

## The Representation of Artificial Intelligence in Selected Posts and Threads by Zuckerberg: A Critical Discourse Analysis

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### المستخلص

هناك الكثير من الآراء تحيط الذكاء الاصطناعي ان كانت سلبية او ايجابية. على الرغم من ذلك تعد الدراسة الحالية الاولى في دراسة تمثيل الذكاء الاصطناعي في منشورات ومواضيع مارك زوكربيرغ على الموقعين فيسبوك و ثريدز من منظور التحليل النقدي للخطاب. لذا تحاول الدراسة الحالية سد هذه الفجوة. تهدف الدراسة الحالية الى كشف النقاب عن ايدولوجية زوكربيرغ في تمثيل الذكاء الاصطناعي عن طريق تحليل المحتوى الذي يقدمه على مواقع التواصل الاجتماعي. تسعى الدراسة الى الاجابة عن السؤال الاتي: كيف يوظف النهج الاجتماعي المعرفي لفان دايك (1998) لكشف ايدولوجية زوكربيرغ المتعلقة بتمثيل الذكاء الاصطناعي على مواقع التواصل الاجتماعي؟

المنهج المستخدم بالدراسة الحالية هو يوظف النهج الاجتماعي المعرفي لفان دايك (1998). كما ان الدراسة تستخدم نهج الطريقة النوعية. تقتصر الدراسة الحالية بالسنوات 2023-2024 بسبب تركيز الدراسة على طريقة تمثيل الذكاء الاصطناعي بالوقت الحالي. أظهرت النتائج ان (1) زوكربيرغ يظهر الذكاء الاصطناعي على انه آمن (2) زوكربيرغ يظهر التكنولوجيا المتعلقة بالذكاء الاصطناعي التي يقوم بتطويرها على انها الافضل في المجال.

### Abstract

A lot of opinions surround Artificial Intelligence (henceforth, AI) , whether it is considered a negative, or a positive influence among individuals. However, no other study has investigated Zuckerberg's posts and threads, especially from the perspective of critical discourse analysis. Therefore, the current study attempts to fill this gap and aims to highlight the hidden ideology of Zuckerberg in presenting AI in his social

media content. Furthermore, the study attempts to answer the following question: How does Van Dijk's (1998) sociocognitive model identify the ideology of Zuckerberg concerning AI's representation on social media?

The model of the study is Van Dijk's (1998) sociocognitive model. Also, a qualitative approach is used in data analysis. The current study is limited in the years 2023-2024 since it focuses on the recent representation of AI. Based on the findings, the study concludes that (1) Zuckerberg presents AI as safe technology, (2) he presents his AI technology as superior to other technologies in the field.

## 1. Introduction

AI is defined by Professor McCarthy (2007) , as "the science and engineering of making intelligent machines." It has become one of the most interesting topics that catches attention on social media since it began to be associated with a lot of fields nowadays. Also, it began to be used in a way that copies people's faces, voices, and identities in the virtual world. The present study attempts to reveal the ideologies that are hidden through social media content that are shared by Zuckerberg. Zuckerberg has a big influence on the world since he owns a very important social media platforms such as Facebook, Instagram and Whatsapp. Critical discourse analysis (henceforth, CDA) is considered one of the best tools that uncover the strategies and ideologies behind texts. Wodak (2015, p.1) identified CDA as "language use beyond sentence level". So, in other words, CDA goes further than analyzing words linguistically. In addition, it reveals the ideas that go behind these words. Also, being critical in CDA symbolizes the idea of going beyond describing the linguistic components of discourse and explaining how and why these components are used by the discourse marker. The analysis is going to follow Van Dijk's (1998) socio cognitive model to uncover Zuckerberg ideology concerning AI technology.

