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Understanding the use of Indexical, Symbolic and Iconic signs in the interface of Twitter and Facebook: A semiotic perspective

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Abstract

Icons, signs, and symbols are important in modern communication systems, particularly digital language. Social media platforms make considerable use of these graphic components in their user interfaces (UI & UX) to allow users to easily traverse various functions. Sites such as Twitter and Facebook, which are well-known for connecting people all over the world, use a variety of icons to help users interact and complete tasks. This paper sought to investigate these icons and their intended meanings, basing its analysis on semiotics. It examined how indexical signs, icons, and symbols in Facebook and Twitter's user interfaces engaged users, helping to generate both inferred and explicit meanings. Data were sourced directly from Twitter and Facebook interfaces, demonstrating that iconic and symbolic signs dominated the graphical representations, with obvious meanings.

Keywords: Facebook, Twitter, Symbols, indexical, Iconic signs, Semiotics, graphic representation of User interface

Introduction

Language plays an important role in everyday communication. This communication may be in the form of speech or writing, verbal or non-verbal. Language in its all forms, and manifestations serve the purpose of communicating our ideas, feelings, emotions, desires, and needs to others. It enables us to perform our routine activities. With this respect, the current study aims to analyse the non-verbal facet of language. Social media is a popular interactive site in today's fastest-growing world of information and technology. With the advancement of technological equipment such as laptops, tablets, and smartphones, we see a rise in the number of social media users in the recent two decades. According to Wikipedia, social media may be defined as "interactive digital channels that facilitate the creation and sharing of information, ideas, and interest, and other forms of expressions through virtual communities and networks". Social media may be divided into different categories such as social networking sites (Facebook, Instagram, Twitter, or LinkedIn) and video hosting sites such as YouTube. These sites have specialized logos and icons which are identical to a specific site such as Facebook. They have a user interface (UI) that displays multiple

features and icons with various functions according to the application. These icons and symbols are especially important as they play the crucial role of performing different functions according to the services offered by the concerned sites. Most of the time, there is little, or no text displayed around the icon so the viewer interprets the signs. He uses his own linguistic knowledge and cultural or historical background to accurately transcribe the meaning of the icon. Digital applications of social media sites use different types of icons and symbols on the user interface. These icons are used partly because of limited space available on the screen and largely due to having underlined meanings of the icon. According to Aurora Harley (2014), an icon may be defined as “a visual representation of an object, action, or idea”. They make the ideas and concepts clear to the viewer. They are distinguishable from each other because of the services they provide to the user and the functions that are attached to them. It brings satisfaction to the user as he can easily search and scroll his desired search results and leads him to what he’s looking for. The use of icons in UI’s of mobile phones, websites and other social sites has certain advantages, such as:

- They help making good targets. They can be easily touched, and they lead the user to his required pages. Therefore, icons are user friendly.
- They save the space on the UI as they can be arranged in compact toolbars, palettes etc.
- They can be easily recognized as people have seen and used them multiple times.
- Icons do not need any kind of transcription or additional information because they are culturally and inherently understood by the user.
- Icons enhance the visual and graphic representation of user interface and they add to the aesthetic appeal of the design. (Haley, 2014)

The suitable design for the interface of an application is the most crucial part because it is largely responsible for increasing its usability. Usability may be defined as “the extent to which a product can be used by specified users to achieve a specified goal with effectiveness, efficiency and satisfaction in a specific context of use” (ISO 1998 p.6) Facebook and Twitter belong to the category of social networking sites. Both are popular social sites that give a chance to people to interact with each other and share what they have on their mind. The news gets rapidly spread on these platforms and people stay updated with the latest happenings around the globe. They have a specific user interface and display system on mobile devices that is our subject of analysis in this paper. The researcher is interested in a semiotic analysis of UI’s of Facebook and Twitter with a special interest in analyzing the icons and symbols displayed on the screen. The study identifies the logos and icons and will try to interpret their meanings from a user’s perspective. Traditionally, a user’s comprehension of an icon is largely based upon his cultural understanding and previous set of knowledge and experience. They understand the meaning of the icon and take the advantage of the services with just a single click.

