

Public Opinion on Facebook Rebrand to Meta: A Twitter Big Data Analysis on the First 24 Hours After Meta Launched

Opini Publik Terhadap Rebrand Facebook ke Meta: Analisis Data Besar Twitter pada 24 Jam Pertama Setelah Meta Diluncurkan

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Abstract

This study examines public opinion on the rebranding of Facebook Inc., a parent company of Instagram, Whatsapp, Oculus, and the main product Facebook itself into Meta. Meta is used to be a social media company which on October 28th 2021 states that they're going to build and change the focus into Metaverse. In this research, researchers will use three levels of analysis as follows: 1) Sentiment & Behavioral Data Analysis, 2) Public Emotion Detection, and 3) Content analysis to study the public sentiment during the launch of Meta. Researchers analyze tweets out of 10000 data from Twitter which is obtained through the MAXQDA software and Python programming language. This research concluded that the response from Twitter users' big data cannot be defined as a success in targeting positive responses. At the first impression, Meta could not attract the users since most of the sentiment are dominated by neutral and negative than the positive response.

Keywords: big data, Twitter, Facebook, metaverse, rebranding

Abstrak

Penelitian ini mengkaji opini publik tentang rebranding Facebook Inc., yang merupakan induk perusahaan dari Instagram, Whatsapp, Oculus, dan produk utama Facebook itu sendiri menjadi Meta. Meta sebelumnya adalah perusahaan media sosial yang pada 28 Oktober 2021 menyatakan bahwa mereka akan mengubah fokusnya untuk membangun Metaverse. Untuk garis besar penelitian ini, peneliti akan menggunakan tiga level analisis sebagai berikut: 1) Analisis Data Sentimen & Perilaku, 2) Deteksi Emosi Publik, 3) Analisis Konten untuk mempelajari sentimen publik pada hari peluncuran Meta. Peneliti menganalisis tweet dari 10.000 data dari Twitter yang diperoleh melalui software MAXQDA dan diproses menggunakan bahasa pemrograman Python. Dengan metode analisis tersebut, penelitian ini menyimpulkan bahwa respon dari big data pengguna Twitter tidak dapat didefinisikan sebagai keberhasilan dalam menargetkan respon positif. Pada kesan pertama Meta tidak bisa memenangkan hati pengguna dimana masih sebagian besar sentimen didominasi oleh netral dan negatif daripada respon positif.

Kata kunci: mahadata, Twitter, Facebook, metaverse, rebranding

INTRODUCTION

A promisingly interesting way to live a life in a 'second universe' is currently developed by tech giants in 2021. A concept which has been hypothesized as the iteration of the internet, supporting persistence in an online 3-D virtual environment (Jaynes, C 2003) called The Metaverse. According to Reuters, there are at least five big tech companies which dive into building the Metaverse, Meta (previously known as Facebook Inc.), Epic Games, Roblox, Nvidia, and Microsoft (Cullifords, E. 2021). As development begins, these tech giants compete to become early adopters in the world market where the physical and virtual worlds merge, says Catchy Hackl, a metaverse expert (Wall Street Journal 2021). Facebook Inc., the parent company of social media app Instagram, Whatsapp, Oculus, and Facebook, is starting to take the big leap by rebranding their company to Meta, a company whose focus is to bring the Metaverse to life, to help people connect, to find communities, as well as to grow businesses says (Mark Zuckerberg 2021). Facebook, the social networking app will remain as it used to and exist as part of the Meta ecosystem. Meta brings all the apps and technologies under one brand Meta, and the new name reflects bigger ambitions (Cox, S. 2021). The ambitious concept behind the new name with the concept of living in a virtual utopian world presented in an astonishing presentation on a virtual launch called Connect by Facebook on 28th of October 2021 at 10:00 AM EST.

Facebook's definition of metaverse stated during the launch as a set of virtual spaces where you can create and explore with others who aren't in the same physical space as the other users (Bosworth 2021) this was done by embodying the physical and virtual worlds to be in the seamless interaction experience powered by extended reality technology, which believed where people could feel the present and get to interact not only screen-based technology as the previous mobile and web technology, but people could see each other's facial expressions or body language through Meta's metaverse. The word metaverse mainly presents the virtual world, a simulated environment that contains the ability for humans to do interactions, actions, and reactions to things. Inside the virtual world, the phenomenon and the environment can be zero or many human(s), where each is represented as a virtual self (an avatar). The action, reaction, and interaction which happens inside the world should happen in real-time shared spatiotemporal non-pausable environments (Nevelsteen, Kim J.L. 2017). In another term, Stylianos Mystakidis (2022), academic educator from University of Patras writes in his paper Metaverse, defined that Metaverse is the post-reality universe, a perpetual and persistent multiuser environment merging physical reality with digital virtuality. It is based on the convergence of technologies that enable multisensory interactions with virtual environments, digital objects and people such as virtual reality (VR) and augmented reality (AR).

The key trigger for faster demand on metaverse adoption is strengthened by the pandemic which starts in the early 2020. According to research, in just a few months' time, the COVID-19 pandemic crisis has brought about years of change in the way companies in any sectors and regions do business (LaBerge 2021). Not surprisingly it also impacted the amount of data shared over the internet in total of 44 Zettabytes in the beginning of 2020 itself (Interbrand 2021). Digital technologies are increasingly widespread and integral to people, corporations, and societies. As we become more reliant on digital technologies, the importance of finding information, staying in touch with friends and families, and navigating the city becomes more apparent. Digital transformations are also shaping work processes by automating activities and creating new possibilities for organizations to rethink and optimize what they do. (Flyverbom, M., Deibert, R. 2017).

In the development history of the virtual world, the technology has shifted from individual virtual worlds into something named Metaverse. Portmanteau of a prefix “meta” (meaning “beyond”) and the suffix “verse” (the shorthand for the word “universe”) has defined the concept of “Metaverse (“universe beyond”). Metaverse refers to a world which is generated by computer, which brings the concept of individual virtual worlds formulated into a large network of interconnected virtual worlds (David, J., 2013).

