELE-CENTRE, CYBER HORIZON, CYBER ANGLICAN, UMAMA, FEMME PLUS FOUNDATION, etc. Added to this is unrestricted access to data published on the internet by everyone from their mobile phones, and more seriously, the publication by anyone, anytime, anywhere of data (images, photos, films) on the internet.

Based on these observations, we came to ask ourselves the following questions:

- What is the cause of this disappearance of the use of internet connection via VSAT lines in internet cafes in the city of Kindu?
- What are the advantages and disadvantages of this disappearance for the population of the city of Kindu in particular and that of Maniema province in general?
- What is the new connection system used by internet users to connect to the internet?
- What are the consequences related to the new internet connection system currently used by internet users?

1. PRESENTATION, IMPACT AND ADVANTAGES OF VSAT INTERNET FOR BUSINESSES AND/OR INDIVIDUALS

1.1. Presentation of the VSAT connection

The first applications of the concept of computer networks date back to the 1960s. At that time, the concept of VSAT (Very Small Aperture Terminal) represented only a theoretical objective. Whereas the first systems used antennas between 9 and 27 meters in diameter. The VSAT movement was practically born around the 1980s. Initially, it involved star-structured data networks with very irregular traffic profiles.

At the beginning of VSAT, the technology was mainly used for satellite broadcasting. It was only in the mid-1990s that the technology began to be used for internet access. At that same period, VSAT was used to provide high-speed internet access to remote locations not connected to the traditional telephone network.

Since then, VSAT technology has evolved considerably. And today, VSAT is used to provide high-speed internet access to a wide range of locations, including rural areas, ships at sea, and even remote islands.

1.2. Impact of VSAT Internet on global communications

The impact of VSAT Internet on global communications is very profound. VSAT is a high-speed, bidirectional satellite data technology over long distances. It has revolutionized the way people communicate, enabling faster and more reliable connections between people and businesses worldwide.

VSAT technology has enabled businesses to extend their operations to remote locations, allowing them to access new markets and customers. It has also enabled individuals to stay in touch with their families and friends, wherever they are in the world. With VSAT, people can access the internet, send emails, and make video calls with ease.

VSAT has also enabled the development of new technologies, such as the Internet of Things...; it has also allowed businesses to expand their operations, even revolutionizing global communications, and this will be felt for a long time.

1.3. Advantages of VSAT Internet for businesses and organizations

Businesses and organizations are increasingly turning to VSAT Internet technology to meet their communication needs. This technology offers a number of advantages over traditional internet connections.

One of the main advantages of VSAT Internet is its reliability. This technology is designed to provide a reliable connection even in remote locations, making it ideal for businesses and organizations operating in areas where access to traditional internet connections is limited.

Furthermore, VSAT Internet is highly secure, providing an additional layer of protection for sensitive data.

Concretely, in Maniema province, particularly in the city of Kindu, we have several cases of internet cafes that existed in the past, but currently all have disappeared, and those that exist no longer use the VSAT connection; these include:

- Cyber-Horizon;
- Télé-Centre;
- Cyber-Anglican.

2. Hypotheses

- The cost of VSAT equipment and bandwidth would be the cause of the disappearance of internet connection via a VSAT link in internet cafes in the city of Kindu. Also, the very low customer turnout in these cafes forces businesses to be unable to pay the monthly bandwidth.
- The use of the internet by users through mobile devices (Android phones) would also be one of the major causes favoring this disappearance of the VSAT connection in the city of Kindu.
- The impossibility of downloading large files in a very short time, the impossibility of updating certain software and/or downloading would be the negative consequences linked to this disappearance of internet connection via VSAT in internet cafes in the city of Kindu; added to this is unemployment for the staff who worked there.
- The re-establishment of these businesses and/or refinancing by state services or non-governmental organizations would be the main solutions to combat this phenomenon of the disappearance of internet cafes using the VSAT connection in the city of Kindu.

