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## Consumer Empowerment Index in the Telecommunications Sector: The Role Of Socio-Demographic and Lifestyle

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### Abstract

*Consumer empowerment is a benchmark for business, especially in the telecommunications sector, for economic fundamentals. This study aims to analyze the effect of social, demographic and economic characteristics and lifestyles on consumer empowerment in the telecommunications sector. This study applied a cross-sectional study with data collection by online survey. Cluster analysis and logistic regression were used to analyze 100 data. The results showed that consumer empowerment in the telecommunications sector was still relatively low. The average level of consumer empowerment in the telecommunications sector was 51.61, including the capable category. Based on dimensions, the index of information seeking was 80.8, knowledge of laws and consumer protection institutions was 52.8, service selection was 63.8, usage behavior was 71.0, tendency to talk was 43.7, and complaint behavior was 27.7. The full-fulfilled lifestyle had a significant negative effect on consumer empowerment in the telecommunications sector. Thus, respondents who had a lifestyle other than a fulfilled lifestyle had more opportunities to be empowered than a fulfilled lifestyle. This research is a breakthrough in the study of thematic consumer empowerment, so it needs to be developed in the future.*

*Keywords—Consumer Empowerment; Demographics; Economic; Lifestyle; Social*

### Abstrak

Keberdayaan konsumen merupakan tolak ukur bisnis, terutama di bidang telekomunikasi karena alasan fundamental ekonomi. Penelitian ini bertujuan untuk menganalisis pengaruh karakteristik sosial, demografi dan ekonomi serta gaya hidup terhadap keberdayaan konsumen pada sektor telekomunikasi. Penelitian ini menggunakan studi *cross-sectional* dengan pengumpulan data dengan survei online. Analisis *cluster* dan regresi logistik digunakan menganalisis 100 data. Hasil penelitian menunjukkan bahwa keberdayaan konsumen di bidang telekomunikasi masih tergolong rendah. Tingkat keberdayaan konsumen di bidang telekomunikasi rata-rata 51.61 termasuk kategori mampu. Jika dilihat per dimensi, indeks informasi pencarian capaian adalah 80.8, pengetahuan undang-undang dan lembaga perlindungan konsumen 52.8, pemilihan jasa 63.8, perilaku penggunaan 71.0, kecenderungan bicara 43.7, dan perilaku komplain 27.7. Gaya hidup *fullfilled* berpengaruh negatif signifikan terhadap keberdayaan konsumen di bidang telekomunikasi. Dengan demikian, responden yang memiliki gaya hidup selain *fulfilled*, memiliki lebih banyak peluang untuk berdaya daripada gaya hidup yang *fulfilled*. Penelitian ini menjadi terobosan dalam studi tentang keberdayaan konsumen tematik, sehingga perlu dikembangkan ke depan.

*Kata kunci—Demografis; Ekonomi; Gaya Hidup; Keberdayaan Konsumen; Sosial*

## I. INTRODUCTION

Changes in the global environment and the rapid development of telecommunications technology prompted fundamental changes, gave birth to new telecommunications, and shifted in perspective in telecommunications operations (Article C of the Republic of Indonesia Law No. 36 the Year 1999 Telecommunications). Telecommunication as an information system and technology is essential because it impacts consumer lifestyle

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changes. It leads to the rise of social and economic activities, such as in the business sector (e-commerce), education sector (electronic education), the health sector (telemedicine), and many more (Supangkat, 2000). However, various violations of consumer rights still often occur in multiple sectors. Sometimes even consumers are not aware that their rights are being violated. The incidents that occur vary from simple to complex cases (Safari & Simanjuntak, 2020).

Telecommunications development is expected to ease consumer activities. Although it is advantageous, other than getting relief for the consumer, telecommunications also raises consumer complaints, such as low network quality, delayed services, or unrealized promises by telecommunication services or providers (Nimako, 2012). According to Indonesian Consumers Foundation (YLKI), in 2013, YLKI received 934 complaints from consumers all over the country. It increased to 1192 cases in 2014 and 1030 cases in 2015. The Indonesian Consumers Foundation (YLKI) recorded 71 and 83 complaints about telecommunication services in 2014 and 2015. The growing number of complainers coming into YLKI shows that complaint habit is being built (Indonesian Consumers Foundation, 2016). Complaint data from the Indonesian Consumers Foundation (2016) on telecommunications services occupy the highest three cases from 2014 to 2015. Telecommunication exists to fulfil consumer needs by using the network (Republic of Indonesia Constitution No. 36/1999 on Telecommunication). According to YLKI (Indonesian Consumers Foundation, 2016), complaint data within the telecommunication sector in 2015, such as non-transparent rates (18%), network problems (13%), not satisfied with customer service (8%), and unknown phone bill and premium content (13%).