What does it take to bring the concept of seamlessly immersive metaverse? This Metaverse Market Map (Figure 1) created by Jon Radoff could help visualize which sector a company focuses on each map (Radoff 2021). This shows that Meta isn’t the only one who needs to be involved in realizing the metaverse. Jon Radoff maps seven layers of metaverse consisting of experience, discovery, creator economy, spatial computing, decentralization, human interface, and infrastructure (Radoff 2021).

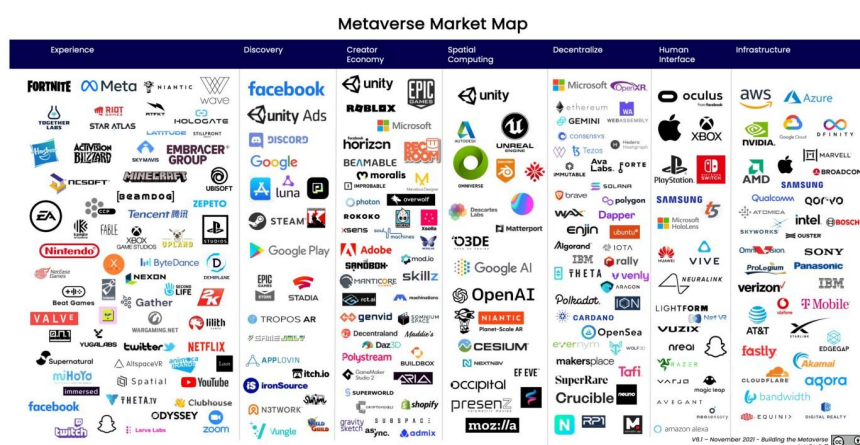


Figure 1. Market Map of Metaverse

With the extensive power through communication technology, humans could utilize it to communicate in an infinite way in any form of social media available. At present, socially based information is used more by people due to the developments of Web 2.0 technologies (Daniel J. Power & Gloria Phillips-Wren 2011). The advent of social media has transformed traditional one-way communication into multi-dimensional, two-way, peer-to-peer communication (Schivinski, B. 2014). A preliminary review suggests that social media impacts decision making by creating more connections to receive information and opinions. People tend to trust the opinions of participants in online networks in which they have chosen to participate. (Daniel J. Power & Gloria Phillips-Wren 2011). The idea is that as the Internet in general becomes more social (that’s the word we’ve all converged on) and everything is social and social is everywhere, there is an element of it that is read-write that involves people writing and revising and responding to one another, not in a one-to-one or one-to-many fashion, but many-to-many (Crumlish, C. 2015). In terms of this research, the opinion spreading during the launch of Meta focuses on how the connections of people's opinions formed through tweets data, and how the opinions result towards the new facebook inc. decisions to rebrand, into Meta.

The Internet 2.0 or usually called Web 2.0 is defined as the business revolution in the computer industry caused by the move to the internet as a platform, and an attempt to understand the rules for success on that new platform. O’Reilly, who popularized the terms Web 2.0 says: “Web 2.0 is a set of social, economic and technology trends that collectively form the

basis for the next generation of the Internet, a more mature, distinct medium characterized by user participation, openness, and network effects.” (Oreilly 2006). Web 2.0 is where users could use websites for both interaction and collaboration through social media as creators of user-generated content (in the form of ideas, text, videos, or pictures) (Krumm 2008) inside a virtual community. User involvement in content development began with users developing and sharing their own content on a given platform (Simon Wright & Juraj Zdinak 2008). An example of user-generated content used in this research is a text-based tweet. User-generated ideas score significantly higher in terms of novelty and customer benefit and have a relatively high average value in terms of feasibility (Berthon, P. 2015). Web 2.0 has brought human communication behavior into more collaborative, socially interactive, personalized ability, and gives users the freedom to actively participate. People are no longer passive in receiving information. They are willing to contribute and share their own perspectives and share them through technical (computer) devices (Simon Wright & Juraj Zdinak 2008). Shifting trends on the internet becomes an extensive way of communicating across the world and gives people the freedom to reflect their opinion and ideas widely mediated by computer devices.

Technologists are targeting the next billion users to make technology use more accessible worldwide (Google 2021). Computing devices for communications has become an everyday use this century. The adoption of smartphones as communication device subscriptions worldwide has surpassed 6.3 billion in 2021 and it's predicted to grow to 7.5 billion in 2026 (S. O’Dea 2021).

With this huge amount of communication device adoption, there's a term called CMC (Computer-Mediated Communications). CMC is a term that refers to computer-mediated communications format (e.g., instant messaging, email, chat rooms, online forums, social network services), CMC also has been applied to other types of forms in text-based interaction such as text messaging (Thurlow 2004). Computer-mediated communication forms two-way communication between the communicator and the receiver powered by web 2.0. The forms of CMC are broken into two forms: synchronous CMC (real-time and parties engaged simultaneously yet not necessarily in the same location) and asynchronous CMC (the sender does not receive an immediate response from the receiver (Crumlish, C. 2015).

Nowadays, with the adoption of social media active users that have increased by more than 400 million over the past year of 2021, shows three computer-mediated communication platform made by Meta, Facebook as the leading most used social media platforms, followed by other Meta’s platforms Whatsapp and Instagram on the top four most used platform (We Are Social and Hootsuite, 2021). Many user-based platforms could potentially be the chance for Meta to become one of the highest user adoptions on the metaverse technology made by Meta. Technology companies with a well capitalized and large number of network users also who have vast digital amounts of data are positioned better to seize the opportunities offered by the crisis (Strusani, D., & Georges V. 2021).

