Original Research Article

Assessing Determinants of Public Perception on Satellite Internet in Thailand

Yarnaphat Shaengchart[1], Supin Chaisiripaibool [2]*, & Tanpat Kraiwanit [3]

ARTICLE INFO

Name of Author:
1. Yarnaphat Shaengchart
Faculty of Economics, Rangsit University, Pathum Thani, Thailand
Email: yarnaphat.s64@rsu.ac.th
https://orcid.org/0000-0002-0157-3682

3. Tanpat Kraiwanit
Faculty of Economics, Rangsit University, Pathum Thani, Thailand
Email: tanpat.k@rsu.ac.th
https://orcid.org/0000-0002-5130-6427

Corresponding Author*
2. Supin Chaisiripaibool
Graduate College of Management, Sripatum University, Bangkok, Thailand
Email: supin_dr@yahoo.com
https://orcid.org/0009-0007-5676-9301

How to Cite:
Shaengchart, Y., Chaisiripaibool, S., & Kraiwanit, T. (2024). Assessing Determinants of Public Perception on Satellite Internet in Thailand. *Journal of Dhamma for Life, 30*(2), 40-51.

ABSTRACT

This paper delves into the various factors shaping public perception on satellite internet in Thailand, examining the interplay between demographic characteristics, internet usage behaviors, and social media engagement. The study utilized a quantitative research methodology to collect data from 1,200 Thai individuals who spent more than one hour daily online. Convenience sampling was employed to gather the sample. For data analysis, the study employed several statistical methods including percentages, means, and Analysis of Variance (ANOVA). ANOVA is used to analyze the variability within a regression model, helping to identify significant differences between groups. This approach provides a robust framework for understanding the impact of different factors within the data set. The study's findings revealed that perceptions of satellite internet are significantly influenced by several factors. Older adults and males, along with users of desktops, tablets, and wearable devices—who benefit economically—are more inclined to adopt it. Similarly, active users of Facebook and TikTok, as well as those using the internet for educational or professional purposes, also show a higher intention to use satellite internet. In contrast, individuals with higher education, higher income, and frequent YouTube users may perceive less benefit, reducing their likelihood to adopt this technology. These insights can guide targeted strategies to foster adoption where the potential is greatest.

Introduction

The emergence of satellite internet technology is particularly promising for enhancing connectivity in areas like Thailand, where traditional broadband infrastructure may be lacking. By providing high-speed internet access from satellites orbiting the Earth, this technology can reach remote and rural areas more effectively than traditional methods. This connectivity can lead to significant socio-economic benefits. For example, access to reliable internet can improve educational opportunities by enabling access to online resources and virtual classrooms. It can also boost local businesses by allowing them to reach global markets and utilize digital tools that were previously inaccessible. Additionally, improved internet access can facilitate better healthcare delivery through telemedicine and enhance communication during emergencies or disasters. The expansion of satellite internet in developing regions could be a crucial step towards reducing the digital divide and supporting broader economic and social development (Asavatitanonta, 2003; Coughlin, 2023; Shaengchart & Kraiwanit, 2023; Singh, 2024; Telecom Review, 2024).

According to Bangkok Post (2020), Tanner (2024), and Tortermvasana (2024), public perception of satellite internet in Thailand appears generally positive and optimistic, driven by several key developments in the country's satellite and internet infrastructure. Notably, projects like Starlink's trial in collaboration with Prince of Songkla University are underway, aiming to explore high-speed internet service via low Earth orbit (LEO) satellites. This project particularly aims to enhance telemedicine, distance learning, and disaster relief systems. Thailand is also integrating advanced technologies like 5G with satellite communications to broaden internet access in line with its Thailand 4.0 National Policy. This integration is expected to support various applications, from Internet of Things (IoT) devices to smart city initiatives, thereby enhancing overall connectivity and technological advancement across the country. Moreover, the completion of the Eutelsat OneWeb ground station by Thailand's National Telecom is another significant development. This facility aims to start providing broadband services soon, which will further contribute to the availability of high-speed internet across Thailand, including remote areas. These initiatives highlight a growing trend in Thailand towards embracing satellite technology to overcome geographical and infrastructural challenges, enhancing internet access and reliability, which is well-received by the public and seen as a step towards a more connected and technologically advanced nation.

