

MARKETING STRATEGY OF HIGH THROUGHPUT SATELLITE UTILIZATION FOR INDONESIAN MULTIFUNCTIONAL SERVICES IN 3T AREA

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Abstract

Indonesia, as the biggest archipelagic country in the world, has a problem with the distribution of its network infrastructure to provide broadband access across the regions. It is very important to provide broadband access because Indonesia has entered the digital era which needs to access the data, Indonesia's capacity needs to access the data are growing rapidly. A submarine cable can provided to connect the connections between cities and provinces, especially in the 3T area (frontier, outermost, and least developed region), but there's still a lot of area in Indonesia that can't covered with fiber optic cable because of many factors, the company can complete the uncovered area with satellite, named High Throughput Satellite (HTS) that will be completed in 2023. Based on condition above, the company must immediately develop an business strategy after the HTS activity, considering the business competition in Telecommunication industry. This study will be develop an marketing strategy for PT Angkasa Satu. The analysis used in preparing the alternative strategy in based on observations of internal and external factors of the company. The strategy analysis is carried out using the quantitative strategic planning matrix (QSPM) method, TOWS analysis and the IE Matrix. The EFE and IFE Matrix are used to analyse the company's strength, weaknesses, opportunities and threats. Then TOWS analysis will define the several alternative strategy based on EFE and IFE. All the alternative will be calculated using the IE Matrix and QSPM. The result of this thesis is the strategy of focusing on the HTS external market utilization (marketing strategy) and the relevant strategy applied by the company to face the competition in the future.

Keywords: Strategy, High Throughput Satellite (HTS), Telecommunication, QSPM, IE Matrix.

Introduction

Indonesia is the country with total 5,193,250 square kilometres and have a land area of 1,916,906,77 square kilometres then 3,276,3444 square kilometres are the sea, became the 14th largest country in the world, consist of 34 provinces, with 16,766 number of islands, Indonesia Population is 272,68 million (BPS Indonesia, 2022) – with this situation almost all the region in Indonesia separated from each other, as a big archipelagic country. Indonesia's infrastructure development requires more effort besides being an archipelagic country, Indonesia is a country with a ring of fire, where there are still a lot of active volcanoes both on land and at sea, so there is a need for an in-depth study of all existing aspects when you want to develop an infrastructure, especially in 3T area (frontier, outermost, and least development region).

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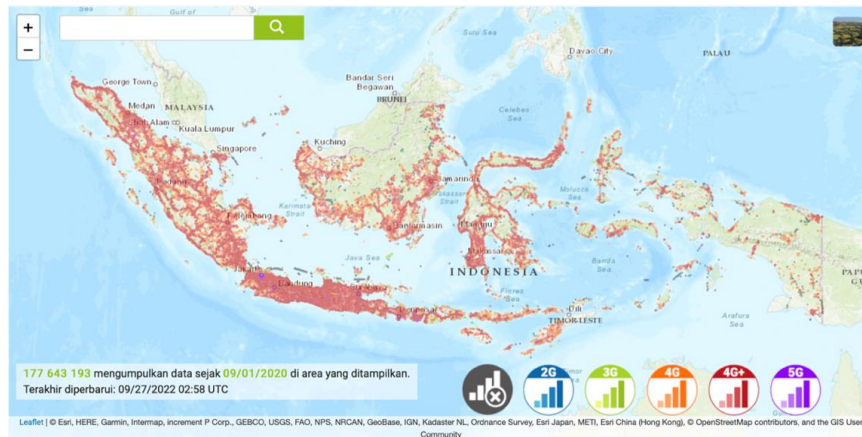


Figure I. 1 The Distribution terrestrial network infrastructure in Indonesia.
(Source: nperf jaringan data seluler dalam Indonesia)

Figure I.1 shows that the distribution of network infrastructure, terrestrial networks in Indonesia, as we can see the centre of network infrastructure development still in Java Island is almost full coverage, still does not spread equally with another region/Island in Indonesia. These things cause issues that are complicated communication access in the regions that become blind spot areas that are not covered with signal.

The Internet has become the fundamental human life needs, including Indonesian society. The percentage of internet penetration in Indonesia is at the level of 77,02% and the total society that connected to internet in Indonesia as per data 2021 – 2022 is 210,026,769 inhabitants from the total population as mentioned above is about 272,682,600 inhabitants (APJII, 2022).



Figure I. 2 Submarine backbone fibre optic in Indonesia.
(Source : Submarine cable map)

The figure I.2 shows us about the submarine backbone fibre optic in Indonesia, there's many operators in Indonesia and overseas that have been landing their submarine cable in Indonesia. But mostly they are landing their cable in a potential area, which has an office complex, school, and the fast-growing region in Indonesia in internet penetration. Some of the 3T area is still not covered, the government has the

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project that try to cover the 3T area named Palapa Ring, has a main job to cover its blank spot. Palapa Ring is a fibre optic backbone network that the government built to increase the broadband service penetration in the 3T area with relatively low business potential, but this project became the mainstay of the Indonesian Government to accelerate the communication needs for the regions that are not covered with telecommunication infrastructure (Antoni & Asvial, 2019). Palapa Ring is a ring-shaped fibre optic cable network that surrounds every district area with a total length of sea cables reaching about 35,280 kilometres and inland cable 21,807. The figure I.3 below we can see the area that the Palapa ring covers.

