

## Analysis of Digitalization Developments on Changes in Consumer Behavior

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### ABSTRACT



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The increasingly advanced development of digital technology has become part of people's lifestyle and needs in everyday life. This has an impact on increasing the need to use internet data packages. The purpose of this research is to determine the development of increasing cellular operators in Indonesia, to analyze factors changing consumer behavior in using Internet data packages, and to determine the development of internet technology on the revenue of internet data card traders. This research uses descriptive analysis with an approach using qualitative and quantitative methods (primary data), using dependent variables, namely: cultural, social, personal and psychological. The results of research conducted by researchers state that the development of internet technology has had a big influence on increasing sales of internet data cards and package prices (HP) have a positive and significant effect on the revenue of internet package card traders with the hypothesis being accepted but with the variable number of package quotas (JKP) and length of active period (LMA) has a positive effect but is not significant, so the hypothesis is rejected.

Keywords: Digital Technology, Internet, Culture, Social

### 1. Introduction

The internet initially originated as a computer network formed by the U.S. Department of Defense in 1969 through the ARPANET (Advanced Research Project Agency Network) project, with the primary objective of serving military purposes. In its early stages, ARPANET connected only a few sites, but the project quickly expanded, leading to management difficulties. Consequently, ARPANET was divided into two entities: MILNET for military purposes and ARPANET for various universities. Over time, with technological advancements, the internet has evolved to its current state. The concept of the internet itself is a globally open communication network that connects millions, or even billions, of computer networks of various types and kinds using communication methods such as telephones, satellites, and so forth. The internet has demonstrated continuous growth year by year, propelled by its easy accessibility, cost-effectiveness, and provision of engaging informational features. Moreover, in the present era, the information technology and communication sector is the most dominant and indispensable in various fields, further fueling the rapid growth of the internet worldwide.

The inception of the internet in Indonesia dates back to approximately 1994. Indonesia is

considered a country with rapid internet development, both in terms of quality and quantity of users. According to research conducted by Internet World Stats, an international website focusing on global internet user population, social media, and online market research, China ranks first in the world for the highest number of internet users. This is correlated with the total population of China, which is the most populous country globally, with a total of 738,539,792 users, constituting approximately 53.2% of the country's total population. Indonesia, on the other hand, is ranked fifth with a total of 132,700,000 users, accounting for about 50.4% of the country's population, and exhibiting a growth rate of 6,535.0%.

The internet provides numerous beneficial aspects to daily life, serving as a communication tool whereby individuals can now make phone calls or engage in video calls without the need for traditional phone credit. This represents a significant shift from the past, where communication primarily relied on purchasing call or text message credits. Additionally, the internet functions as an entertainment platform, facilitating online gaming as an alternative to traditional gaming consoles like PlayStation. Moreover, its

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presence has proven invaluable in the field of education. Presently, all school assignments or university tasks for students can be accessed through the internet. In the past, academic tasks and knowledge were primarily derived from printed books, but now, they can also be found online.

Crucially, the internet has evolved into a promising business landscape for both individuals and institutions. Entrepreneurs no longer face difficulties in obtaining information crucial to their business activities. With the internet, access to a wealth of information is readily available, easing the challenges of business operations. Alongside technological advancements, a new understanding of marketing mindset has emerged in the form of modern marketing concepts involving digital technology and the internet. This is commonly referred to as e-commerce (electronic commerce) in contemporary discourse.

The development of e-commerce in Indonesia began as early as 1996, but it experienced significant growth in recent years, aligning with the expansion of the internet. Such sales systems can reach a global audience simultaneously and operate 24 hours a day without interruption. Companies can expand their activities and consumer base more easily, transforming conventional transaction processes into modern online transactions. Since the advent of the internet, conventional business activities have evolved into online transactions, demonstrating that the internet brings transformative changes to the business world. Undoubtedly, online businesses offer promising advantages to business practitioners.

Examining the results of the APJII survey, online business has the potential to become a new and continuously growing field in the future. Many Indonesians have already engaged in e-commerce activities. The most common internet user activities on social media include information sharing, ranking first at 97.5%, followed by trading at 94.6%, and government policy socialization at 90.4%. This emphasizes the significance and dominance of trading activities on social media, indicating that almost 95% of individuals prefer engaging in commerce over not participating.

