

Connecting Sri Lankan Schools to Global System through Best Connectivity Solution.

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Keywords

Connectivity Solution, Fiber Optic, Internet Infrastructure, Mobile Internet, Satellite Internet, School Internet, Sri Lankan School.

Abstract:

This research report aims to identify the best connectivity model for schools in Sri Lanka. With the rapid advancement of technology and the increasing importance of digital learning, reliable and efficient connectivity is crucial for educational institutions. This report examines various connectivity options, including wired and wireless solutions, and evaluates their suitability for Sri Lankan schools based on factors such as affordability, accessibility, scalability, and sustainability. The findings of this research will provide valuable insights to policymakers, educational institutions, and other stakeholders involved in enhancing connectivity infrastructure for schools in Sri Lanka. Sri Lanka has undergone a significant transformation in its education system over the years, and technology has played a vital role in shaping the educational landscape. However, the access to technology and connectivity in Sri Lankan schools is still a challenge. The aim of this research paper is to identify and evaluate the best connectivity solution for Sri Lankan schools that can provide reliable and affordable internet connectivity. The study will utilize a mixed-methods approach, including surveys, interviews, and case studies, to collect data from various stakeholders, including teachers, students, parents, and educational policymakers. The study will focus on four main areas: the current state of connectivity in Sri Lankan schools, the potential solutions for connectivity, the evaluation of the identified solutions, and the recommendations for implementing the best connectivity solution.

1.Introduction.

Access to the internet has become a basic need in today's world. The internet has opened up possibilities for easier communication, access to information and resources, as well as creating new opportunities for learning. Sri Lanka is a developing country in South Asia and improving access to the internet is a priority for the government. The purpose of this research report is to explore the benefits of connecting Sri Lankan schools to the internet and the challenges that may arise in the process. Sri Lanka has a literacy rate of 96.7%, which is one of the highest in South Asia. The government has made significant investments in the education sector, including the provision of free education up to the tertiary level. However, the digital divide remains a challenge,

with many schools lacking access to technology and connectivity. According to the Department of Census and Statistics, only 24.5% of households in Sri Lanka have access to the internet. This lack of connectivity has a significant impact on the quality of education provided in schools, particularly in rural areas. Sri Lanka has made significant progress in the education sector over the past few years. However, there is still a significant digital divide between urban and rural areas in terms of access to technology and connectivity. The COVID-19 pandemic has highlighted the importance of technology and connectivity in education, and there is a need to address the connectivity challenges faced by Sri Lankan schools.

2. Benefits of Connecting Schools to the Internet

Access to educational resources: Teachers and students will be able to access online resources and e-learning materials that can supplement their classroom learning. This will enhance the quality of education and give students access to the latest learning technologies.

Improved communication: The internet provides a platform for faster and easier communication between teachers, students, and parents. This will enable teachers and parents to stay informed about the students' progress and communicate any concerns or suggestions.

Global connectivity: Connecting schools to the internet will provide opportunities for students to connect with other students and educators around the world. This will facilitate cross-cultural learning experiences and broaden their understanding of the world.

Access to job opportunities: Students who have access to the internet can learn new skills and take online courses that will increase their employability. The internet provides access to job postings and opportunities for remote work.

The internet has become an essential tool in modern education, and it is essential for Sri Lankan schools to have reliable and affordable internet connectivity. However, the current state of connectivity in Sri Lankan schools is not satisfactory. The lack of connectivity can have a significant impact on the quality of education and student performance. Therefore, it is essential to identify and evaluate the best connectivity solution for Sri Lankan schools.

3. Current State of Connectivity in Sri Lankan Schools

The current state of connectivity in Sri Lankan schools is inadequate. According to the Ministry of Education (2020), only 25% of schools in Sri Lanka have access to the internet. The main factors that hinder access to internet connectivity in Sri Lankan schools include the high cost of internet services, poor infrastructure, and lack of government initiatives to promote internet connectivity in schools.

4. Potential Solutions for Connectivity

Several potential solutions can address the connectivity challenges in Sri Lankan schools. These solutions include satellite internet, fiber optic internet, and wireless internet. Each of these solutions has its advantages and disadvantages.

4.1. Fiber Optic Internet:

Fiber optic internet is a high-speed internet connection that uses fiber optic cables to transmit data. This technology is ideal for schools that require high-speed internet access for online learning and research. The Sri Lankan government has already invested in fiber optic infrastructure, and this technology is available in many urban areas. However, the cost of installation and maintenance may be a challenge for schools in rural areas.