Darren & Mark described the word brand as the expression of an entity, person, product, or service, as designed by its creator which then will be perceived by the world (Taylor, D., & Schreiber, M., 2017). Human perception about a certain brand or product could be designed by a brand strategist. In the process, branding requires a research process, feedback, and team of experts (Taylor, D., & Schreiber, M. 2017). Besides branding, companies often do a rebrand. Rebranding aims to enhance, regain, transfer and/or recreate the corporate brand equity (Muzellec, L., & Lambkin, M. 2006). As branding is implemented by establishing a new name, symbol, visual identity, or design (Muzellec, L., & Lambkin, M. 2006), branding could result in current existing perceptions changing and increase brand value or the opposite if it is done in a

wrong way (Dandu 2015). On other hand, rebranding can be very costly and time consuming often with a high failure rate, but despite the challenges rebranding is still a widely used practice globally (Causon 2004). The need for rebranding can be attested to the rapidly changing business environment characterized by ever rising competition and uncertainties of consumer behaviour and attitudes (Kilic, C., & Dursun, T, 2006). Research shows that multiple stakeholders participate in the process of brand meaning creation determine the success or failure of corporate rebranding (Tarnovskaya, V., & Biedenbach, G, 2018). Digital era more often brings many different perspectives together. Digital environment brings together different stakeholder groups, which often have conflicting interests and opposing viewpoints regarding the expected brand meaning (Hollenbeck and Zinkhan 2010). Consumers' natural sensitivity to the intentions of others would therefore seem to be playing a much larger role in brand behavior than previously understood (Kervyn N, Fiske S, Malone C 2012).

The Facebook (name before Facebook) originated from a social media website built by Mark Zuckerberg to connect Harvard students. On february 4th, 2004 marked the day the website was available publicly. Facebook then acquired Instagram on April 9, 2012, WhatsApp on February 19, 2014, Oculus VR on March 25, 2014, Onavo (Mobile web analytics) on October 2013, and Beluga on March 2, 2011 (Messaging service) (Reiff, N 2021). In 2021, Facebook became one of the most valuable tech companies in the world and had over 2 billion monthly active users (History 2021). According to the Interbrand report, Facebook Inc. (name before Meta) has 36,248 \$m brand value and positioned as 15th best global brand (down two places from previous year in 13th position) (Interbrand 2021).

In the same year, marked at 28th of October 2021 Facebook decided to rebrand its company into Meta, pivoting into the trend of the development of metaverse. Other than the pivotal focus, In the Verge interview, Mark Zuckerberg the CEO of Facebook's utter their decisions to rebrand to Meta is to reduce the confusions and awkwardness whether should people perceive Facebook as it is refers to the parent company or the social media app one, the rebrand was also to build their company or change their focus towards building the Metaverse (Heath 2021). Aside from Facebook's decisions to rebrand reasons, some experts speculate a different point of view. Denise Lee Yohn a brand expert opines that "By adopting a new name, Facebook may be trying to claim that it is developing innovative technologies that bring people together in new and exciting ways. But it is a company that is building and promoting potentially dangerous products, harboring a dysfunctional workforce culture, and losing the faith of its customers." (Yohn, D. L. 2021). Generally, when a corporate spin-off loses the right to carry the established brand name and rebrands, it potentially loses market appeal (Lee H., Lee C. 2011). Researcher thinks the rebrand still has to be proven by the user sentiment data, before diving deep to this research data, what causes Denise Lee Yohn to state a downside point of view towards the rebrand? Before the decisions to rebrand Facebook Inc, into Meta, several negative reputations have occurred which challenges its credibility. Top three issues happened in 2021 before it's rebranded was (1) The Facebook ex employee Frances Hugon, who becomes Facebook whistleblower, (2) Facebook outage right a week before it's rebranded. (3) Facebook users' data leaks more than 500M users.

RESEARCH METHOD

The phenomenon of virtual communities brings opinion or sentiments fastly in a term of dimensions called big data's 3Vs volume (amount of data), variety (data variation), and velocity (speed of information) (Stieglitz & Dang-Xuan 2013) throughout social media, one of which is

Twitter. According to Statista.com, Twitter has 206 million monetizable daily active users worldwide (Statista 2021). In the digital era, the measurement of public opinion no longer only uses surveys but can be based on public conversations on social media on certain issues (Stieglitz & Dang-Xuan 2013). The process of collecting the big data is called data mining. Data mining is a process that is defined as the process of finding patterns in data. The process must be automatic or (more usually) semi-automatic (Witten, I. H. 2017). Traditional research methods are in fact unable to keep up with the main dimensions of big data's 3Vs.

The first step of the research process is collecting the data which was done by using MAXQDA. In this research, researchers only focus to the first 24 hours after the launch of Meta. The keyword determined to collect the data is 'Meta' as the input section on the tools section of 'All of this words', secondly in the 'Any of this word' section was inputted 'Facebook', the language of tweets are targeted from 'english' tweets with the amount of 10000 tweets, and lastly the timeline input starts from 10/29/2021 at 12:00 AM to 10/30/2021 11:59 AM Western Indonesian Time as this data was collected in Indonesia. This process is known as data mining or specifically text mining in this research case.