Literature Review

Semiotics is concerned with the study of meaning behind the words and the meaning-making process of signs. It is also termed as Semiology which means “a science of signs”. A sign can be viewed as “everything that, or grounds of a previously established social convention can be taken as something standing for something else” (Eco, 1976, p.16). For a sign to be meaningful, it must be conventionally associated with culture and society (Gordon, 2005; Pennycook 2017). The shape, form and color of the sign stands for a meaning. The iconic and symbolic signs in the user interface of Twitter and Facebook can also be termed in this category because their shape and form constitute something that stands for something else i.e meaning and use. Different scholars have carried out research on the semiotic analysis, comprehension, interpretation, and communicative significance of the signs used in various dimensions and areas such as road signs, signs used in

advertisement, aviation and signs used in websites (Wagner, 2006; Simpson, 2009; Kirmiziloglu, 2010; Uwen, 2011). The use of signs is highly beneficial because it facilitates the users to comprehend the meaning (Uwen 2019). According to Simpson (2009), signs are important semiotic components and it helps guide the users within the field of social communication. Signs play the role of informing the users and this purpose can only be served when they are comprehensible to the people (Uwen 2019) (Krimiziloglu, 2010). Uwen (2020) conducted research on language and road signs in which he discussed the significance of the use of signs in road traffic. The study adopted the model proposed by Saussure and concluded that non-verbal language is an important mode of communication and it can be in the form of proxemics or other sociocultural recognized signs. Shakoor (2016) carried out a semiotic analysis of the features used in the cover pages of Time Magazine. The researcher employed Saussure and Pierce's theories as a model for analysis of the data. The analysis of the data showed that the said magazine manipulated the identities of the personalities shown on the cover page. The findings are significant in terms of enabling people to decode the hidden meaning that otherwise cannot be comprehended. Sabri (2019) examined the significance of three types of signs in the advertisement of cosmetic items and its influence in attracting the attention of the target audience. The study took semiotics as its theoretical background and took insight from Pierce's classification of indexical, iconic and, symbolic signs. The underexamined data illustrated the fact that though the signs are vaguely used in advertisements yet they are identical in conveying the intended message of the advertiser to the target audience. Further, it also succeeded in establishing the relationship between the product and the buyer (Sabri, 2019). Baharsyah, et.al (2020) in their research studied the iconic, indexical and symbolic signs in the Get Out movie. The study used PiePierce's eory of sign as a model of analysis to identify numerous signs in the movie. The researcher concluded that there were thirty signs in the movie which were further classified into twenty indexes, seven symbols and three icons. Alnuwaiser and Buchanan (2016) carried out a research on the "Semiotic Perception of Signs in Web Interfaces on Mobile Devices". In their study, the researchers tried to establish a comprehensible relation between the sign and the usability of the system. According to the researcher, signs appear in different context and their meanings vary between such context. The user interface in mobile devices is also a separate context. The study, through adopting Pierce theory of sign as framework for its analysis, proposed a view to determine the influence in the interpretation of icons and symbols in displayed in mobile devices on the intelligibility of the users. The study is influential in terms of developing the basis for further research in this particular context. Payuk & Zakrimal (2020) investigated the semiotic features in Instagram logo. The study took different icons and symbols used in Instagram app and analyzed the denotative and connotative meaning expressed by these features. The study used John theory to unveil the meanings of the various icons. The findings of the study revealed that different icons play the role of performing different functions such as uploading and sharing photos and videos, adding captions, editing filters, engaging with people and exploring the happenings around the world. Likewise, Mirsarraf et, al. (2017) examined the role of pictorial symbols displayed in the design of Web interfaces. The researchers mainly focused on the communicative aspect of signs used on Web pages and accessed through desktop or mobile devices. The study employed Pierce model as a framework for analysis and concluded that use of pictorial symbols is hugely advantageous. Ghode (2015) also investigated the reasons for the popularity of the social media site, Facebook. The researcher by using Saussure and Pierce's model as a framework deduced that Facebook is comparatively a popular site because of its semiotic elements. Keeping in view the above discussion, the current paper aims to investigate the use of semiotic elements in two social media sites Twitter and Facebook. The study aims to meet the following objectives:

- To explore the various indexical, symbolic, and iconic signs used in the user interfaces of Twitter and Facebook.
- To identify the types of meanings that can be inferred from these signs.