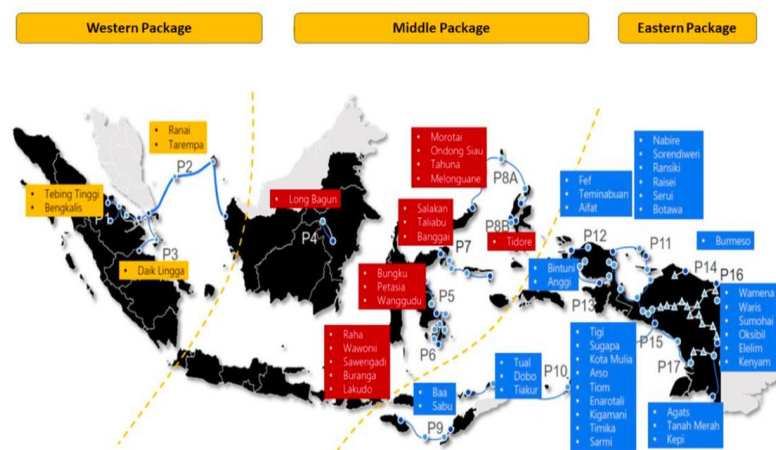


Figure I. 3 Palapa Ring cable map.

(Source: BAKTI Kominfo)

Palapa Ring has been commercialised since 2018 until now, the commercialization has been provided by BUP (Badan Usaha Pelaksana). Palapa Ring networks need to be connected to an internet service provider (ISP) and if the ISP does not have a backbone to connecting the cable between Jakarta to Palapa Ring interconnection, ISP need to look for another provider that can help them to provide connectivity from Jakarta to Palapa Ring interconnection. This will take a lot of time to provide broadband service if Indonesia only depends on terrestrial network infrastructure.

Because of that, Indonesia needs an infrastructure that will provide internet connectivity to all around Indonesia, especially the area that is hard to provide by fibre optic network even palapa ring that is aimed at 3T area to be collaborate with fiber optic. This problem can be helped by using satellites, in figure I.4 we can see the satellite that has been operated in Indonesia and satellite that still operate in Indonesia until now, in Indonesia itself, there's a satellite that has been operated can summarized and be seen as table I.1 below.

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| No. | Satellite | Launched | Active Period | Producer/Type | Platform | Owner | Orbit | Capacity |
|-----|---------------------------|---------------|-----------------|--------------------------|---------------------------|------------------------------|--------------|--|
| 1 | Palapa-A1. | 8 Juli 1976 | Juni 1985 | Hughes. | Delta 2914 | Perumtel. | 83°E (BT). | - 12 Txd Telepon - 1 C- band TV - 5 Txd Backup |
| 2 | Palapa-A2. | 11-Mar-77 | Jan-88 | Delta 2914 | Hughes | Perumtel | 77°E (BT) | - 12 C-band - Backup Palapa A1 |
| 3 | Palapa-B1 | 18 Juni 1983 | 1990 | Huges HS-376 | STS-7 | Perumtel | 108°E (BT) | - 24 C-band |
| 4 | Palapa-B2 | 26-Feb-84 | Failed on orbit | Huges | STS-11 | Perumtel | - | - 24 C-band |
| 5 | Palapa-B2 | 21-Mar-87 | Feb-96 | Huges | Delta | PT Telkom, Satelindo | 113°E (BT) | - 24 C-band |
| 6 | Palapa-B2R | 14 April 1990 | 2000 | Huges | Delta | PT Telkom, Satelindo | 108°E (BT) | - 24 C-band |
| 7 | Palapa-B4 | 14 Mei 1992 | 2005 | Huges | Delta II | PT Telkom | 118°E (BT) | - 24 C-band |
| 8 | Palapa-C1 | 31-Jan-96 | 1999 | Huges HS-601 | Atlas 2AS | Satelindo | 113°E (BT) | - 30 C-band - 4 Ku-band |
| 9 | Palapa-C2 | 15 Mei 1996 | Nov 2016 | Huges HS-601 | Ariane-44L H10-3 | Satelindo, Indosat | 113°E (BT) | - 30 C-band - 4 Ku-band |
| 10 | Indostar-1 (Cakrawarta-1) | 12 Nov 1997 | May-09 | STAR-1 | Ariane 44L H10-3 | PT Media Citra Indostar | 107,7°E (BT) | - 3 S-band - 2 S-band inactive |
| 11 | Telkom-1 | 12-Aug-99 | 25-Aug-17 | LM-A2100A | Ariane 42P H10-3 | PT Telkom | 108°E (BT) | - 36 C-band |
| 12 | Garuda-1 | 12 Feb 2000 | 2015 | A2100AXX | Proton-K/DM3 | PT Telkom | 123°E (BT) | - 88 L-Band |
| 13 | Telkom-2 | 16 Nov 2005 | 4 Jun 2021 | GEOSTAR-2 | Ariane SECA (V167) | PT. Telkom | 108°E (BT) | - 24 C-band |
| 14 | Indostar-2 (Cakrawarta-2) | 16 Mei 2009 | 2024 | BSS | Proton M | Protostar, MNC | 107,7°E (BT) | - 10 S-band - 22 Ku-band |
| 15 | Palapa-D | 31-Aug-09 | 2024 | Spacebus-4000B3 | Long March 3B | Indosat Ooredoo | 113°E (BT) | - 35 C-band - 11 Ext C-band - 5 Ku-band |
| 16 | Telkom-3 | 6 Aug 2012 | Failed on orbit | Ekspress-1000H | Proton-M / Briz-M | PT Telkom | 118°E (BT) | - 32 C-band - 16 Ku-band |
| 17 | JCSAT-4B (Lippostar-1) | 15 Juni 2012 | 2028 | A2100 | Ariane 5 ECA VA206 | Uppo Satellite | 124°E (BT) | - 32 C-band - 12 Ku-band |
| 18 | BRIsat | 19 Juni 2016 | 2031 | Space System Loral (SSL) | Ariane | PT Bank Rakyat Indonesia Tbk | 150,5°E (BT) | - 24 C-band - 12 Ext C-band - 9 Ku-band |
| 19 | Telkom-3S | 15 Feb 2017 | 2033 | Spacebus-4000B2 | Ariane SECA (VA235) | PT Telkom | 118°E (BT) | - 24 C-band - 8 Ext C-band - 10 Ku-band |
| 20 | Telkom-4 (Merah Putih) | 07-Aug-18 | 2034 | SSL LS-1300 | Falcon 9, SpaceX | PT Telkom | 108°E (BT) | - 24 C-band - 24 C-band - 12 Ext C-band |
| 21 | Nusantara-1 | 22 Feb 2019 | 2035 | SSL 1300 | Falcon 9 Block 5, B1048.3 | PSN | 148°E (BT) | -26 C-band - 12 Ext C-band - 8 Ku-band |