From January to July 2020, complaints submitted to the National Consumer Protection Agency (BPKN) reached 1040 cases, including housing (458), finance (153), telecommunications (50), e-commerce (224), transportation (36), electronics, telematics and motor vehicles (16), household electricity and gas (17), medicine and food (3), health services (4) and others (79) (BPKN, 2020). This occurs due to the limited knowledge of consumers regarding their rights and obligations, irresponsible business actors who sometimes still take advantage of consumers' ignorance of their rights, and the government's role that has not been optimal in making policies and regulations as well as supervision (Safari & Simanjuntak, 2020). In contrast, legally, consumers are protected by the Consumer Protection Law (UUPK) Number 8 of 1999 concerning Consumer Protection. Consumer protection is defined as any effort that ensures legal certainty to protect consumers in the consumer protection law.

Based on the problems mentioned above, consumers are easily exposed to fraud and loss, requiring more skills and knowledge than before. The efforts to improve consumers' knowledge and understanding can be attained by empowering consumers to make the right purchasing decisions. Consumers are empowered if they are aware of their rights and obligations and interact with the market. Consumer empowerment can be viewed from consumer skills, experience dealing with unfair business, and consumer assertiveness (Simanjuntak, Amanah, Puspitawati, & Asngari, 2014a). Various studies have also been carried out to determine Indonesian consumers' empowerment and map the national CEI. Simanjuntak and Mubarakah (2020) found that the average Consumer Empowerment Index (CEI) in urban areas (41.9) was higher than in rural areas (28.6). Thematic development of consumer empowerment indexes is carried out in several sectors. The research results show that the average index of consumer empowerment in the formal education sector was 54.34 (Simanjuntak & Umiyati, 2020), online shopping was 49.7 (Simanjuntak, 2019a), electronic products were 41.78 (Simanjuntak & Putri, 2018), and services in the health sector was 48.85 (Simanjuntak & Yuja, 2013). Other research by Gazzola, Colombo, Pezzetti and Nicolescu (2017) studied consumer empowerment in the digital economy.

Previous research showed that socio-economic characteristics positively influenced consumer empowerment, the intensity of consumer education and are negatively affected by the reference group, age (Nardo, Loi, Rosati, & Naica, 2011; Simanjuntak & Putri, 2018), gender (Midha, 2012; Simanjuntak, 2020), ethnicity, and income (Simanjuntak, Amanah, Puspitawati, & Asngari, 2013; Tayde & Chole, 2010; Simanjuntak, 2020; Simanjuntak & Tesiana, 2021). In addition, employment status (Gholipour, Rahimian, Mirzamani, & Zehtabi, 2010; Simanjuntak & Saniyya, 2021) and education level (Simanjuntak, Amanah, Puspitawati, & Asngari, 2014b; Simanjuntak & Putri, 2018; Simanjuntak & Tesiana, 2021), and geographic location (Sun & Wu, 2007; Wiklander, 2010) can affect consumer empowerment.

Based on the previous research on consumer empowerment and the influence factors, it is still not widely done in Indonesia, especially in the telecommunications sector. Therefore, further research becomes essential. This study analyzes social, demographic, economic factors and lifestyles on consumer empowerment and its dimension in the telecommunication sector. Consumer empowerment needs to be measured as a benchmark for the business, particularly in the telecommunication sector, due to economic fundamentals. The economy can run if there are transactions between consumers and business actors. Therefore, it is essential to maintain confidence

to transact between the two. Lack of confidence in transactions on one of the parties will prevent the transaction so that the economy will not running and grow.

## II. LITERATURE REVIEW

### A. Consumer Empowerment

Consumer empowerment is an awareness and understanding of consumers about their rights and obligation, also their ability to interact with the market. The consumer empowerment index stands for consumers empowered in the six dimensions: knowledge of laws and consumer protection agencies, information-seeking, selection of services, behavioural use, tendency to talk, and complaints behaviour (Simanjuntak, 2019b). According to Wathieu, Brenner, Carmon, Chattopadhyay, Wertenbroch, Drolet, Gourville, Muthukrishnan, Novemsky, Ratner, and Wu (2002), consumer empowerment can help consumers to choose what they want in their way. Consumer empowerment can be reflected in consumer skills, knowledge of consumer protection laws and institutions, the tendency to talk, information search, and complaint behaviour (Simanjuntak, 2019b). It was found that consumer empowerment, both in urban and rural areas, is low (Simanjuntak, Amanah, Puspitawati, & Asngari, 2014a).

Starting in 2015, the consumer empowerment index mapping was carried out in 34 provinces in Indonesia. In 2019, measurements were carried out in 11 provinces with the CEI achieving 41.70, an increase of 1.29 points from 2018 (40.41). The lowest performance dimensions were complaint behaviour (15.76) and knowledge of laws and consumer protection institutions (23.09). The achievement of Indonesian CEI is still much lower than the European Union in 2011 (51.31), Malaysia in 2013 (56.9), and South Korea in 2018 (65.5) (Simanjuntak, 2019b).

