CHAPTER I
INTRODUCTION

1.1 Overview

1.1.1 Telkom Indonesia Company Overview

PT Telkom Indonesia (Persero) Tbk (Telkom) is a State-Owned Enterprise (BUMN), which occupied with data and correspondence innovation (ICT) administrations and media communications arranges in Indonesia. The dominant part investor of Telkom is the Government of the Republic of Indonesia at 52.09%, while the staying 47.91% is constrained by general society.

Figure 1.1 Logo of PT. Telekomunikasi Indonesia Tbk.

Source: www.telkom.co.id, 2019

Telkom Indonesia major businesses is in fixed line telephony, internet and data communications also as parent company of the Telkom Group, which is engaged in a broad range of businesses that consist of telecommunication, multimedia, property and finance services.

With an end goal to change into an advanced media transmission organization, TelkomGroup executes business methodologies and activities of organizations that are client situated. This change will make the TelkomGroup association turn out to be progressively (lean) and light-footed (coordinated) in adjusting to the adjustments in the media communications industry which occurred very rapidly. New associations are additionally expect to expand proficiency and adequacy in making quality client experience. (Source: telkom.co.id, 2018)

1.1.2 IndiHome Overview

Digital services in the form of Home Internet, Home Phones and Interactive TV (UseeTV) that use fiber optic technology. Digital services in the form of Home Internet, Landlines and Interactive TV (UseeTV) that use optical fiber technology.

Figure 1.2 Logo of IndiHome

Source: indihome.co.id, 2019

Triple Play is an IndiHome package consisting of Home Internet (Fixed Broadband Internet), Fixed Phone and Interactive TV (UseeTV). With fiber optic technology, the internet is much faster to 100 Mbps, stable when used together, resistant to any weather conditions and sophisticated. UseeTV is the first interactive TV in Indonesia that provides quality shows with various interesting features, such as Pause and Rewind, Video on Demand, TV Storage and more. Telephone communication services with low cost and clear quality. You get FREE calling freely up to 1000 minutes or the equivalent of 17 hours / month (according to the chosen package) for Local and Long Distance. IndiHome Fiber with interesting Add-On, namely HOOQ, Speed on Demand, Global Call, IndiHome Cloud, Minipack USeeTV, Catchplay, and wifi.id Seamless will benefit and facilitate digital activities. (Source: indihome.co.id, 2018)

1.1.3 TelkomCare Overview

Figure 1.3 Logo of TelkomCare

Source: twitter.com, 2018

TelkomCare is a customer service program created by PT. Telekomunikasi Indonesia Tbk with total followers of 285,000. Which is useful to accommodate

complaints and suggestions from customers especially from users IndiHome. This program is create to reach more subscribers through social media. Customers can submit their complaints and suggestions via direct messages on the Facebook and Twitter platforms @telkomcare.

1.1.4 First Media Company Overview

PT First Media Tbk established itself as a pioneer of integrated telecommunications and multimedia services in Indonesia with the TriplePlay concept, namely subscription television services, high-speed broadband internet services and data communication services through digital telecommunications networks.

Figure 1.4 Logo of Fist Media

Source: firstmedia.co.id, 2018

First Media is a holding company (leading company) that is leading among companies that run the business fields of Technology, Media and Telecommunications (TMT) in Indonesia. All policies, strategies, plans, and steps taken by First Media are internally and externally oriented towards the goal of becoming the leading TMT business company to support the Government's plan to achieve the life goals of the people with the power of digital technology that contributes to the nation's development and national economic development through creative economics and digital economics. (Source: First Media Annual Report, 2017)

1.1.5 FirstMediaCares Overview

Figure 1.5 Logo of Firstmediacares

Source: twitter.com, 2018

FirstMediaCares is one of the accounts on Twitter created by First Media as a place for helping the customers submit their complaints and suggestion about the products and services from First Media. With total followers of 94,000 especially for FastNet, First MediaX, and HomeCable HD. Complaints from customers can be claim through tweets addressed to @firstmediacares, or through direct messages as well.

1.2 Research Background

Today the Indonesian community has taken advantage of the development of technology by trying to use the internet as a thing that helps in everyday life. This can be prove by the increasing internet users in Indonesia from year to year.