Figure I. 4 Indonesian satellite list.

(Source: Internet)

Table I. 1 Existing Indonesian Satellite list.

| Name | Notes |
|-----------------|--|
| LAPAN TUBSAT | - satellite made by LAPAN Indonesia |
| LAPAN A2 | NGSO satellite made by LAPAN Indonesia |
| LAPAN A3 | NGSO satellite made by LAPAN Indonesia |
| INDOSTAR 2 | Indostar 1's changer |
| TELKOM-4 | Fixed Satellite Services (FSS) |
| PALAPA D | Almost closest to the orbit period, has an issue during launched causes decreasing of its lifetime |
| TELKOM 3S | Fixed Satellite Services (FSS) |

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| Name | Notes |
|----------------|--|
| NUSANTARA SATU | Fixed Satellite Services (FSS) |
| BRISAT | Fixed Satellite Services (FSS), Special Comm |
| TELKOM 2 | Almost de-orbit period |

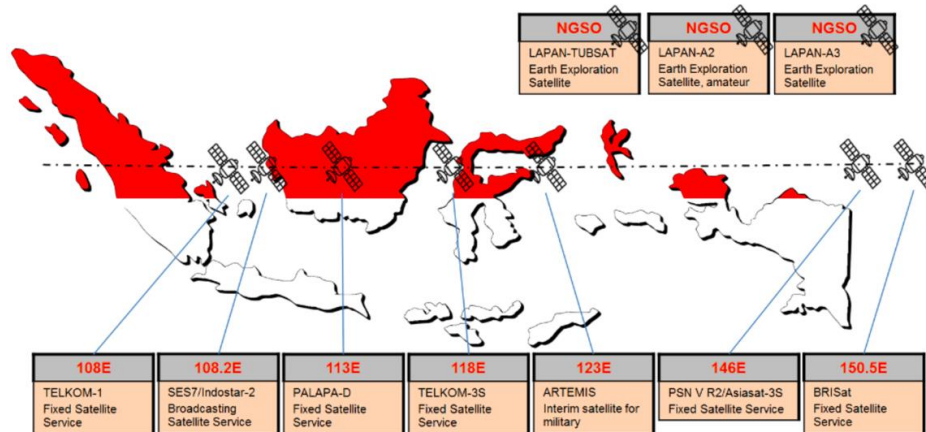


Figure I. 5 Existing Orbital slot in Indonesia.

(Source: Internet)

The satellite will help fiber optic in accelerating internet coverage throughout Indonesia. Deploying the High Throughput Satellite (HTS) as the new technology for the Indonesian multifunctional services is a new way to boost the connectivity in Indonesia and cover the area that can't be connected with the fiber optic.

The satellite should provide communication networks for data access in remote areas of Indonesia. For multifunctional services, High Throughput Satellite (HTS) can meet Indonesia's requirements for sufficient capacity and large service coverage area (Hassanudin, 2022) (Panggau & Asvial, 2018). High Throughput Satellite (HTS) is the most recent innovation in satellite communication systems that can offer greater capacity than conventional satellite systems. HTS technology divides the coverage area into several beam areas with more efficient use of frequencies, resulting in a significantly greater bandwidth capacity than conventional satellites with the same spectrum allotment. In related research, the technological implementation of HTS in Indonesia has been investigated by qualitative explore the significant of HTS in facilitating the acceleration of broadband internet access into rural/3T areas in Indonesia (Ramdani, Hidayat, Fajar Alam, Sfenrianto, & Kaburuan, 2019), (Widjanarko & Gunawan, 2017). But it's does not cover the strategy business or the marketing strategy that can use for commercialize the HTS in Indonesia, the relevant strategy that can be applied by the company to face the competition in the current situation or future. Satellite business is still uncommon in comparison to fiber optic. The HTS will be

commercialized directly to the company that will be provide satellite communication in their business, this could be ISP (Internet Service Provider), government, banking industry, etc.

