

# CHAPTER I

## INTRODUCTION

### 1.1 Research Background

Communication plays a very important role in the marketing strategy of a product or service. In today's digital era, where consumers have extensive access to information, effective communication can help build a strong brand image, inform product values, and build deeper relationships with consumers. Through appropriate marketing communications, companies can explore consumers' wants and needs, convey relevant messages, and invite consumers to interact further with the brand through various communication channels. This helps in building trust, minimizing uncertainty, and ultimately influencing consumer purchasing decisions (Shimp, 2020).

Among the areas that have experienced developments in communication conditions and advances in technology is the existence of artificial intelligence such as *artificial intelligence* (AI) and yes *Internet of Things* (IoT). The term artificial intelligence or artificial *intelligence*(AI) first appeared in 1956 at the Dartmouth Conference. However, the concept of artificial intelligence was implemented long before that. Experts from time to time have conducted research to continue developing this artificial intelligence. IoT is an abbreviation Internet *of Things* where IoT is a network that connects objects (*Things*) (Amrullah et al., 2022). IoT devices are also usually integrated with sensors, software, and other technology which functions to connect and exchange information between IoT devices and systems using the internet network. The types of IoT devices are many and varied, ranging from devices in households to special devices used in industry. In 2020, the number of IoT devices in the world connected to the Internet is around 10 billion. This number is expected to continue to grow and is predicted to reach around 100 billion by 2030 (Irianto, 2021).

The relationship between AI and IoT is a modern technological medium. In its working principle, IoT is a place that collects information. Meanwhile, AI acts as a machine that analyzes and decides something related to that information. This all means that IoT will not work well if AI does not accompany it. Because AI can solve problems intelligently (Hanifa, 2017).

The combination of Artificial Intelligence (AI) and the Internet of Things (IoT) allows AIoT to become an extraordinary tool. Some examples of AIoT can be found in smart *retail*, *drone traffic monitoring*, office building, *fleet management and autonomous vehicles*, and *autonomous delivery robots*. AIoT is also used in smart cities. One of them is used in traffic monitoring drones. If traffic can be monitored in real-time and adjustments to traffic flow can be made, then traffic congestion can be reduced.

Slowly but surely, AI/IOT has now become an inseparable part of human activities. 25% of world businesses said they had switched to using AI/IOT due to a lack of available workforce. In China, 58% of companies are already using AI/IOT and 30% are in the integration stage. This value will continue to increase in the coming years (Hua, 2023).

The factors that influence public knowledge of AI/IOT are thought to be the role of social media. Tegus Santoso stated in his book *Social Media Analysis Using AI/IOT* that the potential for sophisticated Artificial Intelligence technology can become a powerful tool for social media marketers (Santoso, 2020). AI/IOT can provide functions from helping in automating data processing to sending personalized messages to customers.

The conditions above confirm that social media users will first understand AI/IOT. This is because some social media content provides AI/IOT services. The more you use social media, the greater the opportunity to use AI/IoT. So indirectly, people's knowledge will increase.

Among the uses of AI/IOT is the XL Axiata – X Camp product. This product is a product that has innovative features and advantages. X-Camp will be a meeting place for all stakeholders to jointly develop the IoT ecosystem in Indonesia, from ideas to business implementation. X-Camp is an AIoT laboratory (*Artificial Intelligence and Internet of Things*) which is owned by PT XL Axiata Tbk and becomes The largest AIoT laboratory in Southeast Asia which is part of the GSMA (*Global System for Mobile Communications Association*). The main goal of X-Camp is to become a forum and home for business people operating in the field of *Internet of Things* and artificial *Intelligence* by providing programs such as

business incubation, *enterprise engagement*, and *IoTAcademy* as developing the capabilities of young AioT talents (Telkomuniversity.ac.id, 2023).