Demographic factors are crucial in understanding personal characteristics and are widely used in marketing for consumer segmentation. Key demographic variables include gender, age, education, marital status, and income, each influencing consumer behavior differently. Gender impacts communication and decision-making, age determines needs and interests, education shapes knowledge and preferences, marital status identifies decision-makers in families, and income reflects purchasing power. Together with lifestyle and cultural influences, these demographics help businesses tailor their marketing strategies to meet the diverse needs of their target audiences effectively (Hadi & Aslam, 2023; Kraiwanit et al., 2023). Internet usage behavior refers to how frequently individuals use the internet, what devices they prefer (like smartphones, tablets, or desktop computers), and what activities they engage in while online (such as shopping, streaming media, or reading news). Understanding these behaviors helps in identifying patterns and trends in internet use across different demographic segments (An & Kunzmann, 2014; Islam et al., 2022). Social media engagement involves examining how users interact with social media platforms— which platforms are most popular among different

demographics, how much time they spend on these platforms, and what kind of content they are most likely to engage with (like videos, blogs, or photos). Social media engagement can provide deep insights into consumer preferences and their communication habits.

In this study, the importance of investigating satellite internet in Thailand is particularly underscored by the demographic and behavioral patterns observed within the country. As Thailand advances its digital infrastructure and a broader spectrum of the population gains online access, a nuanced understanding of these patterns becomes increasingly critical. This research facilitates the development of satellite internet solutions that are finely tuned to meet the diverse needs and preferences of different user groups. In light of Thailand's progressing digital enhancements, it is essential for satellite internet providers to consider the high engagement rates on major social media platforms such as YouTube and TikTok. These platforms could serve as effective channels for targeted marketing strategies and engagement campaigns aimed at promoting satellite internet services. Furthermore, demographic insights can guide the development of services tailored specifically for urban versus rural populations, potentially narrowing the digital divide more effectively. Incorporating these demographic and behavioral insights allows for the optimization of service offerings, potentially increasing user satisfaction and adoption rates. This approach not only supports Thailand's goals for digital inclusivity but also promotes broader technological advancement. Such strategic alignment with demographic and usage patterns ensures that satellite internet services are both relevant and accessible to all segments of the Thai population. This paper delves into the various factors shaping these perceptions in Thailand, examining the interplay between demographic characteristics, internet usage behaviors, and social media engagement. Through this analysis, we aim to uncover insights that can help tailor satellite internet offerings to better meet the diverse needs of the Thai population, thereby optimizing the impact of this technology in the region.

Objective

The objective of this study is to investigate the factors influencing public opinions about satellite internet. It aims to identify how demographic characteristics, internet usage behaviors, and social media engagement contribute to shaping these opinions, particularly focusing on the economic implications as dependent variables. This research seeks to understand the interplay between these factors and public perceptions, ultimately providing insights into how satellite internet can be better tailored to meet the needs of different demographic groups.

Research Methodology

This research study employed a quantitative methodology, focusing on a demographic of Thai internet users who spent over one hour daily online and were aged at least 20 years. The sampling strategy utilized was convenience sampling, chosen to facilitate the selection of participants within this study. To determine the appropriate sample size, Yamane's formula was applied, setting the significance level at 0.05, with precision levels at ±5%, and a confidence level of 95%, as suggested by Uakarn et al. (2021). The formula indicated a minimum requirement of 384 participants. Accordingly, the selected sample size of 1,200 participants was considered sufficient to ensure precise and reliable results while also minimizing the likelihood of abnormal data distribution.

Data collection for this study was conducted using an online questionnaire, developed through a rigorous process. Initially, comprehensive research was carried out by examining scholarly articles, books, and credible online sources, which informed the creation of the questions. Subsequently, a draft version of the questionnaire was reviewed by five experts who evaluated its quality using the Item Objective Congruence (IOC) index, a standard measure in educational research, requiring a minimum score of 0.50 for acceptance (Kraiwanit et al., 2023; Thetlek et al., 2023). Impressively, the questionnaire achieved IOC values between 0.80 and 1.00, underscoring the relevance and clarity of the questions in terms of content, language, and structure. The finalized questionnaire was then disseminated via various online platforms, including LINE, WhatsApp, and Facebook Messenger. Prior to participation, respondents were asked for their explicit consent to use their responses for research purposes, with an option to opt out for those who did not wish to consent.