This Thesis conducted the strategy analysis related to the HTS implementation for Indonesian services (Muhtifah, Hudi Prasajo, Sappe, & Elmansyah, 2021). This result of analysis can be implemented in the division of the business and marketing, especially division of business to fulfil their needs, because this in result this analysis will be provide the show the potential market utilization, and the advice for company to face the competition in the business of satellite so in the future company can identifying opportunities for growth and expansion in the HTS this can help a lot to the company to prepare planning, implementation, monitoring and evaluation of business process that will be using in HTS implementation, including the business strategy, and find out the new opportunity for the long term business.

The literature review serves multiple functions. It provides the reader with the findings of studies closely related to the one being conducted. Relates a study to the larger, ongoing conversation in the literature, filling in gaps and expanding on previous research (Cooper, 2015) (Marshall & Rossman, 2014). The literature review will give a framework for establishing the significance of the study and a standard for comparing the results with those of other researchers. All or more of these motives may serve as the basis for transforming scholarly material into a study (Boote & Beile, 2005). Studies must contribute to the existing body of literature on a topic, and literature portions in proposals are typically organized from the bigger problem to the narrower issue that leads straight into the methods section (Barker, Pistrang, & Elliott, 2015).

A strategy is an activity that is conducted differently or better than competitors to deliver added value to customers/users so that a business can reach its long-term objectives (Kumar & Kumar, 2004). Strategy is also a tool for achieving long-term objectives, follow-up, and there are those who define strategy as how an organization will achieve its objectives, considering the opportunities and threats presented by the external environment and the organization's internal resources and resources (Johnson, 1992). There are three crucial aspects in the strategy: the external and internal environments of the organization, and the desired outcomes. Two views can be used to characterize the concept of strategy: the "intends to do" perspective and the "finally does" one (Stoner, 1995).

A thorough understanding of the concept of strategy and associated concepts will determine success, not the formation of a strategy during execution. The next points are as follows: (Freddy, 2016).

Method

Research Methodology is a methodical approach to solving research issues. The objective of research techniques to explain, predict, and describe events is to plan work (Goundar, 2012). This research employs data gathering methods that link pertinent data gathered from internal corporate data, data from the internal company data and

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secondary data to be correlated. Data collection technique is a study procedure in which the author applies scientific methodologies to the systematic collection of data for analysis. In addition, the collection methodology is a strategy or procedure utilized by the author to collect data relevant to the study problems he pursues.

The research analysis is predicated on the notion that the data to be processed is a ratio, and the primary purpose of the data is to ascertain the magnitude of the relationship between the variables under study. To reinforce the analysis, the authors combine it with a qualitative research method that confirms the validity of the previous analysis and demonstrates that the results of this study have good validity. This study employs an in-depth interview method as its qualitative methodology. This study will employ an interview method at the customer analysis stage and during the evaluation of the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices. Through this interview, the writers investigate the data, information, and information structure of the research topic. One strategy that can be utilized to obtain research data is the interview. A conversation between the interviewer and the source of information or the person being interviewed through direct communication is an interview. The interview method is also a technique for gathering information for research purposes using face-to-face questions and responses between the interviewer and respondent, with or without interview parameters. Typically, these interviews are conducted alone or in groups to acquire useful information. In the consumer analysis phase, the interviewer focuses on consumers who have utilized the company's services to objectively comprehend and evaluate them. While evaluating the IFE Matrix, IFE Matrix, and QSPM Matrix, the author consults with the company's internal management to provide a focused perspective.

Results and Discussion

Interview Result Prospect Customers and Existing Customer

Above is interview that focusing on existing customer analysis, here will be explain about the result interview conducted the prospect customer refer to customer segmentation, there is prospect customer from government, hospital, military, and school. Each segment will presenting 3 source persons. The question that asking is refer to the question list that has been state in Chapter 3. The interview results will be presented sequentially, beginning with the organization's purchasing process and moving on to the purchasing centre and the elements that influence the purchasing process. Three participants' responses to each segment of every question will be compared in order to observe the essence and determine which factor was frequently mentioned, as well as to gain new insights that will be useful for this study. The conclusion for each segment will be derived by comparing and combining the responses of three participants within each segment.

Recognition of the problem and needs

Customers typically evaluate a variety of determinants prior to selecting a service provider. In this section, customers are questioned about the manner in which

organizations detect their requirements or problems. Each segment has a unique method for identifying its needs or problems based on the business process that will be analysed individually.