The Instagram social media account which has the function of having an impact on public knowledge related to AI/IOT is the X-Camp Rumah IOT Indonesia account (@xlaxiata\_iot). This account plays a role in publicizing X-Camp's AI/IOT activities to the general public. Through this Instagram social media account, the products available at X-Camp will be published to the public, including the following products:

**Table 1. 1**  
**X Camp Products**

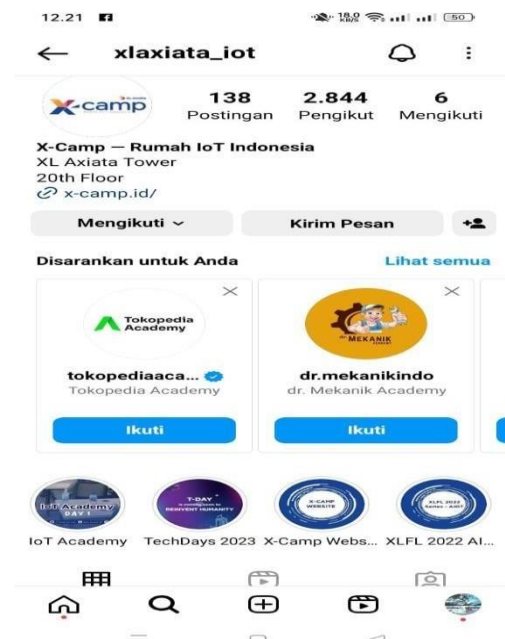
No	Product	Description
1	X-Maggot	LoT based solution for environmental monitoring and temperature/humidity control on BSF farms. This product was chosen as the research topic
2	PoultreX	Smart chicken farming solution, equipped with various sensors and actuators to make it easier for chicken breeders and entrepreneurs in cage maintenance operations
3	Hello met	Helmet Detector is a solution to prevent accidents. Optimizing AloT helmets is integrated and automatically reduces the number of work accidents in various fields, workplaces, industries and educational institutions that require them.
4	E-Konsultani	Automatic monitoring system to monitor rice fields (soil moisture, rainfall and environmental temperature)
5	Digiyandu	Digital Posyandu in the form of weight & height scales for babies/toddlers with contactless IoT-based thermometers

Source: (Telkomuniversity.ac.id, 2023)

Apart from the products described above, there are still many AI/IoT products available at X-Camp that have benefits for society. So, it is hoped that through the use of Instagram social media, it will increase public knowledge related to AI/IoT.

Some of the data above shows a trend in the use of social media Instagram, with the hope that it will have an impact on increasing public knowledge of AI/IoT. However, this condition does not work properly (Salsabila & Wibawa, 2023). Data shows that even though it already has Instagram social media to introduce its products, X Camp is still unable to provide a comprehensive understanding to the public regarding AI/IoT. This is proven by the public trust index according to research by Goodstats.com (2023) which states that there is 14% of technology users expressed their distrust of artificial intelligence systems. There is still a lot that needs to be done so that everyone can get used to adopting AI/IOT in their daily activities (Yonathan, 2023).

Apart from that, according to the Nawawi Report (2020) regarding Map of Indonesian Society's Readiness to Face the Challenges of the Development of Artificial Intelligence (AI/IOT) shows that 11.87% of people do not know the importance of using AI/IOT. This percentage value indicates that there are still people who do not understand artificial intelligence despite its developments which are now widely used in various areas of social life (Nawawi et al., 2020).



**Figure 1. 1**  
**X-Camp Instagram account**

Based on the account above, it can be seen that X-Camp uses Instagram to introduce the public to its products. Starting from product advantages and how to use these products. However, not many people have responded to the X Camp Instagram content. This can be seen from the 2,844 followers, only very few responses or comments on the account. So, it is suspected that not all followers are aware of the use of AI/IoT via the X Camp Instagram account.

The X Camp Instagram social media account not only contains activities from X Camp as the AI/IoT center owned by XL Axiata. However, this account also contains information about the AI/IoT services available at X Camp. For example, one of Hello Met's posts educates workers about the importance of safety at work. Through the Helmet Detector, it will be a solution to prevent accidents. Optimizing the AIoT helmet is integrated and automatically reduces the number of work accidents in various fields, workplaces, industries and educational institutions that need it. This explanation was conveyed via this Instagram post from X Camp.