Variables are coded to represent various demographics and usage patterns. Internet knowledge is logged and represented as "Lnscore." Gender is coded as "X1," with males as 1 and females as 0. Age groups are represented by "X2," while education levels are captured by "X3." Marital status is coded as "X4," with married individuals assigned a 1. Monthly income categories are indicated by "X5." Device usage variables include desktop computers ("IT1"), notebooks ("IT2"), smartphones ("IT3"), tablets ("IT4"), and wearable devices ("IT5"), each coded 1 for use and 0 for non-use. Other variables include daily internet usage hours ("IT7"), home internet expense ("IT8"), and mobile internet expense ("IT9"). Social media usage is tracked for platforms like Facebook ("FB"), Instagram ("IG"), Twitter ("X"), TikTok ("TT"), and YouTube ("YT"). The purpose of internet use ("OB") differentiates between educational/professional and entertainment or other purposes. Awareness of satellite internet is denoted by "AW," and the source of awareness is categorized by "CN," differentiating between digital and traditional media sources.

The data for this study underwent a detailed analysis utilizing a combination of descriptive statistics and a more complex statistical method, Analysis of Variance (ANOVA). ANOVA consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. Descriptive statistics, including percentages and means, were used to succinctly summarize the dataset, providing a clear overview of the distribution and central tendencies of the variables. Following this, ANOVA was employed to explore the relationships among multiple dependent variables, taking into account any correlations and dependencies that might exist. This method allowed for a deeper, more nuanced understanding of the data patterns, significantly enriching the study's findings by offering a comprehensive and precise examination of the dataset.

Results

A comprehensive dataset was compiled from a cohort of 1,200 participants who voluntarily engaged in the study by diligently completing online questionnaires. The gender distribution is nearly even, with 50.8% male and 49.2% female participants. Age-wise, the most represented groups are those between 31-40 years (40.7%) and 20-30 years (37.5%). Educational background shows a majority with bachelor's degrees (63.8%) and postgraduate qualifications (25.7%). In terms of marital status, 56.67% are married, and 43.33% are single. Income data reveals that 31.8% earn below 15,000 Baht per month, and only a small fraction (15.3%) earn above 45,001 Baht. Device usage trends indicate a high penetration of

smartphones (98.5%), followed by notebooks (88.7%) and desktop computers (68.5%). Internet usage peaks during the late hours (37.5%) with significant daily use exceeding five hours by the majority (64.5%). Monthly internet costs are most commonly between 501 to 1000 Baht for home and 400 to 800 Baht for mobile. Social media platforms like Facebook, YouTube, and Instagram see high engagement rates. The primary use of the internet is for education (55.3%) and entertainment (36.0%). More than half of the participants (53.5%) are aware of satellite internet, mainly through digital channels like websites and social media. The perception of satellite internet is generally positive, recognizing its potential to enhance educational access, reduce income disparities, and promote business growth in underserved areas.

Table 1. Model summary using all the independent variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.720[a]	.518	.500	.49094	2.229

a. Predictors: (Constant), Lnscore, OB, YT, IT3, X2, IT7, IT6, IT1,X, IT8, X3,FB, CN, IT2, X1, TT, IT9, X5, IT5, IT3

Table 1 provides a statistical summary of a regression model using all independent variables. It reports the following metrics: R-value of .720, indicating the correlation between observed and predicted values; R Square of .518, explaining 51.8% of the variance in the dependent variable; Adjusted R Square of .500, which adjusts the R Square based on the number of predictors in the model; Standard Error of the Estimate of .49094, giving an estimate of the standard deviation of the error term; and a Durbin-Watson statistic of 2.229, suggesting that there is no significant autocorrelation in the residuals of the model.

Table 2. Analysis of Variance (ANOVA) using all the independent variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1[a]	Regression	137.987	20	6.899	28.626	.000[b]
	Residual	128.467	533	.241		
	Total	266.454	553			

a. Dependent Variable: Economics
b. Predictors: (Constant), Lnscore, OB, YT, IT3, X2, IT7, IT6, IT1,X, IT8, X3,FB, CN, IT2, X1, TT, IT9, X5, IT5, IT3

As presented in Table 2, the table features the F-statistic of 28.626 with a significance level of .000, indicating the model is statistically significant. It breaks down the variance into components attributable to the regression (Sum of Squares for Regression = 137.987) and residuals (Sum of Squares for Residual = 128.467) across 553 degrees of freedom.