Government

Based on interviews, the problem faced by the government sector in rural areas is the many limitations that can be enjoyed by rural area communities, for example, electricity, internet and other infrastructure, and to be able to develop areas in rural areas, the local government certainly requires adequate access, such as electricity and internet connection to be able to connected with the central government, so that all processes and information will become easier. *“masih banyak juga daerah yang ga terjangkau internet, jangankan internet, listrik juga belum sebetulnya, dan banyak daerah-daerah rural itu kebanyakan sulit dijangkau oleh fiber optic karena banyak sebab”*. (Project Manager – Telco Expert, online communication, 2023, 20 Feb)

Hospital

The need for high-speed and dependable connectivity is one of the major challenges hospitals encounter with their Internet connections. This is important for hospitals, as they heavily depend on electronic medical records (EMR) and other digital systems to manage patient information, communicate with other healthcare providers, and perform other essential tasks such as online consultations and telemedicine.

In addition to high-speed and dependable connectivity, hospitals need a secure internet connection to defend patient data from cyber threats. This includes having robust cybersecurity measures, such as firewalls, anti-virus software, and data encryption, to prevent data breaches and cyber-attacks. Institutions may need specialist applications and software to operate, such as electronic prescribing systems, remote monitoring tools, and virtual consultation platforms. Effective operation of these technologies requires a robust and dependable internet link.

Overall, hospitals require a mix of high-speed and dependable internet access, robust cybersecurity measures, and specialized applications and software to effectively manage patient care and conduct business operations. *“kita butuh akses internet berkecepatan tinggi dan dapat diandalkan, keamanan siber yang baik, serta aplikasi dan perangkat lunak khusus untuk mengelola perawatan pasien secara efektif”* (IT Manager, online communication, 2023, 20 Feb)

Military

Due to the sensitive and classified nature of their operations, the military has internet connectivity requirements that vary from those of other groups. The need for secure and dependable communication channels to send classified information and conduct operations is one of the military's primary concerns regarding Internet connectivity.

In order to access various digital resources and tools, such as online training materials, intelligence reports, and real-time situational awareness tools, military employees require high-speed and reliable connectivity. The military personnel require these resources in order to remain informed and make crucial choices. The need for

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uninterrupted access in remote or harsh environments is another issue the military encounters with Internet connectivity. There are numerous places where military operations can occur, including those with limited infrastructure or severe weather. In these situations, the military requires connectivity that can endure the aforementioned obstacles. In addition, the military must defend its networks from cyber threats that could compromise classified data or disrupt operations. To protect military networks and devices, cybersecurity means such as firewalls, intrusion detection systems, and encryption are required.

“kebutuhan sih dari militer membutuhkan konektivitas yang aman dan andal, akses ke sumber daya dan perangkat perangkat akses tanpa gangguan bahkan di rural area yang memang sampai saat ini masih sulit dijangkau koneksi selain itu penting juga untuk keamanan siber yang kokoh” (Head of Information Technology, online communication, 2023, 24 Feb)

School

The digital divide, in which some students do not have access to high-speed internet or digital devices, is one of the main issues schools confront with internet connectivity. This digital divide can lead to disparities in academic performance and restrict students' access to online tools and participation in virtual classes.

In order to support online learning, virtual classrooms, and remote collaboration, schools must also have dependable, high-speed Internet connectivity. Effective use of online resources, including digital textbooks, online research databases, and instructional videos, requires high-speed Internet connectivity. For distant learning and remote collaboration, virtual classrooms, webinars, and video conferencing tools are also necessary. Schools require robust Internet connectivity for administrative duties such as managing student records, communicating with parents and employees, and administering online assessments. These responsibilities necessitate a dependable and secure internet connection to safeguard student information and facilitate communication between school personnel and parents.

“untuk memberikan pendidikan yang berkualitas buat murid-murid, sekolah tentunya memerlukan konektivitas internet yang andal dan berkecepatan tinggi, akses ke sumber daya dan alat online seperti computer, laptop, bantuan administratif lain” (IT Staff, online communication, 2023, 23 Feb)

Providers

The limited infrastructure and geographical obstacles are one of the primary obstacles that Indonesian telecommunications companies encounter in providing internet connectivity. Indonesia is an archipelago nation with a vast territory, making it difficult to provide all regions with dependable and high-speed internet access. In addition, the current infrastructure, such as fiber-optic cables, is limited, further limiting the availability of high-speed Internet connectivity. The high expense of internet connectivity is an additional problem for Telco providers. In order to provide high-speed internet, Telco providers must make substantial investments in advanced

technology and equipment. However, the low purchasing power of some Indonesians reduces their desire to pay for high-speed internet, resulting in a lower rate of return.

In addition, Telco providers face regulatory obstacles, such as acquiring licenses and permits, adhering to regulations, and navigating bureaucracy. These regulatory obstacles can delay the adoption of new infrastructure and technology, resulting in increased costs and delays.