Therefore, the study aims to address the following research questions:

- What are the various indexical, symbolic, and iconic signs used in the user interfaces of Twitter and Facebook?
- What types of meanings can be inferred from these signs in the context of user interaction on these platforms?

Framework

The origin of the word “semiotics” can be traced back to a Greek word “semiotikos” meaning “an interpreter of signs”. A sign can be interpreted as an entity that stands for a metaphorical concept. It is thought to be presenting some idea in relation to another entity which could be in the form of a color, icon or any abstract notion. Zoest suggests that anything that is made observable may be termed as sign. Semiotics is the systematic study of signs and their relation to cultural and social phenomena. Semiotics is concerned with the study and analysis of “the systems using signs or signals for the purpose of communication” (Richards & Schmidt, 2012, p. 479). Eco (1976) thinks that Semiotics is concerned with dealing with everything thing that is a sign. According to Fiske (1982), semiotics is “essentially a theoretical approach to communication, in that its aim is to establish widely applicable principles”. Semiotics offers theoretical frameworks and approaches to interpret the meaning of signs. Signs can be in the form of verbal or non-verbal language, gestures, photographs, facial expressions, movies and the like. Dyer (1986) asserts that “A sign can be anything which stands for something else and it not only means in and for itself but also through its place in other signifying systems for instance, the individual ad within advertising”. According to him, the pioneers of Semiotics, Ferdinand De Saussure and Charles Sander Peirce elucidate the concept of sign in bipartite and tripartite abstract entities. Saussure views sign as the combination of sign & signifier whereas Peirce introduces this relation with the help of a semiotic triangle which is the collaboration of three elements: the sign, object and its relative interpretant. The work of Ferdinand de Saussure and Charles Sander Peirce form the basis for two identical approaches in semiotics. According to Saussure, signs can be termed as physical entities that perform the functions of communication abiding the framework of signified and signifier. A sign is a combination of signifier and signified. Signifier can be an image, a series of words or sounds, or a pattern of communication that conveys meaning whereas a signified is the actual concept or meaning and can be an abstract or concrete notion. Signifier and signified have an arbitrary relationship which means that there is no direct relationship with each other. It can be illustrated in the Figure 1 shown below



Figure 1: Signifier-Signified Dichotomy

Fiske (1990) additionally propounds Saussure's concept of sign collaborating it with the concept of culture and code. He distinguishes the three main terms as;

1. Sign __ a sense-making form of communication
2. Codes__ the systems and referents of signs
3. Culture__ the network within which the signs and codes work

Codes are essentially the rules that have certain meanings and ideas attached to them. The receiver of the code interprets it with respect to a particular sign and it also involves the culturally "shared knowledge" to get the intended meaning of the sender.

Charles Sanders Peirce also proposed a theory of signs in which he put forward a triadic relationship between sign, object and interpretant. It can be illustrated with the help of a diagram in Figure 2 below;

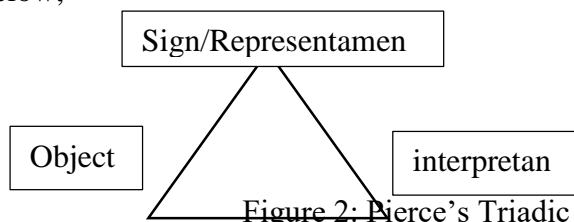


Figure 2: Peirce's Triadic Model

1. Sign/ Representamen __ a thing that stands for some other concept
2. Object__ the concept represented by the sign
3. Interpretant__ the sense-making of the sign in the mind of the receiver

Peirce in his theory of sign declares that;

“A sign (in the form of a representation) is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, it's an object. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the ground of the representaman” (Peirce 1931-58, 2.228).