In the current modern era, engaging in e-commerce or online trading activities presents new opportunities for individuals to explore entrepreneurship. For instance, the avenue of online sales through social media platforms such as Instagram, Facebook, Twitter, or even chat applications, commonly known as online shops, has opened up new business prospects. In the realm of online business, age and occupation are not limiting factors; anyone can embark on this venture with the right intention and willingness. As entrepreneurs in the e-commerce sphere, the ability to attract buyers is crucial, and this can be achieved with just a smartphone and internet connection.

In the realm of e-commerce, certain regulations must be adhered to. For example, if a consumer wishes to purchase a product, they

typically need to transfer the payment to the seller's account. This arrangement is advantageous for the seller, as it allows them to acquire the ordered items without upfront capital, utilizing the funds sent by the consumers.

The presence of e-commerce brings numerous benefits, such as cost reduction. Unlike conventional businesses that may require renting physical spaces like shops or buildings, e-commerce is more flexible, enabling transactions to take place anywhere and anytime without being bound by specific working hours. This flexibility provides a larger opportunity for both producers and consumers, contributing to a reduction in unemployment within the community.

One of the beneficiaries of the development of internet technology is the mobile operator, supported by the widespread availability of mobile phones accessible to various segments of society. This accessibility has led to an increasing demand for mobile data packages or internet data packages. The need for internet services is constant in society, whether for running online businesses, entertainment, communication, or information-seeking purposes.

The significant consumer interest in internet connectivity is one of the reasons why Indonesian telecommunications companies employ various strategies to meet public demands. The rise of digital technology is accompanied by an increase in the sales of internet data cards, as not all individuals can afford to install Wi-Fi networks in their homes. This circumstance prompts innovation among providers to stay competitive. Many providers engage in innovative practices to capture public attention, ranging from price and tariff wars to battles focused on service quality and reliability. Each year, the demands of the public continue to escalate, further emphasizing the need for continuous innovation and competition in the telecommunications sector.

The increase in the number of users is not only attributed to the total users of phone calls or SMS but also to the growing user base of data cards. This indicates that the progress of the internet significantly benefits every mobile operator. Consequently, intense competition arises among providers, each day striving to meet the needs of the public in using internet data cards.

It is assured that every provider employs various tactics to capture the attention of the public, such as offering promotions for data packages, both for 24-hour usage and those with time-based divisions. Looking at the direct pricing from vendors, Telkomsel is indeed the operator with the highest rates compared to other mobile operators. For example, Indosat Ooredoo sets a price of around Rp. 35,000 for 5GB, and XL Axiata sets a price of Rp. 35,000 for 8GB. On the other hand, Tri sets a tariff of Rp. 28,000 for 3GB. Surprisingly, Telkomsel sets a price of Rp. 40,000 for only 2GB, according to information gathered from data package sellers.

However, despite the widespread utilization of various mobile operators by consumers, whether for prepaid cards or mobile data cards, there is still a lack of uniformity in internet access across

Indonesia. The country faces several challenges in achieving this equal distribution, such as cost limitations and infrastructure constraints. In this regard, the responsibility for achieving equal access lies not only with the providers but also necessitates the involvement of the government to support network expansion in every region or area.

## 2. Method

This research employs the cross-sectional regression method, which involves data collected at a specific point in time by observing various factors. The study will utilize the linear regression technique for the Ordinary Least Squares (OLS) method, presented in a simplified and easily understandable regression model. The Ordinary Least Squares (OLS) is a statistical method used for estimating the coefficients of a linear regression model.

The descriptive analysis method, on the other hand, is a straightforward analysis used to depict observational conditions by presenting them in the form of tables, graphs, or narratives. This aids readers in interpreting the research findings more easily. Descriptive analysis in this study is conducted to understand the sales development and user quantity of telecommunication providers in Indonesia, spanning from 2018 to 2022.

The population under investigation comprises all consumers of internet data packages and vendors engaged in buying and selling activities in the East Medan district and its surrounding areas. An estimation model is employed to determine the transaction value gained by data card vendors from the sale of internet data cards.

$$RPKPI = \alpha_0 + \alpha_1 HP + \alpha_2 JKP + \alpha_3 LMA + \epsilon_i$$

Dimana:

RPKPI = the Revenue of Internet Data Card Sellers.