### B. Lifestyle

Lifestyle stands for personal behaviour in managing their lives, using their money and time (Mowen & Minor, 2001). Engel, Blackwell, and Miniard (2000) divided consumer lifestyle into six categories: achievers, strivers, fulfilled, believers, experiencers, and makers. Achievers are resourceful, winning status, concerned about images, easily affected, avoid risks, interested in inexpensive products, and like everything that can elevate their social status. Strivers have low resources, are focused on level or care about images, have ambitions to get what they want, tend impulsivity, and follow the trend. Fulfilled are those who have abundant resources, focus on principle, are wiser or more mature towards things that are spiritual, responsible, and knowledgeable, not too concerned about images, and like to learn about new things. Believers have a traditional mindset, low resources, hold principles, are realistic, are challenging to deal with new things, have a better routine for a long time, and have a predictable lifestyle. Experiencers have excessive resources, choose actions, take risks, follow trends, try new things, consumptive against new things, are aggressive or have big enthusiasm, and are not followed by consideration. Makers have low resources, choose practical actions, focus on family, conservative purchase behaviour, buy goods needed and durable for convenience.

### C. Factors Influences Consumer Empowerment

The hypothesis and framework concerning social, demographic, and economic characteristics and lifestyle toward consumer empowerment in the telecommunications sector are based on the previous research.

The European Commission (2011) found that consumer education has a significant positive effect on the consumer empowerment index. Dasipah, Budiyo, and Julaeni (2010) also found that the higher the consumer education level, the higher the product quality. According to Raquib, Anantharaman, Eze, and Murad (2010), education level affects individuals seeking information through media information such as television, the internet, and word of mouth. Next, Suja (2012) stated that education affects consumer empowerment. Other researchers also proved the relationship between education and the empowerment such as Ekanem, Ekanem, Tegege, & Singh, (2006), European Commission (2011), Simanjuntak, Amanah, Puspitawati, and Asngari (2014a), Simanjuntak and Putri (2018), as well as Simanjuntak and Tesiana (2021). In addition, the consumer empowerment index is influenced significantly and positively by consumer work activity (Nardo, Loi, Rosati, & Naica, 2011; Gholipour, Rahimian, Mirzamani, & Zehtabi, 2010). Simanjuntak and Saniyya (2021) also found the relationship between employment status and empowerment.

H1 : Education significantly affects consumer empowerment

H2 : Employment status significantly affects consumer empowerment.

Nardo, Loi, Rosati, and Naica (2011) found that the older the age, the lower the awareness and skills in exercising consumers' rights. The same result could also be found in Lyon, Kinney, and Colquhoun's (2002) study, which stated that the older the consumer age, the more difficult it is to access product/service information before making a purchase. Other researchers also proved the relationship between age and the empowerment such as Heung and Lam (2003), as well as Khan (2010). In addition, Wiklander (2010), Simanjuntak, Amanah, Puspitawati, and Asngari (2014a), as well as Gunasekaran and Ezhil (2012) concluded that geographical location positively affects consumer empowerment. Midha study (2012) and Simanjuntak (2020) concluded that gender significantly influence the empowerment.

H3 : Age significantly affects consumer empowerment

H4 : Geographical location significantly affects consumer empowerment

H5 : Gender significantly affects consumer empowerment

According to Tayde and Chole (2010), income influences empowerment. Income significantly affect the empowerment accoring to Solnick and Hemenway (1992), Simanjuntak (2014), Tayde and Chole (2010), Simanjuntak (2020) as well as Simanjuntak and Tesiana (2021). Sun and Wu (2007) mentioned a difference in the use of products that reflect the lifestyle orientation between urban and rural consumers in China. Urban consumers prefer products that can reflect their ability to the resources they possess (Simanjuntak and Mubarokah, 2020).

H6 : Income significantly affects consumer empowerment.

H7 : Lifestyle significantly affects consumer empowerment.

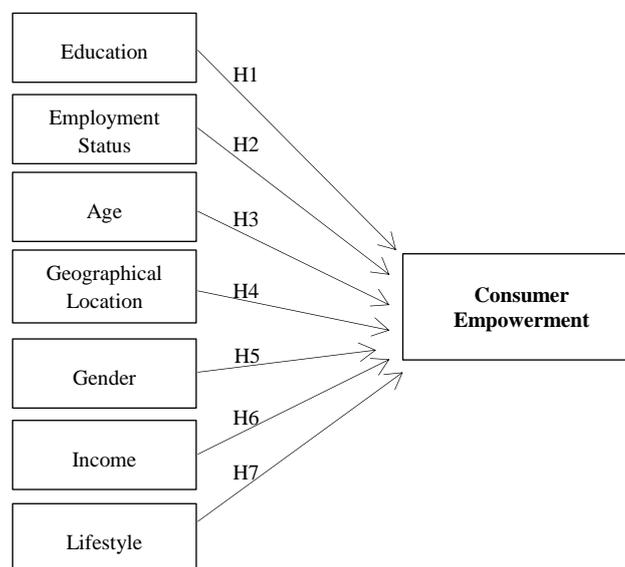


Figure. 1. Research Framework

### III. RESEARCH METHODOLOGY

#### A. Research Design

This research used a quantitative approach and cross-sectional study. The cross-sectional study design was chosen because it is research at one time.