Signs may be denotation or connotative. In the words of Hall (1980) denotative is the 'literal meaning of signs' while connotative is 'associative meanings'. Denotation is primarily the literal meaning of a word, irrespective of any emotional interpretation whereas the connotation is the ideas, feelings or cultural association of a word. From a connotative perspective, Peirce divided the signs into three different categories. These are the iconic, indexical and the symbolic signs.

1. Iconic Signs

There is a direct resemblance or likelihood between the signifier and the signified and the signifier directly resembles the signified such as a photograph of a fan.

2. Indexical Signs

Indexical signs refer to the causal or factual relationship between the signifier and signified such as smoke gives a hint of fire.

3. Symbolic Signs

As the name suggests, there is an arbitrary relationship between signifier and signified. It involves cultural and social background knowledge to understand a concept.

In visual semiotics, the signs referring to objects are termed as iconic signs. Indexicals are considered indicators whereas symbolic signs are of arbitrary nature. Linguistic codes and icons at UI of social sites encode certain meanings and values. To encode the meaning and functions of these icons, the current research will be using the above-discussed theories as its framework for analysis.

Methodology

Keeping in mind the aims and objectives of the study, the current study employs a qualitative approach. In this regard, we are dealing with collecting and analyzing non-numerical data to understand the in-depth meanings of the signs used on Twitter and Facebook. This study is designed as a qualitative study that aims to decipher the meanings of iconic, symbolic, and indexical signs by using the Pierce Triadic Model and Saussure's theory of sign.

Sampling

The required data has been collected partly from Twitter and Facebook interfaces and largely it is directly downloaded from an online website <https://www.flaticon.com/uicons>. This website is devoted to all sorts of icons as it offers various categories and types. The icons under-examined are acquired from the category of User Interface Icons. The sample is carefully selected, and the icons are selectively chosen so that there can be established a concurrence between the sampling, methodology, and framework of analysis. Fifteen signs (iconic, symbolic, and indexical) from Facebook and seventeen from Twitter have been selected. The data is then analyzed by using Piercian and Saussurean models.

Data Analysis








Facebook

Interface Color and Name

'Facebook' is a compound word that is a combination of two words, that is, 'face' and 'book'. Face means the representation of self and the book refers to record. According to Ghode, R (2015), Facebook is a platform where a person gets a chance to showcase his self, to indulge in social activities and it keeps a record of one's friends, relatives, and own activities. There are primarily two colors, white and blue, used in the logo and complete interface of Facebook. We can notice that Blue is a dominant color and is the hallmark of Facebook as it constructs the unique identity of this app that differentiates it from the rest of social sites such as Instagram and Twitter. It facilitates to accomplish mercantile ends because this eye-catching color attracts the attention of the user and invites him to consume its benefits. Since the foundation of Facebook in 2004, there have been so many developmental changes in it, yet its color scheme remained unchanged. It hints at the significance of this color. The logo is in moderate color and it is made by using lowercase letters which suggest the simplicity and the policy of equality for all sorts of users on the part of the developers.

Analysis of Iconic signs








The icons shown below are self-explanatory as they clearly demonstrate their meaning through the sign used, its object, and interpretant. Among thirteen signs, five signs have been identified as iconic signs because of a direct relationship between the signifier and the signified concept. In Figure 1 of Table 1, the home icon shows the feeds on Facebook. It shows the activities of the friends and the latest posts uploaded by the followed groups and pages. It provides recent information to the user and the data may comprise texts, pictures, or videos. In Figure 2, there lies the bell icon which indicates notifications of new messages and alerts to the user. Figure 3 is a friendship icon and 4 is to do a search for friends that allows the user to find friends, accept a new request, or send friend requests to people he may know. This feature enables the users to develop and populate their social circle. Figure 5 is a gift icon and it is a recently introduced sign given as an option beneath a post to choose it. In figure 6, there is a play button icon that leads to the videos in one's personal feed and allows him to watch as much as he wants.