HP = The Price of the Internet Package.

JKP = The Quantity of Quota in the Package.

LMA = The Duration of Active Period.

$\alpha_0$  = constant term

$\alpha_1, \alpha_2, \alpha_3$ , = parameters associated with each independent variable.

$\epsilon_i$  = Error Term

## 3. Result and Discussion Result

### Hasil Analisis Regresi Variabel Revenue Pedagang Paket Data Regresi Uji OLS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	163445.6	1158498.	-0.141084	0.8891
HP	19.84232	8.361160	2.373154	0.0273
JKP	-8887.053	11754.76	-0.756038	0.4580
LMA	504556.1	613168.0	0.822868	0.4198
R-squared	0.294497	Mean dependent var	1804000.	
Adjusted R-squared	0.193711	S.D. dependent var	902071.7	
S.E. of regression	810002.6	Akaike info criterion	30.19311	
Sum squared resid	1.38E+13	Schwarz criterion	30.38813	
Log likelihood	-373.4139	Hannan-Quinn criter.	30.24720	
F-statistic	2.922000	Durbin-Watson stat	2.288478	
Prob(F-statistic)	0.057772			

The Adjusted R-squared coefficient signifies the proportion or percentage of the total variability in the dependent variable explained by the independent variables collectively. Based on the estimation model above, which includes variables influencing the revenue of internet data card vendors, the obtained R-squared value is 0.294 or 29%. This implies that collectively, the variables Price of the Package, Quantity of Quota in the Package, and Duration of Active Period explain 29% of the variation in the Revenue of Internet Data Card Sellers. The remaining 61% is explained by other variables not included in the estimation model or is accounted for by the disturbance error term.

It is noted that the number of internet users significantly influences the total transaction value of mobile data packages. The larger the number of internet users, the higher the likelihood of an increased total transaction value in purchasing mobile data packages.

### Correlation (R)

The correlation coefficient is a value that indicates the strength of a linear relationship between two variables.

### Interpretation of Results

From the obtained data, the regression equation is then analyzed using the autoregressive model as follows:  $RPKPI = 163445.6 + 19.84232 \cdot HP - 8887.053 \cdot JKP + 504556.1 \cdot LMA + \epsilon_t$

From the estimation results, an interpretation or hypothesis can be derived from this regression model, as follows:

- The variable Price of the Package (HP) has a positive impact on the Revenue of Internet Data Card Sellers because the coefficient value of the variable HP is greater (>) than  $\alpha_5\%$ , which is 19.84232. This means that if the Price of the Package is increased by 1 percent, it will increase the Revenue of Internet Data Card Sellers by 19.84232, indicating that HP has a significant impact on the Revenue of Internet Data Card Sellers.
- The variable Quantity of Quota in the Package (JKP) does not have a positive

impact on the Revenue of Internet Data Card Sellers because the coefficient value is smaller ( $<$ ) than  $\alpha 5\%$ , which is -8887.053.

- The variable Duration of Active Period (LMA) has a positive impact on the Revenue of Internet Data Card Sellers because the coefficient value of the variable LMA is greater ( $>$ ) than  $\alpha 5\%$ , which is 504556.1. This means that if the Duration of Active Period is increased by 1 percent, it will increase the Revenue of Internet Data Card Sellers by 504556.1.

### Constants and Intercepts:

In the estimation results of the regression model involving variables influencing the revenue of internet data card vendors, there is a constant value of 163445.6, which is positively valued. This indicates that the average level of revenue for internet data card vendors tends to increase when the explanatory variables remain constant.

### Testing:

#### Statistical Test or Partial Test:

The t-statistic test is conducted to observe the significance of the individual influence of independent variables on the dependent variable, assuming that other independent variables are constant. We can examine the probability value of the partial t-test, and if its value is smaller than  $\alpha 1\%$ ,  $\alpha 5\%$ ,  $\alpha 15\%$ , then  $H_1$  is accepted. Looking at the Price of the Package (HP) variable, the partial t-value is 0.0273, which is smaller ( $<$ ) than 0.05, so  $H_1$  is accepted. The Quantity of Quota in the Package (JKP) variable has a partial t-value of 0.4580, which is greater ( $>$ ) than 0.05, so  $H_0$  is rejected. The Duration of Active Period (LMA) variable has a value of 0.4198, which is greater ( $>$ ) than 0.05.