“penyelenggara telekomunikasi di Indonesia sekarang ini banyak di hadapkan kepada masalah-masalah yang melibatkan teknologi dan infrastruktur yang mutakhir untuk memberikan konektivitas yang andal dan berkecepatan tinggi untuk Indonesia, harus adanya strategi bisnis alternatif untuk menyediakan akses kepada konsumen yang berpenghasilan rendah dengan internet yang terjangkau, sebetulnya perusahaan telekomunikasi dapat juga berkolaborasi dengan pemerintah untuk merampingkan proses regulasi, mengurangi birokrasi, dan menumbuhkan lingkungan yang ramah investasi. Selain itu, penyedia Telco harus memberikan layanan pelanggan yang unggul dan produk inovatif untuk memenuhi kebutuhan konsumen yang terus berkembang. Kebutuhan saat ini banyak lebih seperti yang sudah dijelaskan membutuhkan banyak dukungan pemerintah juga salah satunya” (Executive Management Assistant to BoD-1/Satellite Services and Resources Management/Satellite Spectrum Planning and Management Officer, online communication, 2023, 20 Feb)

Internet Service Provider (ISP)

Internet service providers (ISPs) in Indonesia contend with the issue of inadequate infrastructure, especially in remote and rural regions. It can be prohibitively expensive to construct and keep infrastructure in these areas, making it difficult for ISPs to expand their coverage and provide dependable internet service to all regions of the country. ISPs must also deal with network congestion, data security, and rivalry from other providers. ISPs in Indonesia must have access to dependable, high-speed internet connections, as well as the facilities and technology required to operate efficiently. In addition, they must be able to keep up with the latest industry trends and innovations, as well as rapidly adapt to shifting consumer preferences and behavior. In order to keep their existing user base and attract new customers, ISPs must also maintain strong relationships with their customers by providing competitive pricing and superior customer service. In addition, they must adhere to applicable rules and laws, especially in areas such as data privacy and security.

“ISP di Indonesia banyaknya menghadapi tantangan seperti keterbatasan infrastruktur di daerah terpencil, kemacetan jaringan, keamanan data, dan persaingan. Untuk menjalankan bisnis secara efektif, biasanya membutuhkan koneksi internet yang andal dan berkecepatan tinggi, akses ke infrastruktur dan teknologi, kemampuan beradaptasi terhadap perubahan industri, harus jago narik dan maintain pelanggan juga, dari segi harga sih cukup kompetitif ya kami antar ISP saat ditawarkan ke pelanggan” (Director, online communication, 2023, 24 Feb)

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Recognition of the services

The result from the interview will be present in table below

Table IV. 1 Recognition of the services.

| Position | Institution | Do you know about High throughput Satellite | Do you know or familiar with High throughput satellite, the new service at PT AS |
|--|--|---|--|
| Consultant Team Leader - Commercial and Marketing Expert/Telecommunication Expert | Indonesian Government | Yes | Yes |
| Project Manager Commercial Unit | Indonesian Government | Yes | Yes |
| Project Management, Telecommunication Expert | Indonesian Government | Yes | Yes |
| Group Head Wholesale and Reseller, Expert in Telecommunication | Telecommunication Company Industry/Big Provider in Indonesia | Yes | No |
| Executive Management Assistant to BoD-1/Satellite Services and Resources Management/Satellite Spectrum Planning and Management Officer | Telecommunication Company Industry/Big Provider in Indonesia | Yes | Yes |
| Direct sales Head, Expert in selling Telecommunication services | Telecommunication Company Industry/Provider | Yes | No |
| Satellite Regulatory & Spectrum Management - Assistant Manager | Banking sector | Yes | Yes |
| Information Technology Staff | Indonesian Military | No | No |
| Head of Information Technology | Indonesian Military | Yes | Yes |
| Engineer Officer | Indonesian Military | Yes | No |
| IT manager | Hospital | No | No |
| Director | ISP in rural area | Yes | Yes |

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| Position | Institution | Do you know about High throughput Satellite | Do you know or familiar with High throughput satellite, the new service at PT AS |
|------------------------------|--|---|--|
| Head of Operation Management | ISP in Jakarta, had an customers in rural area | Yes | Yes |
| Director | ISP HO in Jakarta, Services in rural area | Yes | Yes |
| IT Staff | School | No | No |

From the table, from 15 interviewer, people who actually work in the telecommunications sector know a lot about HTS and PT AS the first HTS service provider in Indonesia, but there are also some who know about HTS without knowing that PT AS will provide these services, but there are 3 interviewers who really don't know what it's High Throughput Satellite.

a. Expectation and determination of specification of services needed

From this part will be focusing on the prospect customer that already know about HTS and knowing PT AS who will provide the services of HTS in Indonesia. for those who do not know what HTS is and PT AS a HTS service provider, a more detailed explanation will be given regarding HTS, but to continue the in-depth analysis the author focuses more on those who really know HTS and know PT AS, this is done so that it is hoped they will further evaluate what needs they need when be a customer to HTS.

Government

Table IV. 2 Expectation and determination of specification of services needed

| Consultant Team Leader - Commercial and Marketing Expert/Telecommunication Expert | Project Manager Commercial Unit | Project Management, Telecommunication Expert |
|---|--|--|
| "The governments require satellite services for a variety of purposes, including improving communications infrastructure, supporting navigation and location- | "based on the experience I got while being a project manager, government, especially in rural areas, requires an internet connection that is large enough to cover several | "Many government offices actually want to directly rent capacity from providers, but many telecommunication providers limit their customers to those who |

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| Consultant Team Leader - Commercial and Marketing Expert/Telecommunication Expert | Project Manager Commercial Unit | Project Management, Telecommunication Expert |
|--|---|---|
| based services, monitoring the environment, and maintaining national security.” | offices, like the last one there was a need for the Morowali governor's office, they wanted to have their own internet” | have Jartaptup.” |

From the interview the interviewer conveying expectations and needs by explaining that the government itself has many needs, especially in rural areas, including the need for improving communication infrastructure, supporting navigation and location-based services, monitoring the environment, and maintaining national security. apart from that, the government in the regions has penetrated a lot directly to operators/providers to be able to provide direct end-to-end network access from providers to local governments without intermediary ISPs or other operators, but there are several obstacles that are felt to be preventing this from happening, including, So far, providers only provide services to companies that have Jartaptup, while the government does not have it.