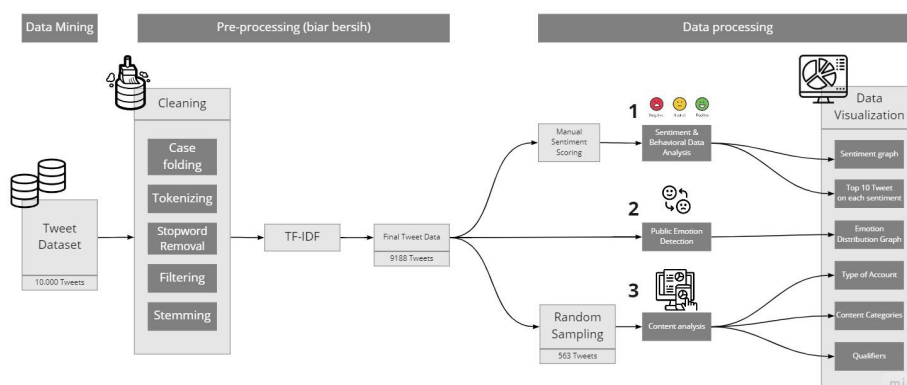


Figure 2. Research Method Mapping

After generating the data needed, the second step is preprocessing the data using python to determine the precise research sample in the end. The preprocessing stage is the stage where in depth cleaning is processed to each tweet. The preprocessing process includes, (1) Case Folding (uniform letter shape) (2) Tokenizing (syllable breaking) (3) Stopword Removal (removing non-descriptive words) (4) Stemming (changing syllables into basic words). Not all data collected is being used due to some invalid data such as multiple tweets from one account and irrelevant tweets. The data is then processed into TF-IDF (term frequency-inverse document frequency), a statistical measure which evaluates how relevant a word is to a document in a collection of documents (Stecanella B 2019). This will be essential to the research as the result will be processed to detect public emotion in the data processing process. Third step after final cleaned data is ready, it goes to the main process of analysis which consists of three analysis process, namely Sentiment & Behavioral Data Analysis, Public Emotion Detection, Content analysis

Getting in depth to the result, researchers conduct content analysis to analyze a sample from the data. Specifically for this content analyzing, researchers use a random sampling method to generate data and achieve an effective and efficient result. Before taking the random sample from 9188 tweet data, first researchers need to determine the total sample that generated using a finite population formula that results in a total sample of 563 tweet samples out of 9188 tweets

as shown in. After generating the result sample size, a random sampling method conducted using excel to pick random tweets that finally present the needed sample according to the previous sample sizing formula. Using excel, researchers utilize a RAND formula ‘=rand()’ to pick random 563 samples out of the 9188 population. The formula is applied to each population to generate random numbers as shown in the column of ‘Random Sampling’ in Figure 3, then the data sorted into ordered list to pick the top 563 sample data to then processed into labeling to know the ‘Type of Account’, Content Categories’, and ‘Qualifiers’ of the sample.

1: Date/Time	Tweet	From	7:Author's real name	8:Author's location	RANDOM SAMPLING	Population ID
10/29/2021 15:34:43	Zuckerberg Announces Fantasy World Where Facebook Is Not a Horrible Company Facebook's new name is "Meta," and its new mission is to invent a "metaverse" that will make us	rickbouter	Rick Bouter		0.060758	1468
10/29/2021 19:40:21	@Snowden Given #Facebook's collapsing reputation and popularity, instead of #Meta, its new name might be Meh...	EdwardMoser1	Edward P. Moser	Lafayette Square, Washington	0.05522	1478
10/29/2021 05:24:44	Today Facebook the company, has changed its name to #Meta. This underscores the company's investment in the next frontier, the "metaverse." Businesses & marketers must pay attention. The competition for consumer attention continues to	DigitalKrunch	Digital Krunch	Honolulu, HI	0.003805	1479
10/29/2021 09:03:05	Facebook To Be Renamed Meta. Guess 'FAANG' Stocks Will Bow Be Called 'MAANG' Stocks	YashJain88	Yash Jain	Mumbai, India	0.030386	1481
10/29/2021 10:37:38	It doesn't #Meta what Zuckerberg says. Ten years from now and it will still be #Facebook. https://t.co/2v2p5lbpDy	DrLindelanIM	Lindelani Mnguni, PhD.	World.	0.009986	1509

Figure 3. Random Sampling Result

Moving to labeling the data, researchers use three types of labels to categorize the content analysis results as shown in Table 1 ‘label’ column. Each label has its own lists of categories to plot where the tweet or the messages leads to. From categorizing the researchers aims to know what type of account which mostly cooperates to utter their opinion, what type of content categories exists, and what qualification brought by each tweet during the rebranding day. The result of the labeling process as shown in the sample shown in Figure 4.

Table 1. Content Analysis List of Label (Research Analysis 2021)

Num	Label	List of Categories
1.	Type of Account	M : Media; KOL : Key Opinion Leader; BUZ : Buzzer; CM : Community; I : Institution; CO : Company; PA : Personal Account
2.	Content Categories	Resources; Personal Experience; Personal Opinion; Jokes; Marketing; Spam
3.	Qualifier	Humour; Relief; Supportive; Concern; Frustration; Misinform; Question

RESULT & DISCUSSIONS

Sentiment and Behavioral Data Analysis

Utilizing the power of big data's 3Vs, volume (amount of data), variety (data variation), and velocity (speed of information) this research was firstly done by mining tweets out of two main keywords, 'Meta' and 'Facebook'. Sentiment of public opinion on Facebook rebrand to Meta is what measured in this research. The sentiment is understood based on the words in the tweet. To describe the type of account in each sentiment inside table 4, table 5, and table 6, researcher labeled the account type with abbreviations consists of 'PA' for Personal Account, 'M' for Media Account, 'CO' for Company Account, 'BUZ' for Buzzer Account, 'KOL' for Key Opinion Leader Account, 'CM' for Community Account, and 'I' for Institutional Account. The detailed results regarding the labels are explained in content analysis.

To visualize the sentiment, researchers classified the tweet into three categories, (1) positive, (2) negative, and (3) neutral sentiment. Besides the main three categories, there are also tweets specified as 'no sentiment' which actually consists of the keywords 'Facebook' and 'Meta', but the tweet content has nothing to do with the needs for this research so it remains unused for the research. This research results shows that a total of 9,199 cleaned tweets, with 801 unused tweets out of 10,000 tweet data mined. The unused tweets consist of duplicates, tweets with no sentiment, and tweets which discuss other topics besides the main keyword. From 9,199 tweets then classified 6,059 (65,86%) as neutral sentiment, 2,456 (26,70%) as negative sentiment, and 759 (8,25%) as positive sentiment (Figure 5).