#### F-Statistic Test or Simultaneous Test:

The F-Statistic test aims to examine the joint significance of all independent variables on the dependent variable. From the regression results on the variables Price of the Package (HP), Quantity of Quota in the Package (JKP), Duration of Active Period (LMA) on the revenue of internet data card vendors, the F probability value is 0.05777 ( $<$  0.10 or  $\alpha 10\%$ ), while the F critical value is 2.92220. This indicates that the independent variables collectively have a significant impact on the revenue of internet data card vendors.

#### Classical Assumption Test:

The Ordinary Least Squares (OLS) method obtains estimator values expected to meet the properties of being the Best Linear Unbiased Estimator (BLUE) by minimizing the squared deviation of each observation in the sample.

#### Multicollinearity:

The multicollinearity test evaluates the correlation between independent variables in the regression model. A good regression model should be free from multicollinearity, but from the model analysis, multicollinearity is still present due to changes in coefficient signs (not consistent with the hypothesis). Some variables are not significant to the dependent variable in the partial test.

### Heteroskedasticity:

The heteroskedasticity test aims to examine whether there is a variance difference in residuals between one observation and another in the model. If the variance of residuals remains the same between observations, it is called homoskedasticity, and if it differs, it is called heteroskedasticity. A good regression model is free from heteroskedasticity. To determine the presence of heteroskedasticity, an analysis of heteroskedasticity can be conducted as follows:

#### Regresi Uji Heteroskedasticity

Heteroskedasticity Test: White

F-statistic	1.435929	Prob. F (7,17)	0.2549
Obs*R-squared	9.289228	Prob. Chi-Square (7)	0.2326
Scaled explained SS	4.384106	Prob. Chi-Square (7)	0.7346

Homoskedasticity Test Result Using the White Test yielded a Probability Chi-Square (6) value for Obs\*R-squared of 0.2326, which is greater than 5% (0.05). Therefore, this study is declared to be homoskedastic or free from heteroskedasticity.

#### Autocorrelation:

The autocorrelation test aims to examine whether there is a correlation between the errors in a linear regression model at time  $t$  with the errors at time  $t-1$  (previous) to test whether there is autocorrelation in the model. After conducting the autoregressive test, the Durbin-Watson value obtained is 2.2884, indicating that the model used is free from autocorrelation issues. Thus, the model can be influenced by independent variables represented by the price of the package (HP), the quantity of quota in the package (JKP), and the duration of the active period (LMA). A model is considered to be free from autocorrelation if the obtained D-W value is within the range of  $1.54 < DW < 2.46$ .

### Discussion

#### Overview of Digital Technology Development

The advancement of digital technology has transformed how individuals perceive life in this highly sophisticated era. This technology brings significant changes to the entire world, from facilitating various tasks to creating problems due to the inability to use these increasingly advanced digital facilities properly. Technological progress is continually evolving not only in real products but also in digital products widely used by the community, such as social media networks. In recent times, various remarkable developments have occurred, particularly in the field of digital technology. Digital technology, initially known for computer technology and other electronic devices, has evolved into a fusion of capabilities. Initially, with the discovery of various simple devices, starting from analog-based phones, it advanced and continued to develop until various other electronic devices emerged. Eventually, this technology became integrated with each other. On the other hand, due to the development of technological capabilities, there have been quite dramatic changes in the business travel and operations, resulting in new services, including the use of a limitless global network. The telephone, first

invented in 1876 with the intention of sending voice, and one of the applications of analog concepts, also made a significant contribution to technological development. Until around the 1960s, this analog application remained, after which it began to move towards digital technology.