	Sign	Object	Interpretant
1		Home	Feeds on Facebook, Activities of the user, dashboard
2		Bell	News Alerts, New messages, Notifications
3		People	Facebook friends, Friend zones
4		Search	Search by using keywords and terms
4		Find Friends	Search for new friends, Form a social circle, and Interact with others
5		Gift	A means to earn money by getting stars from the viewers, the creators get paid
6		Watch Videos	Watch videos of your choice

Symbolic Signs

Symbolic signs have an indirect relationship between the signifier and the signified. The Facebook interface utilizes multiple symbolic signs to enhance its efficacy. In Figure 7 of the table 2 below, there is a thumbs-up sign. Whenever a person uploads a post on Facebook, the user gets some options to react to that post. The thumbs-up symbol means to like and approve the post which adds to the popularity of the uploaded content. Figure 8 is a heart shape which is also a reactionary sign under a post and it symbolizes the liking for a post. It shows deep love and warm feelings on the part of the viewers and by using this symbol, they can express their feelings toward a content. Figure 9 symbolizes the videos that appear in the feed. Figure 10 is a symbol for utilizing the option of playing games and the it is in the form of a logo, beautifully designed and crafted from the capital letter G. The use of crystal blue color symbolizes the satisfaction and calmness that one gets from playing games. Figure 11 is a symbolic sign for different pages. According to Tech Target Contributor, “a Facebook page is a public profile specifically created for businesses, brands, celebrities, causes, and other organizations. It is essentially a public profile for business”. The page symbol leads to creating one’s own page or exploring pages of other users. the Figure 12 is a symbol for marketplace which is “a classified ads section within the Facebook Platform. It was initially launched in 2007 and its featured categories were job opportunities, items for sale, and

housing for rent or sale”. This sign implies financial benefits; therefore, it enhances the usability of the Interface as well.

	Sign	Object	Interpretant
7		Thumbs-up Symbol	Give reaction by pressing this symbol.
8		Heart	Give hearty reaction, expressing warm feelings
9		Feeds	Exploring what is new in user's active feed
10		Gaming	Exploring and playing online games
11		Pages	Creating and Exploring new pages
12		Market place	Finding suitable jobs and business opportunities, raising sales of business items
13		Groups	Searching different groups

INDEXICAL SIGNS

Facebook wall and Timeline fall into the category of indexical signs. Facebook wall refers to the individual's activities on the site, his uploading, sharing, or liking posts, his friend list, important events, and calendars. It keeps on changing over time, yet it is saved in the user's history. The posts may be in the form of texts, videos, reels, and pictures. The users share their data and it is shown on his wall so that other users can see it. Similarly, the timeline feature enables the people to share their stories and important events of their lives.

	Sign	Object	Interpretant
14	Facebook Wall	activities	Showing activities and posts, keeps on changing
15	Timeline	Personal sharing	Sharing personal events, happenings







TWITTER


Logo and Interface color

Nowadays, Twitter turns out to be the most popular social networking site which allows its users to ‘tweet’ about anything using 260 characters. It enables the users to interact with others directly and like and share tweets. It makes use of different signs to convey meaning to the users. the logo of Twitter is primarily blue with a combination of white color. The twitter logo resembles a mountain bluebird and it symbolizes freedom, creativity, and eternity. The flying bird in the logo symbolizes the personal freedom of each individual.

Analysis of Iconic Signs

Pierce suggests that Iconic signs have a direct relationship between the object and the represented idea. Twitter employs several iconic and symbolic signs to communicate meaning to the users. in Figure 1 of Table 3, there is a home icon. Clicking this icon leads directly to the Twitter page where the user can see recent tweets in his feed and he may also get interacted with others. Figure 2 shows an explore icon that permits the user to find tweets, trends, hashtags, and Twitter accounts of other users. Twitter also helps explore the ideas to the user. In Figure 3, there is a bell icon that is used to show notifications about if someone likes, comments or retweets the tweets or if something new pops up in the feed. The Timeline View icon, figure 4, allows the user to switch to viewing the feed in chronological order or relevance. The message icon lets the user send messages or emails directly to the other users’ accounts and enables them to get more socialized. Similarly, the bookmark icon in figure 6 allows the user to save his favorite tweets for further use. The list icon is a great tool to sustain the tweets from specific accounts without notifications. A list is “simply a group we can create privately or publicly for tracking every tweet of an account”.