Figure 4. Most Active Word

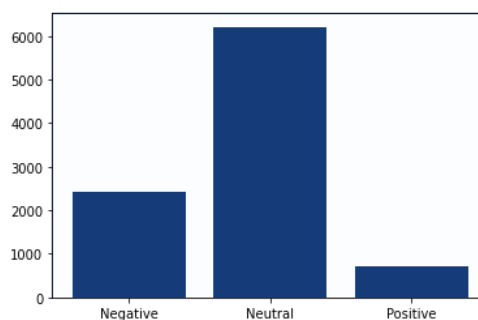


Figure 5. Research Method Mapping

Based on the results of this research, public opinion about Facebook rebrand to Meta tends not to crystallize in only one sentiment category but into various sentiment categories. Top tweets are important to map out who are the roleplayer in this topic and what type of message they deliver. With the most sentiment driven into neutral tweets, this indicates that a group of people were still confused whether the rebrand is for the Facebook app, or the parent company. And most of the tweets were neutral due to the high shares on news-based retweets which doesn't specifically opine a negative or positive in the tweet shared as shown on Table 4 consists of neutral sentiment tweets.

Table 2. Top Neutral Public Tweets

Date/ Time	Sentiment	From	Tweet	Hashtags	Follo wers	Retw eet	Likes	Type
10/29 /2021 7:42:5 7	Neutral	prcW rites	Facebook has renamed itself to Meta. Meta as for Metaverse is considered as the next version of the Internet. 🌐 So what is Metaverse? And how it will replace the current internet? I went down the rabbit hole... Grab some 📖 and enjoy reading. 📖 #Meta #Facebook https://t.co/UptorpdPDE	Meta Facebook	370	136	316	PA
10/29 /2021 20:30: 00	Neutral	RT_c om	Canadian firm #Meta gains more than 25% on Nasdaq after investors mistake it for rebranded #Facebook https://t.co/MK0i6NgWbe	Meta Facebook	2960 561	76	271	M
10/29 /2021 10:13: 56	Neutral	Dapp Onlin e	Facebook changes its company name to Meta. Details: https://t.co/ofZz3xX9Pr #DApps #DappOnline via @DappOnline #Facebook #Meta #Metaverse #CTBot Adrop Ram 200 BTT 100	DApps DappOnlin e Facebook Meta Metaverse CTBot	4872	67	56	CO
10/29 /2021 10:08: 38	Neutral	pauls _nyc	Obama's President the caravans ... Trump's President no caravans ... Biden caravans ... Hmmm ... I agree with Facebook #META Make Everything Trump Again https://t.co/HCx88Rk5RJ	META	377	59	140	PA
10/29 /2021 10:13: 11	Neutral	Real Ninje tta	450k each in Reparations for illegals? I think it's time to #META and Make Everything Trump Again for the American people. It's America First #MakeEverythingTrumpAgain #Facebook https://t.co/LpWfZokmtT	META MakeEvery thingTrum pAgain Facebook	8912	54	118	BUZ
10/29 /2021 12:12: 33	Neutral	simpl ykas hif	#Meta without crypto is not possible. #Facebook is now a #crypto company. Let that sink in!	Meta Facebook crypto	3752	47	381	KOL
10/29 /2021 19:09: 42	Neutral	army _shib a	So what is this Facebook #Meta? Are they launching #NFT lol	Meta NFT	1672	47	292	CM

Date/Time	Sentiment	From	Tweet	Hashtags	Follower	Retweet	Likes	Type
10/29/2021 17:04:55	Neutral	Pawlowski	A #Facebook's vision for the #metaverse is called #Meta	Facebook metaverse	2390	47	65	KOL
		iMario	V/@alvinfoo #VR #AR #MR #XR #AI #ML #avataverse #NFTs #BlockChain @krzysztof_dykas @avataverse @CurieuxExplorer @Nicochan33 @Fabrziobustama @jblefevre60 @MargaretSiegien @PawlowskiMario @baski_LA https://t.co/QIbPcBIQPy	Meta, VR, AR, MR, XR, AI, ML, avataverse, NFTs, BlockChain	5			
10/29/2021 22:57:04	Neutral	ronnie_184	Lol this really blows up my mind. #Cardano doesn't want the multiverse of metaverse of #meta. Cardano wants Facebook 🤔🤔🤔 https://t.co/ofwjaRwlyz	Cardano meta	1677	46	46	PA
10/29/2021 13:19:41	Neutral	tacoamp	Wow! Who knew that Zuckerberg was such a huge fan of Desmond from "Gremlins 3: Dawn of Desmond"! You can be anything you want to be in the Metaverse™️@!!1!! @NickLutsko #metaverse #Meta #facebook #metameta https://t.co/j3U8W8Cwax	metaverse Meta facebook metameta	3269	45	570	KOL

Source: (Research Analysis 2021)

In the top 10 numbers of tweets (Table 4), there could be seen a variety of accounts starting from personal accounts of twitter users, media, company, KOL (key opinion leader) and even buzzer type of account. From there, the top three accounts with highest interactions were 1. @prcwrites a personal account with highest retweet and third most liked tweet. 2. A media based account @RT_com also with the highest number of retweets with fourth most liked tweet. 3. @DappOnline, a blockchain company related to cryptocurrencies.

Negative sentiment (Table 5) also results in a bigger amount of likes and retweets than the positives. This is also strengthened by three types of account with KOL type, and three types of media accounts, all of which have a high amount of followers, likes, and retweets. What makes this sentiment unique is that the top most retweeted and liked tweet came from 1. @meta_PR1 considered as a buzzer account, it has the highest number of retweets and has tweets with the most likes. 2. A personal account @sanitarypanels has a second most liked and retweeted from negative sentiments, and 3. @Marfoogle with the third most retweeted and fourth most liked tweet is a media account held by YouTube content creator with 210k subscribers, providing updated news and latest information.

From negative sentiment, researchers found 10% of discussed topics stated the identical topic regarding data privacy concern. This concern relates to the users trust issues to Facebook where the data leakage problem happens to their 500 M users, and the use of the users data to gain revenue through ads for the company.