#### B. Sampling Technique

In this study, respondents' criteria were consumers aged 17-60 due to at this stage of adulthood development, understand ideas, issuing opinions that can be accountable and able to analyze. A total of 129 questionnaires were filled out online, but only 100 data were chosen that matched the preferred criteria. The criteria used for selecting the respondents were the completeness of filling in. The sample selection technique used is the nonprobability sampling method, namely the accidental technique. The choice of this method is due to the

population that is not known so the random method cannot be implemented and the availability of samples in filling out the questionnaire without knowing the conditions proposed by the researcher before the respondents open the questionnaire link.

### C. Data Collection

The type of data studied is primary data. Primary data were obtained from the results of online questionnaires. The questionnaire is in the form of closed questions and open questions to deepen the results obtained. The questionnaire, which is a tool in data collection, contains the variables studied in the study. The data collection method used was an online survey using the online google form survey site. The questionnaire link is shared with friends, family, and relatives via social media. Then they were asked to share the questionnaire link with others.

### D. Measurement

The variables studied were social characteristics (education, employment status), demographic characteristics (age, gender, geographic location), economic characteristics (income), lifestyle, and consumer empowerment in the telecommunications sector. Consumer empowerment was divided into six dimensions: knowledge of laws and consumer protection agencies that stand for the respondents' understanding of consumer protection laws, rights as consumers, consumer protection, and consumer protection agencies in Indonesia (Simanjuntak, 2019b). Seeking information stands for respondents' searching for information before using telecommunications services. The selection of telecommunications services stands for respondents' ability in using telecommunications services under internet package information, internet information speed, and internet time. The behaviour used stands for the attentive ability when using and using the services. The tendency to talk tells others about the bad or good experiences of using telecommunications services. Complaint behaviour stands for filing a complaint toward a related company.

Lifestyle was measured by giving a checklist on the column suitable for the respondent's lifestyle. Lifestyle instrument used VALS 2, adopted from Willbanks (2005) with Likert scale (1= Strongly disagree; 2= Disagree; 3= Agree, 4= Strongly agree) using 20 questions. The lifestyle category developed from VALS 2 is achievers, strivers, fulfilled, believers, experiencers, and makers. Next, the consumer empowerment instrument was adopted from Simanjuntak (2019b). Pre-purchase used 13 questions with the Guttman scale (1= have done/right; 0= have not done/wrong), purchase with ten questions using the Guttman scale, and post-purchase with six questions using a four-Likert scale (1=never; 2=sometimes; 3=often; 4=always), and 16 questions about complaint behaviour using Guttman scale. Instruments were tested to get reliable tools. Table 1 shows Cronbach's alpha for all variables and dimensions. The results showed that all variables were reliable.

Table 1. The Cronbach's Alpha

Dimension/Variable	Number of indicators	Cronbach's alpha
Information-seeking	9	0.755
Knowledge of the law and consumer protection agencies	4	0.633
Selection of services	4	0.542
Usage behaviour	6	0.645
Tendency to talk	6	0.920
Complaint behaviour	16	0.958
Lifestyle	20	0.808

### E. Data Analysis

The questions on each variable were scored and then added up to obtain a composite score. Furthermore, obtaining a lifestyle score was done by adding a score of 1 for the answer "strongly disagree" to a score of 4 for the answer "strongly agree." Furthermore, obtaining the empowerment index is done by adding up the scores of all questions per dimension. Then, the composite score is transformed into an index of 0 to 100. After obtaining the index for all dimensions, each dimension of the consumer empowerment index was weighted to get the consumer empowerment index. Weighting was based on Simanjuntak (2019b), namely: 20% for information-seeking, 10% for knowledge of law and consumer protection agencies, 5% for service selection, 15% for usage behaviour, 5% for a tendency to talk, and 40% for complaints behaviour. Data processing was performed using Microsoft Excel and Statistical Package for Social Science (SPSS) 1.6 for Windows.

Each dimension of consumer empowerment was categorized based on the index. The category of information-seeking dimensions used the cut-off: inactive (index <60), quite active (index 60-79), and active (index ≥80). Then, cut off for the knowledge, the usage behaviour of telecommunication services, the selection of telecommunication services, and the tendency to talk have a similar cut-off, they are low (index <60), moderate (index 60-75), and high (index > 75). The last classification was on the dimension of complaint behavioural with a cut-off: low (index ≤ 25), relatively low (index 25.1-50), high (index 50.1-75), and very high (index > 75).

Consumer empowerment index (CEI) was then categorized by dividing the index into five groups based on Simanjuntak (2019b) as follows: (1) aware (CEI range from 0 to 20.0), i.e., knowing fundamental rights and obligations as a consumer; (2) understand (CEI range from 20.1 to 40.0), i.e., understanding the rights and obligations of consumers to protect themselves; (3) capable (CEI range from 40.1 to 60.0), i.e., able to use the rights and obligations of consumers to determine the best choice; (4) critical (CEI range from 60.1 to 80.0), i.e., playing an active role in fighting for rights and implementing obligations; and (5) empowered (CEI 80.1-100.0), i.e., fighting for their right as consumers.

The lifestyle used VALS 2 adapted from Willbanks (2005), which is grouped into six types of lifestyles, i.e., achievers, strivers, fulfilled, believers, experiences, and makers. To obtain the lifestyle score, the scale ranging from "strongly disagree" scored one to "strongly agree" scored four. Cluster analysis was performed to group the lifestyle types.