#### Overview of Mobile Operators in Indonesia

Telkomsel is the second GSM mobile telecommunication operator in Indonesia, with postpaid services launched on May 26, 1995. Then, in November 1997, Telkomsel became the first prepaid GSM mobile operator in Asia. Currently, Telkomsel has four products: postpaid - KartuHalo, prepaid - Simpati, As, Loop. Currently, Telkomsel's shares are owned by Telkom (65%) and the Singapore Telecommunications company SingTel (35%). Telkom is an Indonesian state-owned enterprise (BUMN), while SingTel is a company majority-owned by the Singapore government. Telkomsel is the largest mobile operator in Indonesia with a total of 178 million subscribers in 2017, covering 98% of the network in Indonesia. The second-largest mobile operator in 2022 is Indosat Ooredoo, with 96.4 million subscribers. Indosat, established in 1967 as a parent company providing international telecommunication services via international satellites. In 1980, Indosat became the first telecommunications company fully owned by the Indonesian government. Initially a state-owned enterprise, in 2002, the government sold 41.94% of Indosat's shares to Singapore Technologies Telemedia Pte. As of now, the Indonesian government's ownership of Ooredoo's shares is only 14.9%, with the majority owned by Qatar Telecom (65%) and the public (20.1%). The brands under Indosat Ooredoo include im3, Mentari, and Matrix. The third-largest operator is XL-Axiata, a private company with a 66.7% ownership stake held by PT.XL-Axiata Tbk, which is a Malaysian-owned company. Since September 2013, XL-Axiata has merged and acquired PT.Axis Telekom Indonesia (Axis), and by 2022, XL-Axiata has 50.5 million users. The last mobile operator is Tri, also a privately-owned mobile operator, with 65% of its shares owned by PT. Hutchison Whampoa from Hong Kong, and the remaining shares owned by PT. Northstar Pacific from Thailand. Despite being the newest among the operators, Tri surpasses XL-Axiata in the number of subscribers.

#### Overview of Internet Data Package Traders

As internet technology advances, accompanied by the development of smartphones, it becomes easier to access any internet network we want. This has impacted the opening of opportunities for small and medium-sized businesses, namely selling internet data packages. In cities like Medan, this business is widespread, especially in areas around campuses. Sellers do not need to invest much capital; only around IDR 3 million to IDR 5 million can yield hundreds of thousands of profits per day. They don't even need to rent a shop or pay rent. For buyers, besides getting affordable prices, it is also easy to find sellers of internet

data packages, as they are abundant along the streets in Medan.

#### Consumer Behavior Development in Internet

Package Usage Respondents are categorized into several groups based on the monthly cost spent on purchasing internet data packages. The grouping of respondents based on the monthly cost can be seen in the following table:

Table 1. The cost incurred per month to purchase internet data packages

Monthly Cost	Frequency	Percentage
< Rp 100.000	19	38%
Rp 100.000 s/d Rp 150.000	20	40%
Rp 150.000 s/d Rp 200.000	4	8%
> Rp 200.000	7	14%
Total	50	100%

Based on the table above, the most dominant cost spent by respondents is Rp 100,000 to Rp 150,000 per month, with a frequency of 20 people (40%). It is followed by costs < Rp 100,000 per month with 19 people, then in third place > Rp 200,000 with a frequency of 7 people (14%), and lastly Rp 150,000 to Rp 200,000 per month with a frequency of 4 people (8%). Respondents are divided into the frequency of purchases made in one month, as shown in the following chart and table:

Table 2. Purchase Frequency

Purchase Frequency	Frequency	Percentage
1 kali	13	26%
2-3 kali	30	60%
4-5 kali	6	12%
>5 kali	1	2%
Total	50	100%

Based on the table above, the most dominant purchase frequency is 2-3 times a month (60%). The second-highest frequency is 1 time a month with 13 people (26%), followed by 4-5 times a month with 6 people (12%), and lastly, more than 5 times a month with 1 person (2%). Respondent purchases are grouped based on the amount of quota bought per month, as seen in the chart and table below:

Table 3. Quota Amount

Quota Amount	Frequency	Percentage
<4 GB	4	8%
5-10 GB	14	28%
11-20 GB	16	32%
20-30 GB	6	12%
>30 GB	10	20%
Total	50	100%

From the table above, it shows that the most dominant quota usage is 11-20 GB with a frequency of 16 people (32%). The second-highest quota usage is 5-10 GB with a frequency of 14 people (28%), followed by >30 GB with 10 people (20%), 20-30 GB with 6 people (12%), and the last order of usage <4 GB with a frequency of 4 people (8%). Respondents are categorized into several groups based on the data card used to find out which card respondents prefer, as shown in the following chart and table:

Table 4. Categories based on the used data package cards

Card Used	Frequency	Percentage
Telkomsel	22	44%
Indosat Ooredoo	5	10%
XL-Axiata	9	18%
Tri	14	28%
Total	50	100%

Based on the table above, it can be seen that Telkomsel card is the most dominant card purchased by respondents with a frequency of 22 people (44%). In second place, the card most purchased is the Tri card with a frequency of 14 people (28%), followed by the XL-Axiata card with a frequency of 9 people (18%), and the fourth card is the Indosat Ooredoo card with a frequency of 5 people (10%).

#### Overview of Internet Data Package Merchant

Respondents Respondents based on monthly income can be seen from the table below:

Table 5. Income Amount

Income Amount	Frequency	Percentage
< 1 million	7	28%
1-2 million	10	40%
2-3 million	5	20%
> 4 million	3	12%
Total	25	100%

From the data, it can be seen that the income obtained from trading internet data cards is dominated by income of 1-2 million, which is 40% with a frequency of 10 people. Next, income < 1 million is 28% with a frequency of 7 people, income 2-3 million is 20% with a frequency of 5 people. And income >4 million per month is 12% with a frequency of 3 people. It can be seen that with a small capital, the income obtained every day can reach millions of rupiah.

Table 6. Profit/Card

Profit/Card	Frekuensi	Presentase
< Rp.5000	5	20%
Rp.5000 s/d Rp.10.000	19	76%
Rp.10.000 s/d Rp.15.000	1	4%
Total	25	100%

From the table, it is known that the most dominant profit obtained by traders is Rp.5000 to Rp.10,000, which is 76% with a frequency of 19 people out of 25 people surveyed. Furthermore, profits < Rp.5000 are 20% with a frequency of 5 people, and profits Rp.10,000 to Rp.15,000 are only 4% and only 1 person.

#### Development of Mobile Operators Seen From Total Annual Revenue

In the development of mobile operators, if seen from the total annual revenue, only three mobile operators will be considered: Telkomsel, XL-Axiata, and Indosat Ooredoo. This is because the total revenue for the Tri card is not published for the country of Indonesia but only for the continent as a whole. As we know, the Tri card is entirely owned by foreign companies from Hong Kong and Thailand. The total annual revenue of operators can be observed in the table below:

Table 6. Mobile Operator

No	Mobile Operator	2019	2020	2021	2022
1	Telkomsel	60,031	66,252	76,054	86,725
2	XL-Axiata	21,350	23,569	22,960	21,341
3	Indosat Ooredoo	8,371	7,395	7,274	7,994

If we look at Figure above, it is evident that Telkomsel is also a mobile operator with the highest revenue among other operators. In 2018, Telkomsel generated 54,531 M, consistently increasing every year until 2022 when Telkomsel successfully earned 86,725 M. This amount is significantly different from the total revenue generated by XL-Axiata and Indosat Ooredoo. In 2018, XL-Axiata generated 21,278 M and increased in 2019 and 2020, but experienced a decrease in revenue in 2021 and 2022, where in 2022, XL-Axiata earned 21,341 M. The highest revenue achieved by XL-Axiata was in 2020, amounting to 23,569 M. The third position is occupied by Indosat Ooredoo with a total revenue of only 8,804 M in 2018, which is very far compared to Telkomsel and XL-Axiata. 2018 was the year when Indosat Ooredoo received the highest total revenue compared to other years; in 2022, Indosat only generated 7,994 M. If we look at the Telkomsel graph, both in terms of the number of customers and total revenue, it always moves upwards, while XL-Axiata and Tri move not too smoothly or can be said to move significantly.

#### Development of Mobile Operators in Indonesia:

When viewed in terms of the number of subscribers and total revenue, Telkomsel is the mobile operator with the highest number of subscribers among other mobile operators. It is also the mobile operator with the highest total annual revenue. Every year, from 2018 to 2022, Telkomsel has consistently experienced an increase in both the number of subscribers and total revenue.

On the other hand, when examining Indosat Ooredoo, the number of users has also shown development each year. However, if we look at the annual total revenue of Indosat Ooredoo, there is a decline in revenue from 2018 to 2019 and from 2019 to 2022.