Table 3. Variables in the model using all the independent variables

	Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1[a]	(Constant)	1.927	.449		4.295	.000
	X1	.528	.078	.380	6.733	.000
	X2	.165	.036	.218	4.635	.000
	X3	-.429	.057	-.352	-7.542	.000
	X4	.030	.202	.006	.148	.882
	X5	-.108	.035	-.168	-3.123	.002
	IT1	.207	.071	.141	2.896	.004
	IT2	.018	.100	.008	.183	.855
	IT3	.177	.157	.045	1.131	.259
	IT4	.387	.114	.251	3.387	.001
	IT5	.878	.071	.633	12.308	.000
	IT6	.141	.033	.157	4.303	.000
	IT7	.473	.044	.436	10.795	.000
	IT8	-.019	.056	-.016	-.336	.737
	IT9	.051	.064	.040	.804	.422
	FB	.308	.127	.097	2.424	.016
	X	-.404	.095	-.157	-4.244	.000
	TT	.433	.090	.234	4.813	.000
	YT	-1.110	.327	-.136	-3.396	.001
	OB	.265	.053	.199	5.012	.000
	CN	.174	.034	.234	5.184	.000
	Lnscore	.105	.080	.043	1.326	.185

a. Dependent Variable: Economics

Table 3 from the document details the regression analysis results, showcasing how various independent variables influence the dependent variable "Economics." The model includes a mix of demographic, device usage, and behavioral factors. Significant positive predictors include gender (males having a higher impact with a coefficient of .528), age (each increase positively affecting the outcome by .165), and various technology usage parameters— desktop computers (.207), smartphones (.177), tablets (.387), wearable devices (.878), internet usage timing (.141), and daily internet usage hours (.473) all show significant positive relationships with economic outcomes. Notably, TikTok usage also emerges as a strong positive influencer (.433). Conversely, education level displays a negative relationship (-.429), suggesting higher education correlates with a decrease in the dependent variable. Similarly, monthly income and YouTube usage also negatively impact the economic variable, with coefficients of -.108 and -1.110, respectively. Facebook usage (.308) and the purpose of internet use for educational or professional reasons (.265) positively affect the economic outcomes. Twitter usage is a negative predictor (-.404), indicating a detrimental effect. The source of awareness about satellite internet (digital vs. traditional) also shows a positive effect with a coefficient of .174. Collectively, these results demonstrate the complex interplay of various factors affecting economic aspects in the context of satellite internet perceptions and usage.

Discussions

This study on the factors influencing public opinions about satellite internet highlights multiple contributing factors, including demographic characteristics, internet usage behaviors, and social media engagement, with economic aspects as dependent variables. Several factors have emerged as statistically significant in influencing economic outcomes associated with satellite internet use. Notably, gender and age show positive impacts, suggesting that males and older individuals tend to derive greater economic benefits from satellite internet. In contrast, higher education and monthly income levels are negatively correlated, indicating that those with higher education or income may not experience the same economic advantages. Technology usage also plays a critical role; the use of desktop computers, tablets, wearable devices, and extensive daily internet use are all positively linked to better economic outcomes. Social media usage varies in its impact; while Facebook and TikTok usage correlate with positive economic effects, Twitter and YouTube show negative associations. Additionally, the purpose of internet use for educational or professional reasons positively influences economic outcomes, as does the digital medium through which individuals become aware of satellite internet. These insights highlight the complex interplay between demographic factors, technology usage, and behavioral patterns in shaping the economic benefits of satellite internet.