A logistic regression test is conducted to test the factors that influence consumer empowerment in the telecommunications sector. Using logistic regression is that the model is not fit when multiple linear regression analysis is used. In the logistic regression analysis, the consumer empowerment index (Y) is grouped into 1 = capable; 0 = not capable, the lifestyle is grouped into (1 = lifestyle fulfilled; 0 = lifestyle non fulfilled).

The logistic regression equation of the influence of social, demographic and economic characteristics and lifestyle on consumer empowerment in the telecommunications sector is:

$$Y = \alpha + D_1X_1 + D_2X_2 + \beta_1X_3 + D_3X_3 + D_4X_4 + D_5X_5 + D_6X_6 + D_7X_7 + \varepsilon$$

whereas:

- Y : Consumer Empowerment (1 = capable; 0 = unable)
- A : Regression constant
- $\beta_{1-7}$  : Regression coefficient
- X<sub>1</sub> : Education (0 = secondary education; 1 = higher education)
- X<sub>2</sub> : Employment status (0 = not working; 1 = working)
- X<sub>3</sub> : Age (0 = early adult; 1 = intermediate adult)
- X<sub>4</sub> : Geographical Location (0 = Rural; 1 = Urban)
- X<sub>5</sub> : Gender (0: male; 1: female)
- X<sub>6</sub> : Income (rupiah / capita / month)
- X<sub>7</sub> : Lifestyle (0 = non fullfilleds; 1 = fullfilleds)
- $\varepsilon$  : Error

#### IV. RESULT AND DISCUSSION

##### A. Characteristics of Respondents

The average length of education is 13.28 years (senior high school). Most of the respondents (73%) in this study were unemployed. The results showed that most of the respondents (96%) were in the early adult category (17-40 years), with an average age of the overall respondents being 22.98 years. Seven of ten respondents live in rural areas. The highest percentage of respondents are female (67%). The average income was Rp1,995,200 per month, with 50% in the range of ≥Rp1,500,000 per month.

##### B. Lifestyle

Lifestyle is a person's behaviour in managing life, money, and time (Mowen & Minor, 2001). Based on the cluster analysis results, fulfilled (23%) is the most common lifestyle for respondents (Figure 2). The characteristics of a fulfilled lifestyle are adult, confident, and professional in work, feeling satisfied with their

careers and the environment, often spending time on fun, enjoying buying long-lasting products, always knowing the development of the outside and welcome with new information as well as social change.

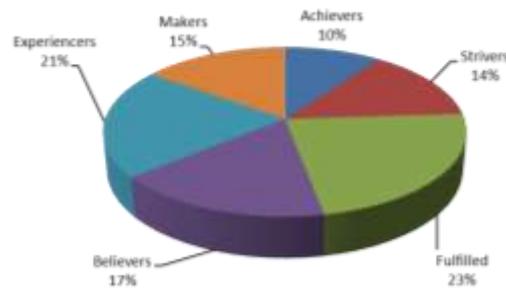


Figure 2. The Category of The Respondents' Lifestyle

### C. Information-Seeking

The information-seeking dimension is how often the consumer searches for information before using telecommunication services. The categories of information-seeking before using telecommunications services are divided into inactive (<60), moderately active (60-79), and active ( $\geq 80$ ). The average information-seeking index was 80.78 out of 100, which means that it belongs to the active category. The category for the highest information search frequency was the active category at 60.0 percent. Then 17.0 percent of the respondents fall into the category of not actively seeking information in the telecommunications sector. It means that more than half of the respondents were active in seeking information before using telecommunications services.

### D. Knowledge of Law and the Consumer Protection Agencies

This dimension measures how to understand consumer protection laws, rights as consumers, consumer obligations, and consumer protection agencies in Indonesia. More than half of the respondents (68%) know about consumer rights. Approximately 5 out of 10 respondents did not know about consumer protection agencies, were unaware of consumer liability (51%), and did not know about consumer protection legislation (50%) (Table 2). It can be concluded that the respondents know more about consumer rights.

Table 2. Knowledge of The Consumer Protection Law and Agencies

Indicators	Know (%)	Do not know (%)
1. Consumer protection laws	50.0	50.0
2. Consumer rights	68.0	32.0
3. Consumer liabilities	49.0	51.0
4. Consumer protection agencies	44.0	56.0

### E. Selection of Service

The dimension of telecommunication service selection measures how capable consumers are in using telecommunication services according to internet package information, internet speed information, and internet time. Consumers capable of choosing services when purchasing the internet package notice was 78% (Table 3). Measurements on the dimensions of the selection of telecommunication services aim to make the respondents more accurate and prove they suffer losses.

Table 3. Selection of telecommunication services

Indicators	True (%)	False (%)
1. Notice the correct internet package	78.0	22.0
2. Internet speed notification	49.0	51.0
3. Download speed of file	70.0	30.0
4. The time when downloading files	58.0	42.0

### F. Usage Behavior

Telecommunications services' usage behaviour measures how thorough consumers purchase telecommunications services. Most of the respondents asked the seller when they were hesitant (Table 4). Then, four out of ten respondents never keep proofing of payment modem.