## 2. Literature Review

## 2.1 Media Discourse

Media is for sure a broad term that consists of printed media and telecasting; in other words, TV, radio, and newspapers that are used to present the reality of the world (O'Keeffe, 2006). Van Dijk (1995) claimed that many informal, public, and institutional forms of talk and text are considered to be under media because it is a form of information transition. Representation of events and ideas in media is different from ordinary communication. For example, the press is transmitted according to certain governing rules in media institutions, social values, and economic circumstances that participate in the process of representation. Furthermore, the media is considered to be subjective even if it appears to look objective because media presents its own view points based on a particular ideological motivation. For Flower (1991), the world of the press “not the real world, but rather a partial one that is skewed and judged” (p. 11). Media, whether it is printed or online, has great power; the power of media is manifested in terms of the absolute power to post information as a democratic force (Schudson, 2003).

Moreover, due to the development that has happened to the world, it is easy to access news from multiple sources such as newspapers, TV, radio, mobile, websites, X, and Facebook, as long as they have digital devices, which became to be considered the basics to every human being (Janeau, 2023).

Representation is considered to be a common point that is shared between discourse and media. This fact highlights that media discourse is not associated with impartial writing. However, it reflects a certain view whether it is a political, social, or economical aspect (Flower, 1998). Also, Flower (1998, p. 27) claims that ideas and events are not transmitted spontaneously "because they have to be transmitted through some medium with its own structural features, and these structural features are already impregnated with social values that make up a potential perspective on events." According to Macdonald (2003), media discourse is not a representation of reality; it is considered to be an interpretation of it.

## 2.2 Representation

van Dijk (2003, p. 91) claims that representation is controversial. He describes it as "X representing Y for Z". X is the representation (the language), Y is the thing (which is usually concrete) that is represented by X, and Z is the person or the group that the representation is directed to. Representation is also described as the role of language in social life, emphasizing that meaning is constructed by language and is not embedded in reality (Fairclough, 1992).

According to Flower (1991), representation is considered a constructive practice in all kinds of media, since media outlets are socially, politically, and economically situated. Moreover, discourse is usually conveyed from a particular perspective.

## 2.3 van Dijk's Sociocognitive Model

van Dijk (1991) considers ideologies one of the domains of analysis. He states that controlling people's behaviors requires control over their group fundamental ideologies. van Dijk (1993) states that social cognitions are socially shared representations of societal arrangements, groups, and relations, in addition to mental operations such as thinking, interpretation, arguing, and learning.

Furthermore, van Dijk (1995) suggests his model of CDA, which is a sociocognitive model; this model sheds light on the idea that cognitive assessments, social, and discourse are combined together. Van Dijk (2001) also adds that CDA accounts for the different shapes of social cognitions that are shared by different social groups. Additionally, van Dijk (2015) claims that his sociocognitive framework of CDA is represented by three components, which are discourse, cognition, and society. The three components are interrelated, and cognition is placed in the middle between discourse and society.

The goal of this approach is to illustrate how discourse is used in the (re)production of power abuse and it also sheds light on the role of knowledge and ideology in the

discursive domination (van Dijk, 2015). Moreover, van Dijk (2014) states that there are two types of cognition, which are personal and social; both of them have an important role in the relationship between social structures and discourse structure. He also adds that cognition refers to mental structures like personal cognition, social cognition, beliefs, and goals. In addition, van Dijk (2015) mentions the way the brain stores the information and ideologies. First of all, mental models are stored in episodic memory; the mental model represents setting, participants (their identities, roles, and relations), actions, events, and goals. Second, the cognitive component is applied the same way as the brain; it is divided into short-term memory (working memory) and long-term memory. Third, it is important to mention that knowledge and experience in general are stored in long-term memory, while socially shared knowledge, attitudes, and ideologies are stored in a place that is called semantic memory.

### **2.3.1 van Dijk's Mental Models**

van Dijk (2001) claims that cognition cannot be separated from discourse production and comprehension, as the mental representations that exist in an individual's mind are discourse events. However, it is important to mention that the relationship between discourse and cognition is not simple in terms of what discourse analysts can examine, what are the suitable questions they can ask, and what are the right answers for these questions (Potter & Molder, 2005). According to van Dijk (2003), there are two types of mental models:

- a) Event models refer to mental representations of the actions, situations, and events that are associated with discourse (van Dijk & Kintsch, 1983).
- b) Context models refer to the mental representation of personal experiences, sociocultural knowledge, and communicative situations (van Dijk, 2009).