Table 1.1 Internet User Growth in Indonesia from 2014-2017

Year	Internet User	Growth
2014	88,100,000	0%
2015	93,000,000	5.32%
2016	132,700,000	29.91%
2017	143,260,000	7.37%

Source: Asosiasi Penyelenggara Jasa Internet Indonesia (APJJI), 2017

Based on the Table 1.1 can be seen that internet users in Indonesia has increased each year. The number of internet user in Indonesia in 2014 reached 88,100,000 and in 2015, the number increases to 93.000.000 with growth 5.32% and in 2016 it increased very significantly to 132.700.000 with fluctuated growth 29.91% compare with last year. In the next year internet users in Indonesia reached 143,260, 000 with growth 7.37%.

Table 1.2 Indonesia Internet Users by Island

Island	Internet User	Population	Penetration Rate
Java	86,339,350	141,000,000	61.23%
Sumatera	20,752,185	50,370,000	41.19%
Sulawesi	8,454,592	17,360,000	48.70%
Kalimantan	7,685,992	18,590,000	41.34%
Bali and Nusa	6,148,796	13,998,000	43.92%
Maluku and Papua	3,330,596	5,194,000	64.12%

Source: Asosiasi Penyelenggara Jasa Internet Indonesia (APJII), 2017

From Table 1.2 above, Java has the biggest amounts of users totally 86,339,350 but Java only occupies the level of penetration of internet spread at number two of 61%. While number first rank own by Maluku and Papua with penetration rate of 64% with the lowest population among the others island which are 5,194,000 with the number of internet users of 3,330,596. The second rank is Sumatera Island with 20,752,185, while the third rank is Sulawesi Island with 8,454,592, the fourth rank is Kalimantan Island with 7,685,992 and the lowest rank is Bali and Nusa with only 6,148,796 users.

Not only has it increased connectivity across the country, the internet has also helped in stimulating other sectors of the economy like banking, finance, software, hospitality and trade. The telecommunication sector in Indonesia includes several segments, namely mobile cellular services, fixed line services, internet and broadband services, and network infrastructure services (Enrico & Partners, 2018). Going forward, Indonesia's young population and rising per capital income, coupled with an increase in smartphone penetration and data speeds, will add to the growth of this sector.

IndiHome and First Media known as the biggest internet service provider in Indonesia. At present IndiHome has 5.5 million customers (Sinaga, 2019). Whereas for First Media has 1.1 million customers (Basuki, 2019). From the observation through the mediakonsumen.com, the authors found several complaints towards IndiHome and First Media customers, and the complaints increased every year.

Table 1.3 Number of Complaint Letter

Year	**IndiHome**	**First Media**
2016	30	1
2017	35	12
2018	80	17
Total	**149**	**30**

Source: mediakonsumen, 2019

The author also found several petitions containing complaints about TelkomCare and IndiHome. The petition found at website on www.change.org, in which it

contains the expectation of the IndiHome customers to the PT. Telekomunikasi Indonesia Tbk. to improve the quality of their services.

Table 1.4 Complaint from Petition of IndiHome

Name	**Year**	**Supporters**
Perbaikan Kualitas Jaringan Internet FO Indihome	2015	116
Telkom Jangan Perdaya Pelanggan Indihome dengan Diskon yang Menyesatkan	2016	154
Kembalikan Layanan Telkom IndiHome Seperti Semula	2016	315
Buruknya Pelayanan Telkom untuk Indihome	2016	688
Telkom yang Semena-mena Terhadap pelanggan, Mengubah Kebijakan Promo dengan Sebelah Pihak.	2016	24,043
Telkom agar Memperbaiki Kualitas Pelayanannya Kepada Konsumen.	2017	7
Total		**25,323**

Source: www.change.org, 2017

From the table 1.4 can see that from the period of 2015 to 2017 there are total of 25,323 supporters of six petitions made. In 2015, there is one petition with 116 supporters. Then in 2016, there are three petitions with 154, 315, 688 and 24,043 respectively.

The author attempted to quote one customer complaint taken from one of the petitions at www.change.org (2017) from a customer named Novendra Sitepu. It is written:

"Saya pasang tanggal 21 November 2017, tanggal 24 November 2017 internet sudah mati total, sudah berkali kali saya meminta perbaikan, namun hingga saat ini tidak pernah ada respon, hanya dijawab akan ditindak lanjuti, bahkan teknisi pun tidak pernah ada yang melakukan kunjungan. Dengan biaya berlangganan yang tidak murah, namun dengan kualitas pelayanan yang sangat mengecewakan."