Table 4. Usage Behaviour on Telecommunications Services

Indicators		Ever (%)	Never (%)
1.	Keep the proof of payment for the modem	52.0	48.0
2.	Keep the proof of payment of credit/quota	68.0	32.0
3.	Set a budget to buy pulse/quota	75.0	25.0
4.	Purchase quotas/pulses on a budget	75.0	25.0
5.	Buying quotas as needed	69.0	31.0
6.	Ask the seller when in doubt	87.0	13.0

### G. Tendency to Talk

The tendency to talk is to measure how often consumers often remind others about bad/good experiences using telecommunications services. Respondents always share good experiences when they suffer losses to their family (8%), friends (6%), and relatives (6%). It can be concluded that consumers tell more about good experiences than bad experiences (Table 5).

Table 5. Tendency to Talk

Indicators		Never	Sometimes	Often	Always
1.	Telling bad experiences to the family	14.0	54.0	29.0	3.0
2.	Telling good experiences to the family	9.0	42.0	41.0	8.0
3.	Telling bad experiences to a friend	10.0	58.0	20.0	2.0
4.	Telling good experiences to a friend	8.0	46.0	40.0	6.0
5.	Telling bad experiences to relatives	17.0	55.0	25.0	3.0
6.	Telling good experiences to relatives	10.0	51.0	33.0	6.0

### H. Complaint Behavior

This dimension measures how consumers file complaints to business actors regarding the purchase of telecommunications services. About 68% of respondents fall into the very poor category, and only 16% of respondents are in a very good category. It can be concluded that the respondents still lack awareness in complaining when experiencing loss or dissatisfaction with telecommunication services. Only 11% of respondents fall under the category of lack of complaint behaviour (Figure 3). Complaint behaviour which is still very low as part of consumer empowerment needs more attention. The government and related institutions need to socialize the procedures for submitting complaints and compensation through print and electronic media and provide mediation/advocacy assistance in a dispute with business actors. Business actors are encouraged to provide a channel for complaints (Simanjuntak & Hamimi, 2019).

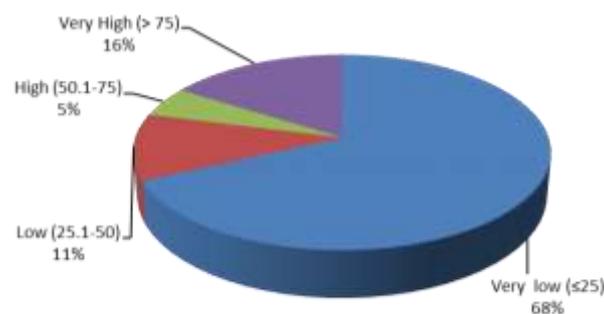


Figure 3. Category of Complaint Behaviour

Six out of ten respondents reached the capable category. This is in line with the results of the study of Nardo, Loi, Rosati, and Naica (2011), who surveyed the consumer empowerment index in 29 countries in Europe, which is in the category capable. Altogether more than half of the respondents are included in the category capable, and no respondents are included in the empowered category. Therefore, it shows that consumer empowerment in the telecommunication field is relatively high.

### I. Consumer Empowerment Index

The Consumer Empowerment Index value for the telecommunications sector is 51.6. If viewed per dimension, the achievement of the information-seeking index is 80.8, knowledge of consumer protection laws & institutions 52.8, product selection 63.8, usage behaviour 71.0, tendency to talk 43.7, and complaint behaviour 27.7. Meanwhile, the lowest index dimension is the dimension of complaint behaviour. Based on its dimensions, information-seeking has the highest index score than the rest dimensions, which means that the respondents in telecommunications had conducted information-seeking when the pre-purchase and were included in the good category. Meanwhile, the lowest index dimension is the dimension of complaint behaviour. Respondents are still deficient in demanding their rights. They lack the awareness to make complaints when they are not satisfied or disappointed in telecommunications services (Figure 4). This research is in line with the other researchers finding that complaint behaviour becomes the lowest index among different dimensions (Simanjuntak, 2018; Simanjuntak & Umiyati, 2020; Simanjuntak, 2019a; Simanjuntak & Yuja, 2013; Simanjuntak & Putri, 2018). This finding is also in line with Simanjuntak's research (2019b) which stated that the CEI value for Indonesia in 2019 is 41.70. When viewed per dimension, the information search index achievement is 43.50, knowledge of consumer protection laws & institutions 23.09, product selection 46.98, purchasing behaviour 55.74, speaking tendency 53.89, and complaint behaviour 15.76. Likewise, when compared with the research results of Nardo, Loi, Rosati, and Naica (2011) regarding consumer empowerment in 29 European countries, amounting to 51.31, then CEI's achievements in research are not too different. Therefore, it shows that consumer empowerment in the telecommunications sector is relatively high.