3. Methodological approach

For this study, the study population consists of the entire population of Kindu. Nevertheless, given the size of the study population and the very limited financial resources, it is important that we proceed using the statistical sampling method, whereby concretely our sample consisted of 25 people; men or women who have worked with or used the VSAT internet connection, aged between 25 and 50 years, with an educational level of at least a high school diploma.

a) Descriptive method:

It allowed us to describe the city of Kindu regarding the existence of internet cafes, their creation, and their disappearance.

b) Statistical method:

This was useful to us when presenting results in the form of tables and frequencies expressed as percentages, using the formula below:

$$Fr = (Fo / N) \times 100$$

Fr: relative frequency

Fo: observed frequency

N: number of observations

4. Drafting and organization of the survey

The survey that allowed us to collect data was drafted according to a certain number of criteria:

1. Answering questions where it was necessary to consider the respondent's psychology, avoiding at least close-ended questions;
2. A pilot test, through feedback, to verify if the survey subjects would be capable of effectively answering the questions asked.
3. A guarantee of anonymity was also reserved for respondents since we did not allow them to write their names on the survey form.

5. Data analysis

The analysis in the various tables allowed us to thoroughly process the questions answered by the respondents, but also facilitated the interpretation and understanding of the data.

Table No. 1 Distribution of respondents by age

Question Response Frequency Percentage

Question	Response	Frequency	Percentage
How old are you?	35 years	2	8%
	42 years	3	12%
	38 years	2	8%
	28 years	4	16%
	23 years	2	8%
	51 years	3	12%
	31 years	5	20%
	25 years	4	16%
Total			100%

Comment:

This visualized table reveals the following elements among the surveyed population:

- Those who are 35, 38, and 23 years old number only 2 per group, or 8% each;
- Two groups have 3 subjects each, those aged 42 and 51, or 12% per group;
- 5 respondents are 31 years old, or 20%;
- Whereas those aged 25 are 4, as are those aged 28, or 16% each.

We therefore note that the majority of our respondents were 31 years old, followed by those aged 25 and 28, then those aged 42 and 51, and finally those aged 35, 38, and 23.

Table No. 2: Category of respondents by sex

Question	Response	Frequency	Percentage
What is your gender?	Male	15	60%
	Female	10	40%
	TOTAL	25	100%

Comment:

We have just observed from the data in the table that:

- 15 respondents were male, or 60%;
- Against 5 respondents of the opposite gender, therefore female, or 40%.

Table No. 3: Category of respondents by education level

Question	Response	Frequency	Percentage
What is your education level?	High school diploma	3	12%
	Bachelor's degree	10	40%
	Master's degree	12	48%
	TOTAL	25	100%

Comment: From what is observed here in the table on the respondent's education level, we note the following:

- High school graduates were only 3 out of 25 respondents, or 12%;
- 10 respondents, or 40%, hold a Bachelor's degree;
- And 12 respondents, or 48%, hold a Master's degree in various fields.

Table No. 4: Whether the respondent had worked in one of the local internet cafes

Question	Response	Frequency	Percentage
Did you work in one of the local internet cafes?	Oui	25	100%
	Non	0	0%
	TOTAL	25	100%

Comment: We have just observed here that all our respondents are former workers in the various internet cafes that existed in the city of Kindu. Therefore, 100% of our respondents have already worked in an internet cafe, and 0 respondents, or 0%, had not yet worked in one.

Table No. 5: On the existence of the internet cafe today and the use of the VSAT link

Question	Response	Frequency	Percentage
Does the internet cafe where you used to work still exist today?	If yes, do you still use the VSAT link?	6	24%
	No	19	76%
	TOTAL	25	100%

Comment: We have just observed in the table that 6 respondents, or a rate of 24% of the total of 25 respondents, state that the internet cafe exists, but the connection is no longer made via the VSAT link. And 19 respondents (76%) state that their internet cafe no longer exists, and their VSAT link is also gone.

Table No. 6: Why do you no longer use the VSAT link in your internet cafe?