The author tries to retrieve data from twitter to know the number of complaints from customers to TelkomCare related to IndiHome complaints within 5 days in 100

tweets per day from 1st until 5th of October 2018 using Rstudio and the selection of data is done manually.

Table 1.5 Number of Complaint for IndiHome

Date	Number of Complaint
5th of October 2018	49
4th of October 2018	69
3rd of October 2018	44
2nd of October 2018	37
1st of October 2018	66
Total	**265**

Source: processed by author

From Table 1.5 it can see that within 5 days TelkomCare customer service got 265 complaints. The highest was on 4th of October 2018 with 69 complaints per day, and the lowest was on 2nd of October 2018 with 37 complaints related to IndiHome services. With an average of 53 complaints per day and among 500 complaints mentioned on twitter addressed to @telkomcare, there were 265 complaints, which means it reached 53% of all.

Table 1.6 Complaint from Petition of First Media

Name	Year	Supporters
Bertindak Tegas Terhadap Penyedia Layanan Internet di Indonesia, Khususnya First Media	2015	27
Tingkatkan pelayanan First Media, Jangan Manis di Awal Saja	2016	87
First Media Meliciki Pelanggan!	2016	642
Total		**756**

Source: www.change.org, 2016

The table 1.6 above shows the number of petitions addressed to the First Media that author obtained from the petition provider website named change.org. On the website, 3 petitions were found from 2015 to 2016. On the petition in 2015, there were 27 supporters, while in 2016 with two different petitions there were 87 and 642

supporters. With total 756 supporters for petitioning complaints addressed to First Media services, this means 33 times more less, then supporters of the petition addressed to IndiHome's services.

The table 1.7 below shows the number of complaints from customers regarding First Media's services. The data taken via twitter addressed to @firstmediacares using the R Studio software. The data taken were 100 tweets per day from 1 October to 5 October 2015. Data selection done by manually.

Table 1.7 Number of Complaint for First Media

Date	**Number of Complaint**
5th of October 2018	67
4th of October 2018	74
3rd of October 2018	66
2nd of October 2018	78
1st of October 2018	76
Total	**361**

Source: processed by author

From table 1.7 it can see that every day @fistmediacares gets an average complaint of 72 for each day. It shows that the total complaints received were 361 tweets from 500 tweets addressed to @firstmediacares for 5 days. Means around 72.2% of the tweets are tweeted about complaints about First Media services.

The Internet makes easier for people to create content and to communicate information online. The online content can be use as customer insight by the companies. Companies can use the data from social media as information for developing their products and services. Of course, the data contained on social media is large and unstructured. Therefore, text mining is use to be able to analyze large text data, to find out information and patterns (Tian, Xin & He, Wu & Tao, Ran & Akula, Vasudeva, 2016). Sentiment Analysis and Topic Modelling are models that use in Text Mining. Sentiment analysis extracts information to analyze the subjective information in a text data that refers to a particular problem (Thelwall et al., 2011). While topic modeling is summarizing large text data on a particular topic. Topic modelling perform by grouping documents based on similarity (Tong and Zhang, 2016).

Based on description above, then the author is interested to do a research of this problem with the title **"CUSTOMER EXPERIENCE TOWARDS INTERNET SERVICE PROVIDER USING TEXT ANALYTICS (CASE STUDY: INDIHOME AND FIRST MEDIA)".**

1.3 Problem Identification

Products of PT. Telekomunikasi Indonesia Tbk, which is IndiHome with the number of subscribers up to 5 million subscribers, become the largest fiber optic service provider in Indonesia but it is unfortunate that being the largest internet service provider in Indonesia. PT. Telekomunikasi Indonesia Tbk, still have to fix some of their problems in order to improve the quality of their services. This is evidence by the number of complaints via Twitter addressed to their customer service, namely @telkomcare. Of the 500 tweets addressed to @telkomcare, 53% were tweets complaining about their services. Of course, this needs to be realize by the PT. Telekomunikasi Indonesia Tbk. to consider the quality of their services.

While PT First Media Tbk as the biggest competitor of PT. Telekomunikasi Indonesia Tbk. not much better in providing quality services to the customers. The number of complaints they received in 5 days is much greater, namely 72.2% of the 500 tweets addressed to their customer services via Twitter, namely @firstmediacares, this needs to be reconsider by PT. First Media Tbk. because the complaints they received almost touched 100%. Of course, in order to compete with PT. Telekomunikasi Indonesia Tbk. they also need to improve the quality of their services.