Men and the elderly tend to prioritize economic stability, investments, and income generation, potentially seeing opportunities for market expansion and business growth through high-speed internet connectivity. In contrast, those with educational and income limitations might look for ways to supplement their income or reduce expenses through digital technology. In line with Shaengchart et al. (2023), age and education levels are highlighted as key factors influencing individuals' comfort and familiarity with technology. For example, younger, more tech-savvy individuals with higher educational attainment are generally more open to embracing innovative technologies, such as the Starlink Satellite Project. Moreover, Shaengchart and Kraiwanit (2023) identified gender as a significant predictor of the differential impact of the Starlink project on internet provider services. Their study demonstrates that

males are disproportionately affected by the project, compared to females. This finding underscores the importance of considering gender disparities in the evaluation and implementation of technological projects. Thetlek and Kraiwanit (2024) also corroborated that gender is a significant determinant in the accumulation of wealth, with males demonstrating a greater propensity for wealth storage compared to females. This finding underscores a notable gender disparity in asset holdings, suggesting that males are more likely to accumulate wealth than females. Additionally, different internet and social media usage patterns also affect views on the digital economy. Users of Facebook and TikTok, who focus on interaction and entertainment, might see greater value in online advertising and commerce via satellite internet compared to Twitter and YouTube users, who primarily focus on receiving information. The study's results corroborate the findings presented by Akarachotchaiwanich et al. (2023) and Chuensin et al. (2023), which indicate that Facebook and TikTok serve as prevalent platforms for online commerce among sellers in Thailand. Furthermore, using the internet for education and work also demonstrates the benefits of high-speed internet in enhancing income opportunities and productivity through new skills learning, accessing funding sources, or even remote working. In accordance with Haleem et al. (2022), digital technologies have exerted a significant influence on the educational system. The COVID-19 pandemic has further entrenched the role of these technologies within educational frameworks. Such technologies have precipitated a fundamental shift in the entire educational landscape. They serve not merely as providers of knowledge, but also as co-creators of information, mentors, and assessors. Furthermore, García-Mora and Mora-Rivera (2023) investigated the impact of Internet access on poverty in diverse rural areas of Mexico, finding that it helps reduce poverty, especially in less developed regions. However, the effects are not uniform across all areas. This highlights the need for government policies that are more targeted to address regional disparities in Internet access to fully leverage its potential benefits in combating poverty.

Thus, the development of satellite internet should consider promoting economic activities and occupations across diverse regions by facilitating the creation of digital ecosystems and services. These initiatives should focus on enhancing connectivity to enable more extensive access to markets, provide digital tools that support small and medium enterprises, and foster innovation and skill development among local populations. Specifically, satellite internet could support e-commerce platforms, telemedicine services, online education, and remote work opportunities, all of which contribute to sustainable income generation. Additionally, integrating these services with local development plans can ensure that they meet the specific needs of different communities, thereby maximizing their impact on economic growth and poverty alleviation. By focusing on these targeted approaches, satellite internet development can become a catalyst for economic transformation and social progress in underserved and rural areas.

Conclusions

This study on the factors influencing public opinions about satellite internet in Thailand reveals a nuanced interplay of demographic characteristics, internet usage behaviors, and social media engagement, all impacting economic outcomes. Several key findings have emerged as statistically significant.

Demographic Characteristics, gender composed males are more likely to experience economic benefits from satellite internet. Age as older individuals also tend to derive greater economic advantages. Education found higher education levels negatively correlate with economic benefits, indicating those with more education might not perceive as much economic value in satellite internet. Income, that similarly, higher income levels are associated with lower perceived economic benefits. Internet Usage Behaviors, device Usage, using desktop computers, tablets, wearable devices, and extensive daily internet use positively influences economic outcomes. Purpose of Use their internet usage for educational or professional purposes significantly enhances economic benefits. Social Media Engagement, platform Impact found usage of Facebook and TikTok correlates with positive economic effects, while Twitter and YouTube show negative associations. Awareness Medium on digital channels for awareness of satellite internet positively impact economic outcomes. Economic Insights found Economic Activities lead to males and older adults prioritize economic stability and market expansion through high-speed connectivity. In contrast, those with higher education and income might not see the same economic value, possibly due to already existing access to high-speed internet or alternative resources. Social Media Influence, platforms like Facebook and TikTok, which focus on interaction and entertainment, may enhance online advertising and commerce opportunities via satellite internet. Technology Adoption and Regional Development on Digital Ecosystems found the development of satellite internet should focus on creating digital ecosystems that support small and medium enterprises, foster innovation, and enhance skill development. E-Commerce and Services, satellite internet can bolster e-commerce platforms, telemedicine, online education, and remote work, contributing to sustainable income generation. Local Integration of integrating satellite internet with local development plans ensures services meet specific community needs, maximizing their impact on economic growth and poverty alleviation.