	Sign	Object	Interpretant
1		Home	The default page, having recent tweets on your feed
2		Magnifying Glass	Exploring tweets and twitter accounts of other users
3		Bell	Notification if someone likes, comments or retweet the tweet
4		Timeline View	Timeline view with chronological order or relevance
5		Envelop	Option for sending direct messages and emails to other accounts
6		Bookmark	Saving favorite tweets for future use




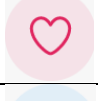

7		Lists	Creating a list of your choice to get the tweets accordingly
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Symbolic Signs

Symbolic signs have an indirect relationship between the object and the interpretant. Below are given some symbolic signs that have been derived from Twitter. Figure 8 is a symbol for the profile that leads to the personal content of the user and it also permits the individuals to edit their bio, information, or color scheme of their page. There is a symbol for adding an additional tweet when a single thread isn't enough to tell the whole story. So, it is a convenient way to make the point clear to the reader. Figure 10 is a symbol for creating space. The space on Twitter is a place where we can have a live audio conversation with our followers. The padlock is another symbol that is placed right next to the username showing that the tweets on his account are locked and protected. It signifies that the tweets are only visible to the followers. Figure 11 in table 4 is a hashtag symbol and it signifies tagging some other Twitter account.

The retweet symbol stands for sharing, reposting, or forwarding a tweet. Retweeting is often termed as supporting one's opinion. Originally a star symbol, the heart symbol means to like a tweet. It indicates the liking of a user towards the content of someone's tweet. Replying to a tweet is another fantastic symbol that means directly interacting with the user and telling him your opinion about the specific tweet. The verified symbol in Figure 13 is a symbol that is allotted by the Twitter team to the accounts of publicly renowned figures

	Sign	Object	Interpretant
8		Profile	The personal introduction of the user, his bio, feed etc
9		Create Twitter Space	Creating space to have a live conversation with the people, direct interaction
10		Padlock	A symbol placed right next to the username showing that the account is protected
11	#	Hashtag	Also termed as "Octothrope", associated with identifying key topics and keywords that are related to certain events or subjects
12		Retweet	Sharing, reposting or forwarding a tweet, a symbol to show

			support and agreement
13		Blue Badge, Verified	A symbol placed next to the username, showing that the account is authentic
14		At Sign	Also known as 'AT', tagging a Twitter account
15		Add Additional Tweet	Adding another tweet
16		Heart Sign	Liking the tweet to indicate support
17		Reply	To engage with others by replying to their tweets

Findings and Conclusion

The current research has analyzed the signs used in the interface of Twitter and Facebook with the prime objective of examining how each social media site exploits various signs to convey meaning to its users in a non-verbal form. Both Facebook and Twitter have used different icons, symbols and indexes to enhance the usability of the apps as well as guide to the user about the functionality of the app. Each sign encodes a specific meaning and in the current paper, the researcher tried to decode the meaning of these signs according to Pierce's theory of Sign. The findings reveal that all three types of signs, that is, symbolic, indexical and iconic have been exploited in the interface of both Twitter and Facebook. Some signs such as the search bar, home icon, heart symbol, bell icon and envelope have been commonly used by both sites. It shows the similarity in the functionality and communicative uses of the sites. Yet the two differ in the use of other signs such as Twitter using retweets, hashtags, additional tweets etc. which shows considerable differences between the two. To conclude, it can be said that language is not limited to only verbal or textual elements. Meanings and messages can be delivered by using non-verbal resources such as symbols, icons, pictures, gestures, movements and indexes. It is sometimes, more convenient to communicate meaning by making use of suitable signs as they facilitate the process of meaning-making and understanding the idea.

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