As explained by Mayer and Schwager (2007) that complaints are part of the response from indirect interactions of customer experience with the company. In this research, data collected through customer services of IndiHome and First Media in twitter, namely @telkomcare and @firstmediacares. To retrieve unstructured data found on the twitter, this research uses text analytics or text mining. While for sentiment analysis in this research use to identify subjective information from customers on the products and services of the company. The use of topics modelling

in this research is to extract topics that are often discuss by customers regarding the company products and services.

1.4 Research Question

1. How is the customer experience dimension sentiment rating of the IndiHome and First Media?
2. What dimension of customer experience that need more attention based on the sentiment analysis that have done?
3. What topics are often discussed by customers of IndiHome and First Media?
4. How is the performance of the Naive Bayes Classifier for text classification?

1.5 Research Objectives

1. To know the customer experience dimension sentiment rating of the IndiHome and First Media.
2. To know specifically what dimension need attention based on the sentiment analysis that have done.
3. To know the topics are that often discussed by customers of IndiHome and First Media.
4. To know the performance of the Naive Bayes Classifier for text classification.

1.6 Significant of Research

1.6.1 Theoretical Aspects

This research hopefully can give important information for developing more knowledge about how to measuring customer experience of the IndiHome and First Media services using the text analytics, the method are sentiment analysis and topic modelling

1.6.2 Practical Aspects

This research hopefully can use by internet service provider companies in the telecommunication industry as an additional information and knowledge to develop their management strategies especially in maintaining and improving the quality of their services.

1.7 Scope of Research

This research is about the customer experience in using the services of IndiHome and First Media. This research use sample from IndiHome and First Media customers. From this research PT. Telekomunikasi Indonesia Tbk (Telkom) and PT First Media Tbk will know the level of service quality of IndiHome and First Media from customer perspective.

1.8 Research Writing Systematics

The structure of this research is create in order to give general description about the research, which will be conduct. It is present into five chapters, where chapter one already described above, the other chapters are described as follow:

CHAPTER I INTRODUCTION

In chapter I, contains general explanation that is concise and clear for illustrate the contents of this research.

CHAPTER II LITERATURE REVIEW

In chapter II, contains theories, framework and hypothesis that support this research.

CHAPTER III RESEARCH METHODOLOGHY

In chapter III, contains the description about research methods, types of research, stages of research, data sources research and data analysis process.

CHAPTER IV RESEARCH RESULTS AND DISCUSSION

In chapter IV, the author describes the results obtained from processing data that has been analyze with the method that has been previously determined.

CHAPTER V CONCLUSION AND SUGGESTION

In chapter V, contains conclusion of the study that has been conducted, analysis that can be used as a guideline practical for the company and suggestion for the further research

CHAPTER III
RESEARCH METHODOLOGY

3.1 Research Characteristics

This research uses the Quantitative method. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected (Labaree, R.V., 2009). Moreno, A. and Redondo, T. (2016) explained that text analytics has also called text mining, and is a subcategory of the Natural Language Processing (NLP) field. Text mining is an integrative field that map out on information retrieval, data mining, machine learning, statistics, and computational linguistics. Typical text mining function comprise text categorization, text clustering, sentiment analysis (Han, J., Khamber, M., & Pei, J., 2012). Natural Language Processing (NLP) is an area of research and application that explores how computers can be used to understand and manipulate natural language text or speech to do useful things. NLP researchers aim to gather knowledge on how human beings understand and use language so that appropriate tools and techniques can be developed to make computer systems understand and manipulate natural languages to perform the desired tasks (Chowdhury, G., 2003)

Text mining activities such as clustering, categorizing and information retrieval are included in the principles of Data Mining and Knowledge Discovery or commonly abbreviated as KDD (Adiwijaya, I. (2006). As explained by Z. M. Ma in Seerat (2012) that knowledge discovery is the extraction of covered up, already obscure data from information that is important to end client's learning and goals. What's more, information mining is the investigation venture of the KDD procedure and the general procedure is reliant on it. It means to extricate learning from a lot of information that is valuable for organizations and people.

This research uses text analysis approach based on the sentiment analysis and topic modelling. Sentiment analysis is the field of concentrate that dissects people’s opinions, sentiments, evaluations, appraisals, attitudes, and emotions towards entities such as products, services, organizations, individuals, issues, events, topics, and their