Table 3. Top Negative Public Tweets

Date/ Time	Sentiment	From	Tweet	Hashtags	Follo wers	Retw eet	Likes	Type
10/29/ 2021 9:58:25	Negative	meta_ PR1	Rest assured, our decision to change the company's name from #Facebook to #Meta does NOT mean we'll be changing who we are or how we operate. We're the same shadowy, morally dubious tech company we've always been. But hey, new name! #Metaverse	Facebook Meta Metaverse	494	142	576	BUZ
10/29/ 2021 16:12:23	Negative	sanita rypan els	A #Facebook by any other name would be as evil. #Meta https://t.co/zezAgcwz03	Facebook Meta	3622 5	91	415	KOL
10/29/ 2021 6:17:38	Negative	Marfo ogle	FACEBOOK ANNOUNCED ITS NEW NAME. "META" They are not even hiding it...lol. Ever heard of Metadata? You know, that information everyone worrues about being collected on people? I guess call it what it is right? #Meta #Metaverse	Meta Metaverse	2244 6	43	133	M
10/29/ 2021 9:32:52	Negative	saagr p	Facebook introducing its new name and logo with same old purpose, to spy. #Meta https://t.co/1lLlbWeBRc	Meta	1425	43	123	PA
10/29/ 2021 5:23:38	Negative	Essex PR	I've never used Facebook, wasn't for me, a name change will not persuade me either. No need for another Social media platform. #Meta 🤔👉📱	Meta	1951 48	24	503	KOL
10/29/ 2021 6:25:01	Negative	Epoch Times	#Facebook is officially changing its name to #Meta, according to CEO #MarkZuckerberg, coming after the #BigTech giant endured leaks and so-called whistleblower complaints about its practices. https://t.co/VaSu0WdyHV	Facebook Meta MarkZucke rberg BigTech	4301 26	20	36	M
10/29/ 2021 15:09:02	Negative	AAXEx chang e	The future is not with #Facebook, nor is it with #Meta, said @BenCaselin. https://t.co/30LoLI9BZX	Facebook Meta	1265 04	20	34	CO
10/29/ 2021 13:18:24	Negative	Marcu sFysh	Metaverses are only appealing as decentralised, anonymous /anonymised, & autonomous structures. If Facebook spys on, controls amd sells things in theirs, it's an Ad-verse not a Meta-verse. And with Nick Clegg as censor? #Meta or Matrix?	Meta	1997 0	20	86	KOL
10/29/ 2021 19:29:32	Negative	Squaw kCNB C	It is a masterstroke in diversion and distraction. Perfect time for a rebrand, says @alexisohanian on Facebook's new name #Meta. "I'm betting on the Davids here to build a metaverse better and sooner than the Goliath." https://t.co/qzU7DmsFV5	Meta	3349 99	17	108	M

Date/Time	Sentiment	From	Tweet	Hashtags	Followers	Retweet	Likes	Type
10/29/2021 4:46:32	Negative	nitishrajpute	Dear Facebook, We've received your request to change your name. However, due to our real names policy, you will first need to send us a copy of your any government approved documents. #Meta #Metaverse #Facebook	Meta Metaverse Facebook	17168	16	160	PA

Source: (Research Analysis 2021)

Not only does positive sentiment tweets have the least amount among the neutral and negative in terms of quantity, it also has the least amount of interactions of retweets and likes. From the top 10 positive tweet results in the table below (Table 6), the most retweeted only has 38 retweets as the highest compared to the neutral and negative tweet which had over 130 number of retweets at the top most retweeted. The three most retweeted are 1. @Dreamboat_id a start up company account with their focus to invest in blockchain development, the tweet has the highest amount of retweets among the top positive sentiment, and third most liked tweet. 2. @BlackLemonwtf, the second top tweets also has a company type of account which has the concern on NFT (Non-fungible token) development with second most retweeted and fourth most liked tweet. 3. @TheklaKalaman a personal account with third most retweets and has the most likes among the positive tweets. Over these top positive tweets, it is dominated by company type accounts (5/10) which concern technologies development.

Table 4. Top Positive Public Tweets

Date/Time	Sentiment	From	Tweet	Hashtags	Followers	Retweet	Likes	Type
10/29/2021 10:47:25	Positive	Dreamboat_id	🔔BREAKING NEWS! Facebook announces #Meta - as the new company's name. 👉 https://t.co/71fTgawBpn - @Meta's vision for the future of social connection and get ready for the metaverse! So guys! are you ready for the next evolution? 😁 #dreamboat #metaverse @Dreamboat_id https://t.co/77LRPJAGak	Meta dreamboat metaverse	5371	36	52	CO
10/29/2021 19:49:03	Positive	BlackLemonwtf	We told you that Facebook is undergoing a company name change. This step is a huge one for the company's future as it plans to tap into the Metaverse. What's coming is purely digitalized! Go to https://t.co/9fMxUdLTEM for the news! #BLACKLEMON #BLNFT #NFTNews #Facebook #Meta https://t.co/UyNNhhVLeD	BLACKLEMON BLNFT NFTNews Facebook Meta	7285	31	34	CO
10/29/2021 12:39:40	Positive	TheklaKalaman	Thank you, Zuckerberg, for this unique marketing campaign for my Cronos Cube book series. My readers love that you're naming the facebook group after Cronos Cube's fictional watchdog organization #META.	META	3628	13	87	PA