In contrast, XL-Axiata has experienced a decrease in the number of users in 2019 and 2020, with a slight increase in 2022. When considering the total annual revenue, there was a decline in 2018, and the increase in 2022 was not too significant.

Finally, the operator Tri can be considered to have an increasing number of users from year to year. In fact, by 2018 alone, it already had 60 million subscribers.

### 3. Conclusion

Based on the research findings, it can be concluded that the development of digital technology, as observed through the usage of internet data packages in Indonesia, continues to experience growth each year. This is evident from the increasing number of subscribers and total revenue of data package providers,

reflecting the positive trend in both subscriber base and revenue. The advancement of internet technology significantly influences the increased sales of internet data cards. The package price (HP) has a positive and significant impact on the income of internet data card merchants. However, the variables of the quota package quantity (JKP) and the active period (LMA) have a positive but insignificant effect on internet data card merchants. The high consumer interest in using internet data packages is one of the reasons why various telecommunications companies in Indonesia employ different strategies to meet public demand.

The rise in the digital technology landscape accompanies the increased sales of internet data cards, as not all communities can afford to install Wi-Fi networks in every household. This situation prompts innovation from each provider to remain competitive. Every year, public demands continue to rise, not only in terms of total phone or SMS users but also due to the increasing use of data cards. This indicates that internet progress brings significant benefits to each mobile operator. Consumers are willing to incur additional monthly expenses for internet package needs, as internet technology has become an integral part of the lifestyle and daily requirements for society.

## References

- Annual Report Telkomsel, 2022. [www.telkomsel.com](http://www.telkomsel.com). (Diakses pada tanggal 20 Oktober 2023)
- Annual Report XI-Axiata, 2022. [www.xl.co.id](http://www.xl.co.id). (Diakses pada tanggal 20 Oktober 2023)
- Ariefianto, Moch. Doddy. 2022. *Ekonometrika Esensi dan Aplikasi dengan menggunakan E-Views*. Jakarta:Erlangga
- Asosiasi Penyelenggara Jasa Internet, 2022. Hasil survey 2023. <https://www.apjii.or.id> (Diakses pada tanggal 21 Oktober 2023)
- Gujarati, Damodar. 2006. *Dasar-dasar Ekonometrika Edisi Ketiga Jilid 1*. Jakarta:Erlangga
- Indosat Ooredoo. Annual Report, 2022. <http://www.indosatooredoo.com>. (Diakses pada tanggal 21 Oktober 2023)
- Internet World Stats Usage and Population Statistic, 2022. Hasil survey 2022 [www.internetworldstats.com](http://www.internetworldstats.com). (Diakses pada tanggal 18 Oktober 2023)
- Kominfo, 2011. *Regulasi Pemerintah tentang Tarif Interkoneksi tahun 2011*. <https://jdih.kominfo.go.id>. (Diakses pada tanggal 18 Oktober 2023)
- Kotler, Philip Dan Gary Armstrong 2002. *Dasar-dasar Pemasaran. Jilid 1* Jakarta:PT.Indeks
- Kotler, Philip Dan Kevin Lane Keller 2009. *Manajemen Pemasaran. Jilid 2* Jakarta:PT.Indeks
- Kuncoro, Prof. Mudrajad Ph.D 2013. *Metode Riset*.Edisi ke 4 Jakarta:Erlangga
- Manurung, Mandala Dan Prathama Rahardja 2008. *Pengantar Ilmu Ekonomi Edisi ke 3* Jakarta:Fakultas Ekonomi Universitas Indonesia
- Phindyck, Robert S. dan Daniel L. Rubinfelds 2012. *Mikroekonomi. Edisi Kesembilan*. Jakarta:Erlangga
- PT. Hutchison 3 Indonesia, 2022, <http://tri.co.id>. (Diakses pada tanggal 20 Oktober 2023)
- Republik Indonesia. 2016. *Undang-undang No. 19 Tahun 2016 Tentang Undang-undang Informasi Teknologi dan Elektronik*.
- Tjiptono, Fandy Ph.D & Gregorius Chandra 2012. *Pemasaran Strategik*. Yogyakarta:Andi