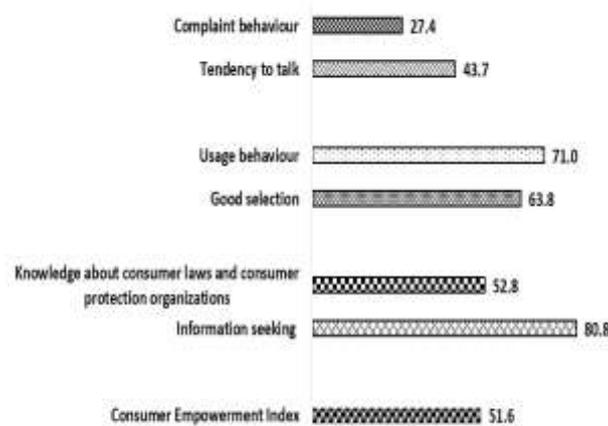


Figure 4. Consumer Empowerment Index In The Telecommunications Field

Based on Simanjuntak (2019b) study, the consumer empowerment index is divided into five categories: conscious, understand, capable, critical, and empowered. Figure 5 shows as many as 6 out of 10 respondents only reached a capable stage. The findings are in line with Simanjuntak's (2019) study, which indicates that for Indonesia, as a whole, more than half of consumers (54%) are in the well-off category. This means that consumers have been able to use the rights and obligations of consumers to determine the best choice, including using domestic products for themselves and their environment.

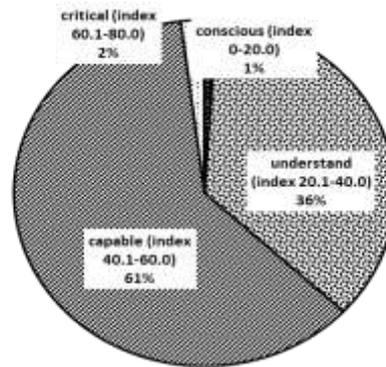


Figure 5. Consumer empowerment index category

### J. Factors Affecting the Consumer Empowerment Index in the Telecommunication Sector

The results of the logistic regression analysis showed that all the independent variables studied (age, gender, geographic location, employment status, length of education, income, and lifestyle of fulfilled) simultaneously had a significant effect ( $p < 0.05$ ) on the dependent variable, namely consumer empowerment in the field of telecommunication. The logistic regression shows that only H4 is accepted (Table 6). This means that only one out of seven hypotheses that accepted. Consumers with a non-fulfilled lifestyle then tend to have the opportunity to empower consumers in the telecommunications sector by 1 / 0.965 or 1.05 times. This means that people who have a lifestyle other than fulfilled are more empowered than the fulfilled lifestyle.

Table 6. The Logistic Regression Result

Hypothesis	Independent Variables	B	Sig.	Exp(B)	Conclusion
H1	Education (0=medium, 1=high)	-0.206	0.804	0.814	Reject H1a
H2	Employment Status (0=unemployee, 1= employee)	0.983	0.259	2.672	Reject H1b
H3	Age (0=early adult, 1=middle adult)	0.255	0.825	1.291	Reject H2a
H4	Geographical Location (0=rural, 1=urban)	-0.529	0.289	0.589	Reject H2b
H5	Gender (0=male, 1=female)	0.169	0.421	1.185	Reject H2c
H6	Income/capita (0=IDR <1.500.000; 1=IDR $\geq$ 1.500.000)	-0.034	0.653	0.805	Reject H3
H7	Lifestyle (0=non fullfills; 1=fullfills)	-0.034	<b>0.042*</b>	0.966	Accept H4
	Constants	2.160	0.070	8.668	

Note: \* significant at  $p < 0.05$

### K. Discussion

The education did not significantly influence consumer empowerment in the telecommunications sector, so this study rejects hypothesis 1 (H1) and is not in line with prior research (Dasipah, Budiyo and Julaeni 2010; Ekanem, Ekanem, Tegegne, & Singh, 2006; European Commission, 2011; Raquib, Anantharaman, Eze, and Murad, 2010; Simanjuntak, Amanah, Puspitawati, and Asngari, 2014a; Suja, 2012). Employment status does not significantly influence consumer empowerment in the telecommunications sector, so this study rejects hypothesis 2 (H2) and is not in line with previous research (Gholipour, Rahimian, Mirzamani, & Zehtabi, 2010; Nardo, Loi, Rosati, & Naica, 2011). This means that a consumer who works or does not work does not affect his empowerment status. Next, age did not significantly influence consumer empowerment in the telecommunications sector, so this study rejects hypothesis 3 (H3) and does not support previous research (Heung & Lam, 2003; Khan, 2010; Lyon, Kinney and Colquhoun, 2002; Nardo, Loi, Rosati, & Naica, 2011). The difference in age does not make the empowerment of consumers different, meaning that one's awareness and skills in exercising their rights as a consumer are not determined by age.

The geographical location did not significantly influence consumer empowerment in the telecommunications sector, so this study rejects the hypothesis (H4) and is not in line with Wiklander's (2010), Simanjuntak, Amanah, Puspitawati, and Asngari (2014a), as well as Gunasekaran and Ezhil (2012). According to

Chandrasekhar (2012), rural consumers tend to have communication problems and low literacy, so they do not fully understand product information. In addition, gender did not significantly influence consumer empowerment in the telecommunications sector, so this study rejects hypothesis 5 (H5) and is not in line with the Midha study (2012). Finally, income did not significantly affect consumer empowerment in the telecommunications sector, so this study rejects hypothesis 6 (H6) and is not in line with Solnick and Hemenway (1992), Simanjuntak (2014), and Tayde & Chole (2010).