4.2. Satellite Internet

Satellite internet is a viable option for providing internet connectivity to Sri Lankan schools. It is a wireless solution that uses satellites to provide internet access. Satellite internet is ideal for schools located in rural areas with no fiber optic internet infrastructure. However, the cost of satellite internet is relatively high, and the internet speed is not as fast as fiber optic internet. Quality of the connection may be affected by weather conditions.

4.3. Mobile Internet

Mobile internet is a wireless internet connection that can be accessed through mobile devices such as smartphones and tablets. Wireless internet is a cost-effective solution for providing internet connectivity to Sri Lankan schools. This technology is ideal for schools that do not have access to fixed-line internet infrastructure. It uses wireless technology to provide internet access, and it is ideal for schools located in urban areas. However, the internet speed is relatively slow, and it is susceptible to interference from other wireless devices. Mobile internet is widely available in Sri Lanka, and many mobile network operators offer affordable data plans. However, the quality of mobile internet can be affected by factors such as network coverage and signal strength.

4.4. Wi-Fi Hotspots:

Wi-Fi hotspots are wireless internet access points that can be used to connect to the internet using Wi-Fi-enabled devices such as laptops and smartphones. This technology is ideal for schools that require internet access in specific areas, such as classrooms and libraries. Wi-Fi hotspots can be set up using existing internet infrastructure, and the cost of installation and maintenance is relatively low.

5. Evaluation of the Identified Solutions

To evaluate the identified solutions, we will use a weighted decision matrix. The matrix will evaluate the solutions based on several criteria, including cost, reliability, internet speed, and infrastructure requirements.

Solution	Cost	Reliability	Internet Speed	Infrastructure Requirements
1. Fiber Optic Internet	High	High	High	High

2. Wireless Internet	Low	Medium	Low	Low
3. Satellite Internet	High	Low to Medium	Medium	Low
4. Wifi Hotspots	Low	Medium	High	Low

Based on the above analysis, the best connectivity solution for Sri Lankan schools is a combination of fiber optic internet and Wi-Fi hotspots. Fiber optic internet provides high-speed internet access, which is essential for online learning and research. Wi-Fi hotspots can be set up in classrooms and libraries, providing students and teachers with easy access to the internet. Mobile internet and satellite internet can be used as backup options in areas where fixed-line internet infrastructure is not available.

6. Recommendations for Implementing the Best Connectivity Solution

To implement fiber optic internet in Sri Lankan schools, the government needs to develop a comprehensive plan. The plan should include the following recommendations:

- Develop a national broadband policy that promotes internet connectivity in schools.
- Provide incentives for internet service providers to invest in fiber optic infrastructure.
- Develop a funding mechanism to support the installation of fiber optic cables in schools.
- Provide training and technical support to teachers and students on how to use the internet effectively.

7. Challenges and Solutions

7.1 Infrastructure: Access to the internet is limited in some remote areas in Sri Lanka. The government can address this issue by providing funds for infrastructure development and working with private sector entities to expand internet coverage in these areas.

7.2 Cost: Providing internet connectivity can be expensive, especially for low-income schools. The government can subsidize the cost of internet connectivity for government-run schools and provide tax incentives for the private sector to support internet connectivity in private schools.

7.3 Security concerns: The internet can pose security concerns for students when accessing certain websites or social media platforms. The government can address this issue by implementing measures to control access to inappropriate content and provide guidelines and training for safe internet use to students, teachers, and parents.

7.4 Technological limitations: Some schools lack the technical infrastructure to support internet connectivity. The government can address this issue by providing technical support and training for teachers to effectively use technological resources.

Conclusion

Connecting Sri Lankan schools to the internet will have numerous positive impacts on the quality of education, communication, and access to information for students, teachers, and parents. The challenges of internet connectivity can be addressed through a combination of government subsidies, technical support, and security measures. The benefits of internet connectivity far outweigh the challenges and it is essential that the government take action to provide Sri Lankan students with the opportunity to develop their skills and access the latest education technologies. Connectivity is essential for providing quality education in Sri Lankan schools. The government and other stakeholders should invest in connectivity solutions that are affordable, reliable, and sustainable. A combination of fiber optic internet and Wi-Fi hotspots is the best connectivity solution for Sri Lankan schools, providing students and teachers with high-speed internet access and easy connectivity in classrooms and libraries. By addressing the connectivity challenges faced by Sri Lankan schools, we can ensure that all students have access to quality education, regardless of their location.

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