### **2.3.2 van Dijk's Ideological Square**

van Dijk (1995) introduces the ideological square model, which is associated with analyzing discourse on an ideological level using four principles. According to van Dijk (2006b, p.734) these four principles are:

- 1-"Emphasize Our good things"
- 2-"Emphasize Their bad things"
- 3- "De-emphasize Our bad things"
- 4- "De-emphasize Their good things"

The aim of van Dijk's ideological square is to reveal hidden ideology by using strategies that include positive self-presentation and negative other-presentation. The positive self-presentation includes using good words in their speech about themselves, while the negative other-presentation includes using bad words in their speech about the others (van Dijk, 2000).

### **2.3.3 van Dijk's Semantic Macrostructures**

According to van Dijk's (1980) semantic macro-structures theory, macrostructures are considered to be the higher-level semantic or conceptual frameworks that organize the detailed, local meanings within a discourse. These structures assist in comprehending the main points of a text. Semantic macrostructures organize smaller ideas into a cohesive whole, making it easier to grasp the overall message and coherence of the discourse. In other words, they work as a framework that connects individual pieces of information in order to understand the whole text (van Dijk, 1980). Furthermore, the theory of semantic macrostructures helps in uncovering the hidden themes and global meanings that organize the detailed content of a text. In addition, this method offers a deeper understanding of the relationship between discourse, cognition, and society, making it a powerful tool in CDA (van Dijk, 1980, 2001). The semantic macrostructures theory is utilized to highlight the theme and topic of the selected data.

### 3. Methodology

Creswell (2014, p. 34) defines the qualitative method as “an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem”. Furthermore, using the qualitative method involves making a narrative or textual description under investigation. Also, the aim of the qualitative method is to have a deep understanding of the data analysis (Vanderstoep & Johnston, 2009). Therefore, the current study is associated with qualitative method since the researcher of the present study aims to investigate Zuckerberg's posts and threads to uncover his ideology. Moreover, the process of data collection is associated with investigating Zuckerberg's social media content. According to Maxwell (1997 p. 87), the selected data which is collected with a purpose is "particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices".

There are several reasons that justify the choice of the data. First, the two social media platforms are more likely associated with texts rather than videos and photos, which is considered more suitable for the selected model. Additionally, the selected platforms are famous and recognized worldwide. Second, the chosen figure is a famous businessman, billionaire, and his words has a big influence on the world. Third, Zuckerberg is native English speaker, which makes the data analysis smoother and easier. Fourth, Zuckerberg uses AI to develop his business. Fifth, he shares their opinions about AI on social media platforms regularly. Therefore, the selected data includes eight Facebook's posts and six threads collected from the period 17/4/2023 to 18/4/2024. The researcher of the current study focuses on this period of time to emphasize on AI representation in the recent years.

### 4. Data Analysis and Discussion

This section presents the analysis of the selected data. The following examples illustrate the analysis of Zuckerberg's social media according to van Dijk's (1998) Sociocognitive Model. The examples involve one post from Facebook and one thread from Threads.

### **1.Post**

*"We're open sourcing another AI tool: Image Joint Embedding Predictive Architecture, a new way for machine learning to predict high-level concepts rather than focus on pixel-level details. This approach more closely reflects how people understand the world. To build AI assistants, we need models that perceive the world and make predictions. This research is another step in that direction".*

### **1-Mental Model**

#### **\* Event Model**

a) Participants: Mark Zuckerberg

b) Setting:

-Date : 13/6/2023

-Time: 4:00PM

-Location: Unknown

c) Domain: New AI tool that understands the world

d) Participant role:

-Producer: Mark Zuckerberg

-Audience: Followers on Facebook and the general public.