The conditions above prove that there is an alleged influence of Instagram social media accounts in increasing public knowledge regarding AI/IoT. However, in the case of X Camp, it still needs to be researched again because there is still low follower participation on this account. Apart from that, not all followers necessarily know about AI/IoT thoroughly. So, the low level of knowledge of followers regarding AI/IoT is a gap, making it important to carry out this research.

The reason the research was carried out at XL Axiata Apart from that, this location has quite complete AI/and IoT services so it should provide publications to the public. Lastly, this is because the X Camp research location has a fairly large number of Instagram account followers. So that it fulfills the requirements to carry out research on its followers.

Therefore, this research has the title, "The Influence of Instagram Social Media Content Messages @xlaxiata\_Iot on Community Knowledge of Ai/Iota (Case Study of XL Axiata – X Camp)"

### **1.2 Research purposes**

This research aims to find out the following:

1. To find out whether the Instagram Social Media Content Message @xlaxiata\_iot has an effect on Public Knowledge regarding AI/IoT (XL Axiata Case Study – X Camp)
2. To find out how much influence the Instagram Social Media Content Message @xlaxiata\_Iot has on Public Knowledge regarding AI/IoT (XL Axiata Case Study – X Camp)

### **1.3 Research question**

Based on this background explanation, the research questions that can be taken from this research are as follows:

1. Does Instagram Social Media Content Message @xlaxiata\_Iot influence Public Knowledge regarding Ai/IoT (XL Axiata Case Study – X Camp)?
2. How much influence does Instagram Social Media Content Message @xlaxiata\_Iot have on Public Knowledge regarding AI/IoT (XL Axiata Case Study – X Camp)?

### **1.4 Benefits of research**

The expected benefits from the results of this research are as follows:

#### **1. Theoretical Benefits**

It is hoped that the results of this research will be able to have a positive impact on knowledge and communication development for the public in the use of AI/IOT and as a reference for future researchers.

#### **2. Practical Benefits**

##### **a. For Researchers**

Through this research, it is hoped that it will be able to enrich researchers' insight regarding marketing communications regarding products.

##### **b. For Companies**

By conducting this research, it is hoped that it can provide input, especially for PT XL Axiata, in good and effective communication strategies to increase customer satisfaction with the company.

### 1.5 Time and Location of Research

The time for this research is December 2023 to February 2024. The following are details of the research time:

**Table 1. 2**  
**Research time**

No	Agenda	From 2023	Jan 2024	Feb 2024
1	Pre-Research			
2	Proposal Guidance			
3	Data collection			
4	Preparation of reports			
5	Guidance and revision			
6	Results Seminar			

Source: Researcher Processed Data, 2023

The location of this research is a company operating in the telecommunications industry, namely PT. XL Axiata. The specifications regarding the object under study are one of the companies that provide IoT (Internet of Things) products. PT XL Axiata is a cellular telecommunications operator company in Indonesia. XL has been operating since October 8 1996 until now. XL is one of the first private companies to provide cellular telephone services in Indonesia. Has two product lines, namely GSM (XL Prepaid and Postpaid). PT XL Axiata Tbk is domiciled at Graha XL, Jl. DR. Idea Anak Agung Gde Agung Lot E4-7 No. 1, Mega Kuningan area, South Jakarta.

## **1.6 Writing system**

This research consists of the following systematics

**CHAPTER I INTRODUCTION** This chapter contains the basic things that underlie this research, such as the background of the problem, problem formulation, objectives, benefits and time for carrying out the research.

**CHAPTER II LITERATURE REVIEW** This chapter contains related theories used in research, previous research, research framework, and hypotheses.

**CHAPTER III RESEARCH METHODS** This chapter contains all the activities and methodology used in this research. This section consists of research methods, research location, population and sample, data collection techniques and data analysis.

**CHAPTER IV RESEARCH RESULTS** This section contains the results obtained from research activities and discussions so that conclusions can be drawn up

**CHAPTER V CLOSING** This section contains the results of research conclusions and suggestions.