Date/Time	Sentiment	From	Tweet	Hashtags	Followers	Retweet	Likes	Type
10/29/2021 12:49:44	Positive	Ruttl App	COVID and social distancing not letting you have fun? None of that will be a problem in the #Metaverse! Seems like @Meta will be fulfilling our dream of living in a fantasy sci-fi world very soon! 🤖 #facebook #Meta https://t.co/JPILX55Zdq	Metaverse facebook Meta	59	8	13	CO
10/29/2021 20:32:43	Positive	Daksh2	Facebook rebranded its company's name to "META". The name change, which was announced at the Facebook Connect AR/VR conference, reflects the company's growing ambitions to expand beyond social media, more precisely into the concept of "metaverse" #daksh #meta #facebook #metaverse https://t.co/StONLVw4a8	daksh meta facebook metaverse	364	8	22	I
10/29/2021 9:57:42	Positive	DrVishalGarg3	Congratulations to #MarkZuckerberg for unveiling #Meta - Facebook's new parent company name during #FacebookConnect. Meta stands for Metaverse. Looking forward to experience the world of virtual reality, augmented reality and 3D! @Meta https://t.co/L2aC3IefYx	MarkZuckerberg Meta FacebookConnect	461	7	8	PA
10/29/2021 6:59:47	Positive	iamnickrose	You can hate Zuck all you want, I probably agree with all but never doubt his execution skills. Execution is the foundation of everything. #Meta #Facebook	Meta Facebook	21491	6	70	KOL
10/29/2021 5:09:03	Positive	CryptoGadadi	Everybody celebrating #Meta and Facebook joining the #Metaverse are the same people who would celebrate Amazon selling #NFTs. You folks need to think long and hard. Do you want decentralization or not? Do you want to own your #NFT and digital goods or rent them from #Facebook ?	Meta Metaverse NFTs NFT Facebook	3533	5	22	PA
10/29/2021 11:49:42	Positive	twindexcom	A huge step forward for #Facebook today as it's evolving to #Meta 🤖🚀 ✅ Own your FB stock on the blockchain now at https://t.co/xMH2jx4GaA No collateral. No liquidation. 24/7 trading. Powered by @chainlink on the @BinanceChain https://t.co/XrVrlg7QWN	Facebook Meta	3500	5	16	CO
10/29/2021 15:30:00	Positive	RubixLS	Metaverse, a convergence of virtual and physical space, could help overcome limitations of life sciences and healthcare in the pandemic era. #healthcare #Meta #Metaverse #augmentedreality #HealthTech #twitmedhat #flutter #medhat #WomenWhoCode #Facebook #100daysofCode #LifeSciences https://t.co/5RAI4WAFHm	Healthcare Meta, Metaverse, augmentedreality, HealthTech Twitmedhat, WomenWhoCode, Facebook	6039	5	3	CO

Date/Time	Sentiment	From Tweet	Hashtags	Follower	Retweet	Likes	Type
			100daysofCode , LifeSciences				

Source: (Research Analysis 2021)

Public Emotion Detection Analysis

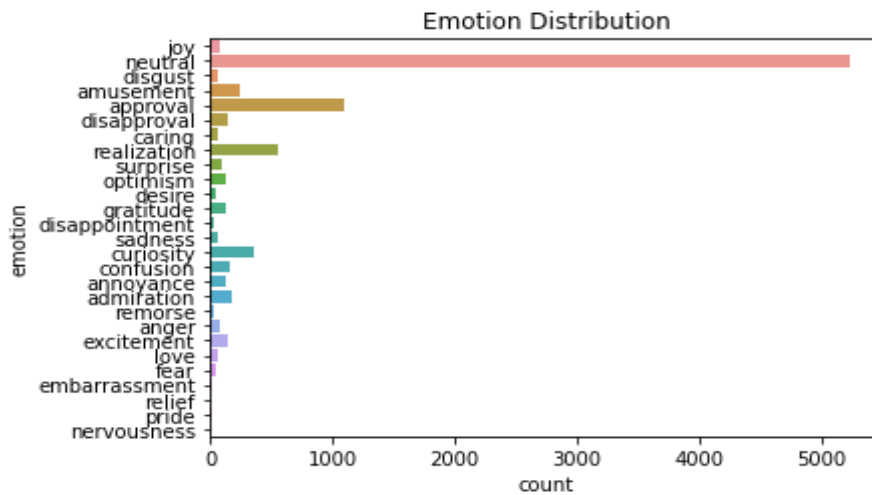


Figure 6. General Preview in Cluster Analysis

As what has been described in the previous chart on sentiment analysis (Figure 5) that the sentiment is dominated by neutral. On emotion detection analysis (Figure 6) using applied natural language processing on text emotion detection in python, also shows a similar result. People tend to express the feeling of neutrality towards the rebrand of Facebook Inc. into Meta. The feeling of approval, realization, and curiosity are also at the top four most expressed feelings from the text analysis results. This tells that around 1000 people express the feeling of approval towards the rebrand and the adaptation of metaverse, and the rest of the opinion is spread into various emotions in relatively small amounts (under 1000 counts).

Content Analysis

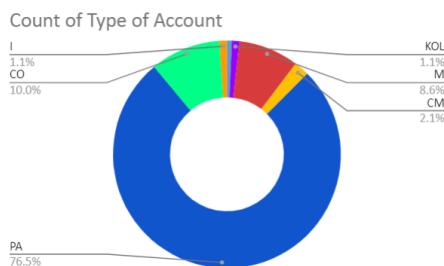


Figure 7. Count of Type of Account

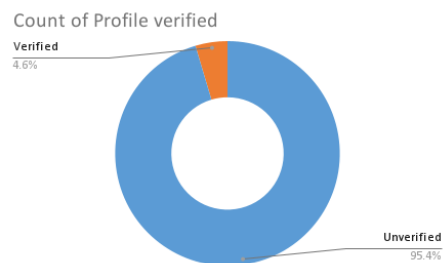


Figure 8. Count of Profile Verified

From analyzing the content, 76.5% of the tweets are dominated by PA (Personal Account), indicating that twitter which is owned by a person is more courageous in giving opinion towards

the rebrand of Facebook Inc. into Meta which envision the adoption of metaverse. The other contributing type of account came from the company type of account with 10%. Company accounts tend to utilize the rebranding moment as a marketing strategy and to spread the rebrand awareness by contributing on news retweets. Media with 8.6% are giving more contribution towards neutral sentiment. The least contributing type of account came from Community type account with 2.1%, Key Opinion Leader account 1.1%, and Institutional type of account 1.1%.

From all types of accounts, the data also showcases that the majority of accounts still remain unverified, 95.4%, and only 4.6% marked as verified accounts. Accounts with verified badges are dominated by big company or media accounts, or Key opinion Leader accounts with political background or technology experts.