### **\* Context Model**

Zuckerberg, the owner of Meta, announces his intention of developing his new AI tool to reach a level that is similar to human intelligence. Furthermore, Zuckerberg's company (Meta) is considered to be one of the most famous companies in the field of technology, which means his words have a strong impact on the audience's prescription. Moreover, Zuckerberg's ideology is presented in the way he makes use of his position as a company leader to influence the audience about the idea of developing AI technology to reach to the level of a human's intelligence.

### **\* Aim**

The aim of zuckerberg's post is to promote his new AI tool by presenting its feature and presenting the world's need for such a technology to influence the audience's thinking.

### **• Knowledge device**

Zuckerberg explains the significance of the new AI tool and the way it is compared to human intelligence, which makes the idea clearer to the audience. Furthermore, Zuckerberg presents the information in a logical sequence, starting with the introduction of the new tool, explaining its purpose, and linking it within the broad context of AI development.

## **2- Semantic Macrostructure**

The global topic of this post is the announcement of the new AI tool that is developed by Zuckerberg's company. Furthermore, Zuckerberg's post highlights the progress the company reached in developing AI technology by presenting the new AI tool as a step toward creating AI that is similar to humans. Therefore, the ideology of Zuckerberg is

revealed by presenting the power and capability of his company to promote his work and to convince the audience about his ideas and technology.

## 2.Thread

*"Priscilla and I are optimistic about AI helping scientists to cure, prevent or manage all diseases this century. We're starting a new project at CZI to build a virtual cell to predict how every cell in the human body will behave – healthy or diseased. To do this, we're building one of the largest AI compute clusters in non-profit life sciences. We're hopeful this will help scientists make new discoveries and find new treatments."*

## 1-Mental Model

- **Event Model**

a) Participants: Mark Zuckerberg

b) Setting:

-Date : 19/9/ 2023

-Time: Unknown

-Location: Unknown

c) Domain: Developing AI project to cure all diseases

d) Participant role:

-Producer: Mark Zuckerberg

-Audience: Followers on Thread ,the general public, and scientists.

- **Context Model**

Zuckerberg announced his plan to develop an AI project to cure all diseases, mentioning his wife "Priscilla" as a partner in his plan. Zuckerberg mentions his company that is owned by Facebook, which he formed with his wife to promote it and declare its projects. Zuckerberg discusses the role of AI in advancing scientific research that is associated with curing humans' diseases which is considered a significant subject to the audience. Furthermore, the phrase *"to cure, prevent or manage all diseases this century"* has a strong impact on the audience's perception, which helps in building trust in CZI Company. Moreover, this context model uncovers Zuckerberg's ideology that privileges technological innovation leads to a better life.

- **Aim**

The aim of this thread is to inform, engage and persuade, the public regarding CZI's new AI project. The ideology of Zuckerberg is revealed by presenting AI as a necessity and a solution for the world's problems which is beneficial for Zuckerberg's business.

- **Knowledge Device**

This thread by Zuckerberg includes technical and scientific terms, which reflect the ideology that scientific knowledge and AI technology are important tools which solve human's lives. Furthermore, the positive terms Zuckerberg uses in his thread shape a discourse around the value of AI in individual's life, which highlights his ideology of influencing the audience to use his AI tools.

## 2- Semantic Macrostructures

The global topic of this post is illustrated in the AI capability to solve problems concerning healthcare and medical research. The theme is associated with AI power to make changes within the world. Furthermore, the ideology of Zuckerberg concerning this topic is presenting the significance of AI in the world by associating it with aspects that concern society such as health and diseases, which influence the individuals to believe in his technology and use his company projects.

## 5. Conclusions

Based on the findings of the data analysis, this study arrives at the following conclusions:

- 1- The mental model emphasizes Zuckerberg's aim to present his AI tools as superior to the ones that already exist in the field.
- 2- the use of a context model and a knowledge device reinforces his ideology in presenting the high-quality features that portray AI technology as the best.
- 3-It is important to note that identifying the global topics of his posts and threads emphasizes his role as owner of Meta Company.

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