Statistical Analysis of the regression analysis provides a comprehensive understanding of how various factors influence economic outcomes, model summary found an R-value of .720 indicates a strong correlation between observed and predicted values. An R Square of .518 shows that 51.8% of the variance in economic outcomes is explained by the model. Significant Predictors found Positive Predictors: Gender (males), age, use of desktop computers, smartphones, tablets, wearable devices, internet usage for education or work, Facebook usage, TikTok usage, and digital awareness channels. Negative Predictors toward on higher education, monthly income, and YouTube usage. Implications of these insights highlight the complex interplay of demographic, behavioral, and technological factors in shaping the economic benefits of satellite internet. By focusing on targeted strategies that promote economic activities and enhance connectivity, satellite internet development can become a catalyst for economic transformation and social progress in underserved and rural areas. This approach aligns with the broader goal of reducing the digital divide and supporting sustainable development. In summary, the study underscores the importance of considering demographic disparities, technology usage patterns, and social media engagement in developing strategies for satellite internet adoption. By leveraging these insights, policymakers and service providers can tailor interventions to maximize the economic impact of satellite internet, ultimately fostering a more inclusive and connected society.

Practical and Policy Implications

The findings of this study have significant practical and policy implications. For service providers and marketers, understanding that demographic factors like age, gender, and device usage influence adoption can help in crafting targeted marketing strategies to increase uptake. For instance, campaigns focused on the economic benefits of satellite internet might be more appealing to older adults and males, or those using multiple devices. From a policy perspective, the study highlights the importance of considering diverse user needs when promoting new technologies. Policymakers should consider creating incentives for satellite internet providers to offer services that are accessible and beneficial to various demographic groups, including those less likely to adopt such as individuals with higher education and income, who may need additional convincing regarding the benefits of satellite internet. Integrating internet education programs that demonstrate the practical benefits of satellite internet can help increase adoption rates among skeptical demographics. Furthermore, these insights can inform government strategies to support digital inclusion, especially by facilitating satellite internet access in educational and professional settings to leverage the high adoption intentions found among these user groups. Such policies could significantly aid in bridging the digital divide, ensuring that all segments of the population benefit from equitable access to internet technologies.

Limitations and recommendations for future studies

This study on the adoption of satellite internet in Thailand has several limitations and areas for improvement in future research. Firstly, the use of convenience sampling may compromise the generalizability of the results, as it may not accurately represent the Thai population. Secondly, the study's cross-sectional design captures data at a single point in time, limiting the ability to determine causality between factors. Additionally, reliance on self-reported data can introduce biases, such as inaccuracies in reporting internet usage and behaviors. Finally, the study primarily focuses on demographic and basic internet usage behaviors and does not explore deeper psychological or personal attitudes that could influence satellite internet adoption.

For future studies, adopting more robust sampling techniques like stratified or random sampling could enhance the representativeness of the results. Implementing longitudinal studies would provide insights into how perceptions and behaviors evolve over time, offering a dynamic perspective on adoption factors. Moreover, integrating qualitative research methods could add depth, revealing personal narratives and detailed user experiences that support the quantitative data. Expanding the scope of research to include more comprehensive behavioral and psychological variables would also yield a richer understanding of the barriers and facilitators to satellite internet adoption.

References

Akarachotchaiwanich, K., Girum, T., & Somnuk, S. (2023). Factor of content marketing affecting household purchase decisions of consumers through electronic commerce. *The Journal of Pacific Institute of Management Science (Humanities and Social Science)*, 9(3), 331-339. https://so05.tci-thaijo.org/index.php/pacific/article/view/270969

An, X., & Kunzmann, G. (2014, June). Understanding mobile Internet usage behavior. In 2014 IFIP Networking Conference (pp. 1-9). IEEE. https://doi.org/10.1109/IFIPNetworking.2014.6857110

Asavatitanonta, T. (2003). Opportunities and challenges for satellite communication: Case study in Thailand. Assumption University. https://repository.au.edu/bitstreams/3db481d7-f8f5-4dd6-a484-93b81f0be601/download