The verified accounts are dominated by media accounts with 46.2%, where the category of content spread by the media is resources such as news links to their news blog. Whereas the most dominating accounts in unverified profiles category are personal accounts with 78.5%. Personal account categories share more diverse content qualifications where 25.1% users share concern, 22.1% share frustrations, 19% humour, 16% questions, and 13.3% share their support towards the rebranding and the adoption of Metaverse by Facebook Inc.

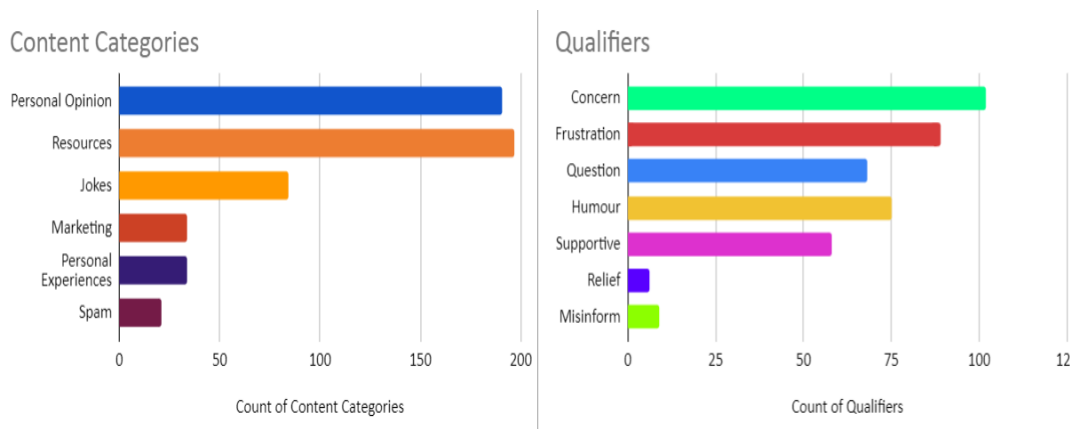


Figure 9. Content Categories & Qualifiers

The accumulation of 563 samples also gives results that the tweets data are dominated by resources content categories (35.1%), the content that shows news, links, or updates about the rebrand. Aside from that, personal opinion plays as the second highest most shared type of content category exists (34%). 15% out of 563 data are showing a tweet categorized as jokes. Marketing and Personal Experience categories give the same amount at 6.1% account utilize the hype to share Marketing content and 6.1% People share their personal experience. Here shown how the data spread into each sentiment.

Seeing from content qualifiers perspectives, the content qualifications are spread in vary. 25.1% of users are sharing their concern on Facebook and Metaverse, most of the concern are came from their perspectives about negative issues which spread around the news about Facebook such as the 500M users data leaks issues, and their concerns about data privacy. 21.9% users also share their frustrations feeling towards Facebook/Meta. This also indicates that a quarter of the users' responses still have negative feelings to the brand. From 18.4% of tweets data qualified as humour such as memes, most of the humour came from personal account type. 14.3% tweets data are qualified as supportive responses. And the last, data considered as misinform contains 2.2%.

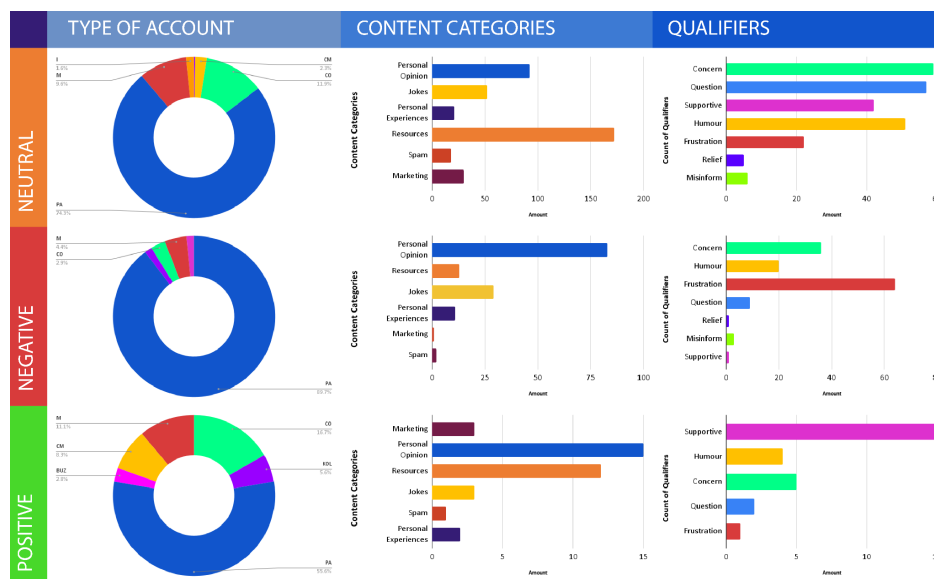


Figure 10. Content analysis on each Sentiment

CONCLUSION

Rebranding is a challenging situation in targeting desired positive public opinion result. During the day on the official rebrand from Facebook Inc. into Meta, this research concluded that the response from twitter users' big data cannot be defined as a success in targeting positive responses. At the first impression, Meta could not win the users heart where still most of the sentiment are dominated by neutral and negative rather than the positive response. Users are also more interactive towards negative and neutral sentiment. This is also strengthened by emotional data which tells the same results in high neutrality. The content spread by the users also tend to share the negative concern and feeling of frustration followed by their concern in data privacy. As a result, Facebook/Meta stocks have kept on dropping several months after the launch from the price range around 320 USD into 181 USD in March 2022, which also marked records as the biggest one day drop in February for 26%. Other than that, Facebook/Meta also results in losing its daily active users after the launch of meta platforms. However, Facebook still succeeded in bringing the topic into becoming highly discussed by the audience of twitter where it also became the trending topic on that day of the launch.

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