Telco Operator, Banking Sector and Military

Table IV. 3 Expectation and determination of specification of services needed

| Satellite Services and Resources Management/Satellite Spectrum Planning and Management Officer (Telco Operator) | Satellite Regulatory & Spectrum Management - Assistant Manager (Banking Sector) | Head of Information Technology (Military) |
|--|---|--|
| The expectations of telecommunications operators in Indonesia for satellites include the provision of broad, good quality and affordable connectivity. Telecommunication operators also expect satellites to be operated efficiently and effectively so that they can meet the needs of communication services throughout Indonesia. In addition, telecommunications | The expectations of the Indonesian banking sector for satellites include providing fast, reliable and affordable network connections, easily accessible and secure ATM and mobile banking services, as well as high data security and privacy guarantees. In addition, the banking sector also expects that satellites can be operated efficiently and effectively so that they can meet the needs of banking | Indonesia's expectations of satellites for military needs include sending stable and reliable communication signals, sending accurate and real-time images and data, and the ability to monitor large and varied areas. Indonesia can also expect the security and privacy of data generated by military satellites. In addition, Indonesia can expect that satellites can be operated effectively and efficiently |

| Satellite Services and Management/Satellite Spectrum Planning and Management Officer (Telco Operator) | Satellite Regulatory & Spectrum Management - Assistant Manager (Banking Sector) | Head of Information Technology (Military) |
|--|--|--|
| operators also expect good support from the Indonesian government in obtaining the access and frequency spectrum needed to use satellites effectively. And hopefully can provide the acceleration for 5G in Indonesia. | services throughout Indonesia at affordable costs and with good quality. | to meet diverse military needs. |

From the interview summary above can be explained in more detail regarding the needs of these 3 sectors:

1. Telco Operator:

- a. Satellite Internet: Satellite can be used to provide satellite internet services with wider national coverage, especially in areas not covered by cable networks or cellular telephone networks. With satellite internet service, Indonesian people in remote areas can access the internet and connect with the world online.
- b. Cellular Network Connectivity: Satellite can be used to provide cellular network backhaul connectivity to areas that are remote and difficult to reach by cable or traditional cellular networks. With good backhaul connectivity, cellular operators can improve the quality of their cellular networks throughout Indonesia.
- c. Emergency Telecommunications: Satellites can be used to provide emergency telecommunications services in disaster areas or in remote areas that may not be covered by regular landline telecommunications networks.
- d. Satellite TV Services: Satellite can also be used to provide satellite TV services throughout Indonesia. With satellite TV service, Indonesian people in remote areas can enjoy quality TV service at an affordable cost.

2. Banking Sector

- a. Connection Network: Satellite can be used to provide a faster and more reliable network connection between the bank's head office and branches throughout Indonesia. In some cases, undersea cable connections are not possible or economical, so satellite may be a more affordable alternative solution.
- b. ATM and Mobile Banking: Satellite can be used to provide connectivity for ATM and mobile banking services in remote or hard-to-reach areas. With ATM and mobile banking services that are affordable and easy to access, Indonesians can gain access to better banking services and help increase financial inclusion in Indonesia.

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- c. Data Security and Privacy: Satellite can be used to transmit sensitive financial data in a safe and secure manner. This is important to maintain customer privacy and prevent misuse of financial information that can harm customers.
3. Military
- a. Marine area monitoring and surveillance: Satellites can be used to monitor activities around Indonesia's sea areas, such as suspicious foreign vessels or illegal activities such as illegal fishing. By using satellites, Indonesia can monitor its vast sea area and take the necessary actions.
 - b. Airspace monitoring and surveillance: Satellites can be used to monitor the movement of aircraft and other aerial objects in Indonesian airspace. This is very important for national security, because Indonesia has a very wide airspace and there are many flight paths that cross it.
 - c. Monitoring and surveillance of land areas: Satellites can be used to monitor activities in land areas such as movements of enemy troops, terrorist activities, or other activities that have the potential to threaten national security.
 - d. Military operations support: Satellites can be used to provide communications and navigation support for military forces in the field. In addition, satellites can also be used to support reconnaissance and monitoring operations

Internet Service Provider (ISP)

Table IV. 4 Expectation and determination of specification of services needed.

| Director (ISP in rural area) | Head of Operation Management (ISP in Jakarta, had an customers in rural area) | Director (ISP HO in Jakarta, Services in rural area) |
|---|---|--|
| requires satellites to provide internet services with wider coverage, especially in remote areas and difficult to reach by cable networks or cellular telephone networks. ISPs in Indonesia's expectations of satellite include the provision of fast, reliable and affordable satellite internet services. ISPs also hope that satellites can be operated efficiently and effectively so that they can meet the demand for internet services throughout Indonesia. and hopefully administrative problems can be simplified | requires satellites to support better and more efficient telecommunication network and infrastructure operations. for the hope that all administration will be simplified | As an existing customer, we hope that the satellite owned by PT AS can improve network quality in remote areas, and for leasing, hopefully all administration can be simplified. |

the results of interviews with 3 ISPs who have actually become customers of PT AS, many expect administrative problems to be simplified and expedited considering that there are too many documents needed and it takes a long time for customers to wait.