Bangkok Post. (2020, November 24). 5G uncovers digital world, borderless internet based-satellite. *Bangkok Post PCL*. https://www.bangkokpost.com/thailand/pr/2024743/

Chuensin, T., Chuchuay, N., & Chanwadee, K. (2023). Perception and digital media use of consumers who shop online. *Journal of Modern Learning Development*, 8(12), 279-287. https://so06.tci-thaijo.org/index.php/jomld/article/view/263846

Coughlin, J. (2023, December). The advancements and future of satellite internet technology (research proposal). *American Public University*. https://doi.org/10.13140/RG.2.2.30821.58081

García-Mora, F., & Mora-Rivera, J. (2023). Exploring the impacts of Internet access on poverty: A regional analysis of rural Mexico. *New Media & Society*, 25(1), 26-49. https://doi.org/10.1177/14614448211000650

Hadi, N. U., & Aslam, N. (2023). Demographic factors and consumer attitude towards unsolicited mobile-based marketing messages: A factorial design. *Online Journal of Communication and Media Technologies*, 13(1), e202302. https://doi.org/10.30935/ojcmt/12784

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275-285. https://doi.org/10.1016/j.susoc.2022.05.004

Islam, M. S., Sujan, M. S. H., Tasnim, R., Ferdous, M. Z., Masud, J. H. B., Kundu, S., Mosaddek, A. S. M., Choudhuri, M. S. K., Kircaburun, K., & Griffiths, M. D. (2020). Problematic internet use among young and adult population in Bangladesh: Correlates with lifestyle and online activities during the COVID-19 pandemic. *Addictive Behaviors Reports*, 12, 100311. https://doi.org/10.1016/j.abrep.2020.100311

Kraiwanit, T., Limna, P., Wattanasin, P., Asanprakit, S., & Thetlek, R. (2023). Adoption of Worldcoin digital wallet in Thailand. *Research in Globalization*, 7, 100179. https://doi.org/10.1016/j.resglo.2023.100179

Shaengchart, Y., & Kraiwanit, T. (2023). Starlink satellite project impact on the Internet provider service in emerging economies. *Research in Globalization*, 6, 100132. https://doi.org/10.1016/j.resglo.2023.100132

Shaengchart, Y., Kraiwanit, T., & Butcharoen, S. (2023). Factors influencing the effects of the Starlink Satellite Project on the internet service provider market in Thailand. *Technology in Society*, 74, 102279. https://doi.org/10.1016/j.techsoc.2023.102279

Singh, P. (2024, March 6). Satellite internet: Bridging the digital divide in remote areas. *LinkedIn*. https://www.linkedin.com/pulse/satellite-internet-bridging-digital-divide-remote-areas-singh-n7ycf

Tanner, J. (2024, January 9). NT finishes building Eutelsat OneWeb ground station in Thailand. *Developing Telecoms*. https://developingtelecoms.com/telecom-technology/satellite-communications-networks/16030-nt-finishes-building-eutelsat-oneweb-ground-station-in-thailand.html

Telecom Review. (2024, January 8). Revolutionizing connectivity through satellite technology. *Telecom Review Asia*. https://www.telecomreviewasia.com/news/featured-articles/3865-revolutionizing-connectivity-through-satellite-technology

Thetlek, R., & Kraiwanit, T. (2024). Wealth storage in the digital economy: A perspective on emerging markets. *Journal of Governance & Regulation*, 13(1), 42-49. https://doi.org/10.22495/jgrv13i1art4

Thetlek, R., Kraiwanit, T., Jangjarat, K., Limna, P., & Shaengchart, Y. (2023). The token economy in a developing country [Special issue]. *Journal of Governance & Regulation*, 12(3), 368-376. https://doi.org/10.22495/jgrv12i3siart18

Tortermvasana, K. (2024, January 2). NBTC approves Starlink internet project. *Bangkok Post*. https://www.bangkokpost.com/business/general/2716536/

Uakarn, C., Chaokromthong, K., & Sintao, N. (2021). Sample size estimation using Yamane and Cochran and Krejcie and Morgan and green formulas and Cohen statistical power analysis by G*Power and comparisons. *APHEIT International Journal*, 10(2), 76-88. https://so04.tci-thaijo.org/index.php/ATI/article/view/254253/173847