Question	Response	Frequency	Percentage
Why do you no longer use the VSAT link in your internet cafe?	- High cost of equipment;	12	48%
	- Theft of equipment;;	3	12%
	- Low customer/subscriber turnout, thus causing low revenue that does not cover the subscription cost	10	40%
	TOTAL	25	100

Comment: By observing the realities in the table, we truly understand that the causes of non-use of the VSAT link in local internet cafes are multiple. Out of the 25 respondents, we note that 12, or 48%, state they no longer used VSAT due to the high cost of equipment and bandwidth fees; whereas 3 respondents, or 12%, say it is because of equipment theft and the impossibility of obtaining others; and the last 10 respondents, or 40%, say almost the same thing as the first group, except they state it is due to low customer/subscriber turnout, thus causing the impossibility for the business to pay the monthly bandwidth.

Table No. 7: What causes there to be more customer flow in your internet cafe?

Question	Response	Frequency	Percentage
Why do customers no longer flock to your internet cafe for connection?	- Everyone connects via their Android phone;	15	60%
	- Everyone has their own personal modem;	3	12%
	- The policy of selling data (Megs) by telecommunications networks.	7	28%
	TOTAL	25	100

Comment: We have just understood that the causes of the lack of customer flow in the internet cafes that still exist currently in Kindu are: Out of the 25 respondents, 15 respondents, or 60%, state that the phenomenon of Android phones justifies this hypothesis; whereas 3 respondents, or 12%, say that each of those who were subscribed customers in the cafes has already obtained an individual modem; and 7 respondents, or 28%, state that it is the phenomenon of "data (Mega) sales by mobile networks" that causes there to be no more customer flow in internet cafes.

Table No. 8: Why do organizations, NGOs, companies, state services also no longer regularly frequent the existing internet cafes?

Question	Response	Frequency	Percentage
Why do organizations, NGOs, companies, state services also no longer regularly frequent the existing internet cafes?	- Many of them no longer honored their debts regularly	8	32%
	- Some have paid for their own WiFi connection;	11	44%
	- Many services resort to the easy practice (the telephone)	6	24%
	TOTAL	25	100%

Comment: In the table above, we note that 8 respondents, or 32% of the 25 consulted, state that many companies and NGOs no longer honored their debts regularly, whereas 11 respondents, or 44% of the 25, say it is because the NGOs and companies have obtained their own connection system (either WiFi, telephone network modem, etc.), and finally, 6 respondents, or 24%, say that NGOs and companies resort to the telephone connection system.

Table No. 9: What are the negative consequences of not using the VSAT link in internet cafes in the city of Kindu?

Question	Response	Frequency	Percentage
What are the negative consequences of not using the VSAT link in internet cafes in the city of Kindu?	- Difficulty accessing the internet when there is "Restriction";	5	20%
	- Poor connection quality via mobile networks (Saturation) ;	5	20%
	- Difficulty downloading large files quickly;	5	20%
	- Difficulty sharing the connection among several machines.	4	16%
		6	24%
	TOTAL	25	100%

Comment: Reading the data in this table, we note that out of the 25 respondents, the first 5, or 20%, say that one of the negative consequences is not being able to access the internet in case of restriction; the next 5, or 20%, say that people are affected by poor connection quality via mobile networks; 4 respondents, or 16%, say they have difficulties related to downloading large files; while 6 respondents, or 24%, state they have difficulty sharing the connection among several machines at once; and the last 5, or 20%, say that the direct consequence is that real internet cafes are disappearing in Kindu.

Table No. 10: What are, in your opinion, the advantages of the VSAT link in internet cafes?

Question	Response	Frequency	Percentage
What are, in your opinion, the advantages of the VSAT link in internet cafes?	- High download speed;	10	40%
	- Speed in updating software ;	6	24%
	- Very fast bandwidth;	9	36%
	TOTAL	25	100%

Comment: It emerges from the data collected in Table No. 10 that VSAT would be advantageous for the population of Kindu according to 40%, or 10 out of 25 respondents, because of its high speed, whereas 24%, or 6 respondents, say it is because of the speed in updating software, and 9 respondents, or 36%, state it is because of its interesting bandwidth.

Conclusion

In this article, our main concern was to identify the reasons why VSAT-linked internet cafes can no longer exist in Kindu, whereas we previously had more than five: Cyber Horizon, Tél -Centre, Cyber Caf , Cyber Anglican, etc.