Search for potential service provider, Search for potential partnership, Proposal and selection service provider

Government

In government segment, the information needed for search provider, partnership is based on the services that the government need *“kalau sekarang sih memang lagi rame ya untuk HTS ini dan betul PT AS penyedia pertama untuk HTS, jadi memang dari pihak pemerintahan akan menggunakan jasa dari PT AS, palingan perlu lebih di ramein lagi aja terkait HTS ini agar orang-orang awam bisa lebih paham”* (Project Manager Commercial Unit, online communication, 2023, 20 Feb). For proposals, it is hoped that the proposal will be easy to understand and complete from all aspects, starting from the explanation of HTS, price, range, how to become a customer, and hopefully it can be made easier for the government which does not have a Jartaptup permit.

Telco Operator, Banking and Military

In Telco, banking and military segment, for telco operator hope that the proposal can be made in as much detail as possible, and can discuss further with the marketing team from PT AS who are expected to know very well about high throughput satellites, considering that this is a new thing for the telecommunications world in Indonesia, even though other countries have actually used it a lot. *“semoga proposal yang ditawarkan berisi informasi yang lengkap, dan team pemasaran memahami dengan baik terkait HTS, ini hal baru untuk industry telekomunikasi di Indonesia, meski di luar udah banyak”* (Satellite Services and Resources Management/Satellite Spectrum Planning and Management Officer, online communication, 2023, 20 Feb). From the bank hopes that the proposal can be made easy to understand and can also apply to banks which sometimes have their own rules, especially those related to connectivity *“sebelum-sebelumnya kami belum pernah langsung direct berlangganan service apalagi satellite, kami betul membutuhkan, semoga untuk proposal dapat di terima dan match dengan peraturan yang berlaku di perbankan juga karena terkadang berbeda karena kami institusi keuangan”* (Satellite Regulatory & Spectrum Management - Assistant Manager, online communication, 2023, 21 Feb). From military proposals must be explained in newbie language because many members are not from the telco sector, even those from the telco sector do not necessarily understand, so there must also be a marketing team to assist and explain properly and in detail. *“dari kami banyak yang bukan orang telco dan bahkan ga mengerti telco, proposal dibuat detail dengan bahasa orang awam saja mudah dipahami dan perlu team pendamping untuk menjelaskan kepada kami sampe paham”* (Head of Information Technology, online communication, 2023, 24 Feb).

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Internet Service Provider (ISP)

from interviews that took place with 3 people from ISPs, most of them already understood related to HTS but they still asked to be clarified further, regarding prices, discounts, and timeframes, as well as the SLA scheme, refunds will be made if something goes wrong what it looks like, the most important thing is that there is a marketing team that has adequate capabilities about THS. *“fokus di harga juga administrative, untuk proposal dibuat detail saja, agar orang awam paham ya, team marketing has mendampingi juga agar gampang kalau ada peratanyaan, harus dapat menjawab juga”* (Director, online communication, 2023, 24 Feb).

Conclusion

HTS satellite is the latest technology that is different from satellites in general because it can reach rural areas more broadly and evenly because of its beam. This is an important issue for PT AS to be able to provide further understanding about bycatch. This case can be handled well by the sales and marketing team, so a sales and marketing team is needed who are not only good at selling services but also good at explaining details about HTS and making complete and structured proposals. , and easy to understand even by laymen though. The interview results are then processed to determine the STP analysis and review the current marketing strategy. PESTLE will explain this by-catch from political, economic, social, technological, legal, and environmental perspectives. The end result of PESTLE itself is whether each point is a threat to the commercialization of bycatch or not. After that, the authors focus more on existing customers who are telecommunication actors, namely two ISPs and operators. This needs to be emphasized because old customers are very likely to become customers with a large number of rentals and will become third parties connected to other ISPs. After conducting interviews with prospective customers, it can be concluded that human resource skills, especially in sales and marketing, are very important here, so the questions asked to existing customers are also related to human resources. and from the results obtained, many old customers regret it because there is still a sales team that is not yet qualified. The results of interviews with potential and existing customers will be the basis for analyzing what marketing strategies should be implemented to commercialize bycatch. The interview results will be processed to the next stage, namely determining the IFE and EFE matrices as well as root cause analysis. After getting the values from IFE and EFE, TOWS is made to get strategy formulation, which is then made IE matrix to get IE values and diagrams, and finally QSPM is made to find out alternative analysis. Of the 10 strategies, 4 of the 2 lowest were deleted because the score from QSPM was the strategy with the lowest score, and 2 more were deleted because the strategy was similar to one of the strategies, so the strategy with the highest score was taken. and 2 others removed.

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