Based on the logistic regression test results, this study supports the hypothesis (H7) that the fulfilled lifestyle, where the respondents of having a fulfilled lifestyle will have a better chance of empowering consumers in the telecommunications sector, decreased by 0.966 times. This is not in line with Simanjuntak and Mubarakah's (2020) research that lifestyle did not affect consumer empowerment. On the contrary, it is in line with Willbanks's (2005) research, namely lifestyle, that has empowered consumers' characteristics. Lifestyle is a picture of a person as a whole when interacting with the environment (Kotler & Armstrong, 2005). Therefore, consumers who have a non-fulfilled lifestyle then tend to have the opportunity to empower consumers in the telecommunications sector by  $1 / 0.965$  or 1.05 times. The results of the research that has been presented are concluded that only the fulfilled lifestyle tends to be able to increase the empowerment of consumers in the telecommunications sector, while other factors do not. This is because telecommunications services have become a person's primary need.

## V. CONCLUSION

The respondents were dominated by early adult females (17-40 years old), employees, senior high school, with an average income of Rp1,995,200 per month, and origin from the rural area. The most common lifestyle of respondents is fulfilled. The level of consumer empowerment in telecommunications is moderately high, with an average is 51.61 which belongs to a capable category. Based on these research results, consumer empowerment in the field of telecommunications is still relatively low. If viewed per dimension, the achievement of the information search index is 80.8, knowledge of consumer protection laws & institutions 52.8, product selection 63.8, usage behaviour 71.0, speech inclination 43.7, and complaint behaviour 27.7. Meanwhile, the lowest index dimension is the dimension of complaint behaviour. Only H4 is accepted from all hypotheses, which support the fulfilled lifestyle. The respondents who have fulfilled lifestyles are less empowered in the telecommunication field.

### A. *Implication for Science*

From the scientific perspective, this research is the first step in developing consumer empowerment instruments in the telecommunications sector because no measuring instrument has been produced. In the future, more research is needed in the field of telecommunications using the tools that have been developed in this study. In this study, the variables studied had not shown a significant effect because of the seven variables analyzed; only one variable was affected. The finding of the significant influence of lifestyle on consumer empowerment supports previous research. However, this needs to be studied further to strengthen the relationship between lifestyle and consumer empowerment. This research is expected to provide information material for the development of science related to consumer science.

### B. *Implication for Policy*

Based on the results, consumer empowerment in the telecommunications field was still low. The low stage occurred because complaint behavior, tendency to talk, knowledge of the law, and consumer protection agencies were still low. It is necessary to increase consumer awareness to talk about good and bad experiences when using services, be aware of their rights as consumers, and dare to use their rights as consumers to file complaints when understanding the rights and obligations of consumers.

Based on the research results, consumer empowerment in the telecommunications sector is still low, especially in the behaviour of complaints, the tendency to speak, and knowledge of laws and consumer protection agencies so efforts to increase consumer awareness are needed to talk about good and bad experiences when using goods/services, being aware of their rights as consumers, dare to use their rights as consumers to file complaints when they are disadvantaged. There should be more activities to increase the consumer empowerment index in the telecommunications sector through information media regarding the socialization of the importance of understanding the rights and obligations of consumers. These information media are television, radio, internet, banners, magazines, newspapers, brochures, leaflets, booklets, outreach to

the community (seminars, informal and formal teaching and learning activities), and books. The most effective media for conducting socialization activities is the internet media. The socialization activities that can be provided are in the form of material on the importance of seeking information before making use of telecommunications services, knowledge of consumer protection laws and institutions in Indonesia, the importance of increasing consumer awareness to talk about good and bad experiences when using telecommunications services, daring to use their right to file complaints when they are disadvantaged.

The involvement of various parties to increase consumer empowerment is necessary. The government, consumer protection agencies, business actors, and the consumers themselves must play a role. Consumer protection institutions such as National Consumer Protection Agency (BPKN), Indonesian Consumer Foundation (BPSK), and Non-Governmental Consumer Protection Agency (LPKSM) should be promoted more. The research results conclude the importance of consumer education involving government, NGOs, and the private sector (Simanjuntak, Amanah, Puspitawati, and Asngari, 2014a; Simanjuntak, Amanah, Puspitawati, and Asngari, 2014b; Simanjuntak, Utami, & Johan 2014). The content of consumer education that needs to be promoted includes the introduction of consumer protection laws and institutions and the introduction of consumer rights and obligations (Simanjuntak & Mubarakah, 2020).

### C. *Limitation and Future Research*

Due to time constraints, the online survey was spread through friends, family, and relatives, leading to bias. The next study could use a broader number of respondents and areas to represent better. For further research, it is required to develop consumer empowerment in the telecommunication field and investigate its correlation with motivation, personality, self-concept, attitude, and other variables.

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