After a brief examination we conducted of the real facts regarding the non-use of VSAT connections by internet cafes in the city of Kindu, we arrived at the following results:

- Out of the 25 respondents, we note that the majority of our respondents were 31 years old (20%), followed by those aged 25 and 28 (16%), then those aged 42 and 51 (12%), and finally those aged 35, 38, and 23 (8%), respectively.
- Concerning the sex of respondents, we noted that 15 respondents were male (60%), whereas only 5 respondents were of the opposite gender, female (40%).
- Regarding the education level of respondents: High school graduates were only 3 out of 25 respondents (12%); 10 respondents (40%) hold a Bachelor's degree; and 12 respondents (48%) hold a Master's degree in various fields.
- Concerning whether the respondent had worked in one of the local internet cafes, we have just observed that all our respondents, or 100%, are former workers in the various internet cafes that existed in the city of Kindu. Against 0% who had not worked.

- Wanting to know whether internet cafes still exist in Kindu and with the VSAT link, we found that 6 respondents, or a rate of 24% of the total of 25 respondents, state that their internet cafe exists, but no longer with the VSAT link. And 19 respondents (76%) state that their internet cafes no longer exist, and their VSAT link is also gone.
- Out of the 25 respondents, we note that 12, or 48%, state they no longer used VSAT due to the high cost of equipment and bandwidth; whereas 3 respondents, or 12%, say it is because of equipment theft and the impossibility of obtaining others; and the last 10 respondents, or 40%, say it is due to low customer/subscriber turnout, thus causing the impossibility for the business to pay the monthly or even annual bandwidth.
- 15 respondents, or 60%, state that the phenomenon of Android phones justifies the lack of customer flow seeking connection; whereas 3 respondents, or 12%, say that each of those who were subscribed customers in the cafes has already obtained an individual modem; and 7 respondents, or 28%, state that it is the phenomenon of "data (Mega) sales by mobile networks" that causes there to be no more customer flow in internet cafes seeking connection.
- Seeking to understand why NGOs or companies no longer flock to internet cafes seeking connection, we note that 8 respondents, or 32% of the 25 consulted, state that many companies and NGOs no longer honored their debts regularly, whereas 11 respondents, or 44% of the 25, say it is because the NGOs and companies have obtained their own connection system (either WiFi, telephone network modem, etc.), and finally, 6 respondents, or 24%, say that NGOs and companies resort to the telephone connection system.
- Analyzing the 25 respondents, the first 5, or 20%, say that one of the negative consequences is not being able to access the internet in case of restriction; another 5, or 20%, say that people suffer from poor connection quality via mobile networks; 4 respondents, or 16%, say they have difficulties related to downloading large files; while 6 respondents, or 24%, state they have difficulty sharing the connection among several machines at once; and the last 5, or 20%, say that the direct consequence is that real internet cafes are disappearing in the city of Kindu.
- 40%, or 10 out of 25 respondents, state that internet cafes using the VSAT link would be important because of their high speed, whereas 24%, or 6 respondents, say it is because of the speed in updating software, and 9 respondents, or 36%, state it is because of its powerful and interesting bandwidth compared to telephone links.

REFERENCES

Books and Articles

- [1]. Claude Servin (2013), Réseaux et Télécoms, 4th edition, Dunod, Paris
- [2]. Erich Maroga Azachry (2006), étude et mise en place de la téléphonie sur IP via VSAT.
- [3]. Fleury Sebastien et al. (2000), Les satellites et la technologie VSAT, Université de Marne-la-Vallée.
- [4]. Kalianda Musenge Kiss (2010), l'Arnaque sur Internet: cas de la ville de Kindu au Maniema, Cahier de l'ISP-Kindu, n°15.
- [5]. Otchudi Faustin (2021) Arc en Ciel, Connaissance en TIC chez les élèves de 8e Année éducation de base au regard des objectifs du programme national en Vigueur: Approche par les situations: cas de quelques écoles de la sous-division urbaine de l'EPST/Kasuku, Les cahiers de l'ISP-Kindu.
- [6]. P. Erny, Les réseaux des entreprises, 1998.
- [7]. Pujolle G., Les Réseaux, 2014 edition, Eyrolles, 2014.
- [8]. Tanenbaum A., les Réseaux, 5th edition, Pearson, 2011.