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SEMIOTIC ANALYSIS OF LIBRARY HOMEPAGES: A CASE STUDY OF THE UNIVERSITY OF MANAGEMENT AND TECHNOLOGY (UMT), LAHORE, PAKISTAN.

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Abstract
Purpose- Signs and symbols play important roles in our lives because they help us to convey messages even without written words. With the invention of the internet and the evolution of web technologies, the universe became a global village because the internet facilitated a better and faster avenue for human communication. In libraries and allied information science terrains, the internet fostered the use of Websites, to portray the intellectual contents that are domiciled in them. On the library websites, users can ascertain the timings, collections, policies etc. of a particular library because the icons that are visible on a homepage usually make it very attractive to the user, as well as convey the interpretations of the images without textual inscriptions.
Method- This study used a qualitative approach of the descriptive method to analyze the UMT Library homepage. Icons of resources, services and facilities are the components that were used for the collection of data.
Findings- Results of the study showed that the images on the UMT Library homepage are logical and self-explanatory because they convey logical meanings. Part of the recommendations proffered is for the UMT library to put images/ icons in the category of resources and services offered by the library amongst others.

Keywords: Library, Homepage, Semiotic Analysis, UMT, Website.

Introduction

The process of sharing information is known as communication. It connotes sending or receiving messages between two or more persons. History tells us numerous ways and stages of communication that have been used by humans. In ancient times, for instance, human beings tried to convey messages through gestures and facial expressions and as time passed by, sounds and symbols were also used for the same purpose. Examples of symbols that are used for communication purposes by humans are pictographs and ideographs. Haldemann (2014) sees a pictograph as the most simple and efficient way to convey a message or an idea and has been used throughout civilization- from the prehistoric age to ancient Egypt, until today. For the term 'ideograph', which is also known as an ideogram, the concept implies any graph that represents an idea. With the discovery of alphabets, however, alphabets became the most widely accepted means of communication by humans. Alphabets help us to make words and with the help of these words, messages are conveyed in the form of verbal communication. The use of alphabets has aided humans to use shorthand writing and other signs or symbols to concise their texts to deliver messages without speaking or writing any word. Interestingly, nonverbal communication can be done through written words and thoughts can only be shared with the majority of people by mass printing /publishing. The discovery of the alphabet was a development of the use of pictographs and ideographs, leading to limited use of the pictographs and ideographs that were used in ancient times for communication purposes. Narrowing it down to the blind and the deaf, sign language has proven to be the most important means of their communication and since signs are their primary means of communication, the issue of semiology was birthed. Semiology or semiotics implies the study of signs (Seiler, n.d.). Seiler argued that semiology can be applied to all sorts of human endeavours, including cinema, theatre, dance, architecture, painting, politics, medicine, history, and religion. In the context of this work, semiotics is the act of reading that involves a methodology. The concept does not simply focus on scientific reading because it is also regarded as an activity that is concerned with signification, and the manufacture of meaning. Semiologists hold that any artefact created by man carries meaning and that this meaning is articulated within itself (Kiran, 2010). As a field of academic enquiry, semiology has its origin in linguistics as developed by the Swiss academic Ferdinand de Saussure (filmreference, n.d.). filmreference noted that in the late nineteenth and early twentieth centuries, Saussure gave an influential series of lectures on linguistics in which he proposed semiology as a model for the investigation of language and language systems. Further, filmreference argued thus:

> "Saussure's work was unusual in several respects, not least because, counter to the dominant approach advocated by linguists at the time, he was not concerned with uncovering the etymology of language but with the ways in which language was used in the here and now, an approach that is now usually referred to as "'synchronic' rather than 'diachronic."

However, there is no gainsaying the fact that the development of websites has become a major source of getting information about almost anything within a minute with a mere click of a web address, courtesy of Information and Communication Technologies (ICTs). The above statement has been concretised by Andreolini, Colajanni, & Lancellotti (2005); Lee (2002) who affirmed that the evolution of web technologies has changed communication trends. It has provoked revolutionary changes in our social and professional life. It has also changed the communication methods from traditional style to Global Info-Hub, where anyone is accessible at

any time and anywhere (Darwish & Lakhtaria, 2011). In other words, the invention of the internet has made the universe a global village by aiding our communication process at a faster rate.

Nonetheless, this article aims to offer a semiotic analysis of library homepages with specific reference to the UMT. Lahore, Pakistan. UMT is a private-sector university that was established in 1990 by Hassan Suhaib Murad. According to the UMT website (www.umt.edu.pk), the university offers numerous bachelor's, master's, and doctoral degree programs in a vast range of fields like management, technology, textile design, banking, computer science, economics, education, engineering, aviation, liberal arts, information technology, artificial intelligence, media and communication, languages and mental and physical health sciences etc. The UMT website has different sections or homepages. The authors explored the vision, mission, research support, collection, policies, OPAC etc. of the library homepage February-March 2022. The study focuses on the icons/ images available on the library homepage, to ascertain the exact meanings and purpose of the icons used to index the various collections and services offered by the library.

Objectives of the Research

The general objective of this study is to offer a semiotic analysis of the library homepage of the UMT, Lahore, Pakistan. In specific terms, the study aims to:

- Explore the various icons/ images used on the UMT library homepage (Learning Resources, Services and Facilities).

- Identify the meanings of the icons on the UMT library homepage.

Methodology

For this study, a descriptive qualitative method was used to conduct a semiotic analysis of the library homepage of the UMT, Lahore, Pakistan. Denzin and Lincoln (2000) averred that qualitative research involves an interpretive and naturalistic approach. By implication, qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. Cresswell (1998) stressed that qualitative research is a loosely defined category of research designs or models, all of which elicit verbal, visual, tactile, olfactory, and gustatory data in form of descriptive narratives like field notes, recordings, or other transcriptions from audio and videotapes and other written records and pictures or films. The author deeply examined the library homepage of website of University of Management and Technology in the period of February-March 2022. The study focuses on icons and images available on it and fetching the hidden meaning and purpose of these icons used to index various collections and services. This study focuses only on icons or images of resources, services and facilities of UMT library homepage.

Scope of the research

The study is limited to the icons/ images that are on the library homepage of the website of UMT. In other words, only the icons/ images related to the resources, services and facilities provided by the UMT library homepage are examined.

Significance of the research

Websites are image reflections of their hosts/ parent bodies and with particular reference to this study, the UMT library homepage offers a true representation of the library holdings because it offers many people the opportunity to have an idea of the content of the library without physically going there. The library users can get the information they need from the library homepage. They can know about the timings, collections, policies etc. Icons used in library homepages make its view attractive as well as convey the meaning without writing it in text or words. As such, this study plays a great role in the field of library and information science. In addition, the researchers observed a research gap that is needed to be filled because research has not been conducted using the semiotic approach on the UMT Library Homepage.

Review of Related Literature

By reviewing some of the relevant literature (published and unpublished) that are related to this work, this study proceeds with the assumption that there are fundamental discoveries to be made about the topic in the study area (UMT). Hence, the following review was made to fill the gap in research.

Related Research on Semiotic Analysis

Gistrama (2020) conducted a semiotic analysis of a novel using qualitative research to collect data. The author collected all the illustrations, analyzed and interpreted the data to fulfil the purpose of the research objectives. The research aimed at knowing how the pictures, illustrations and colours in the novel affect the psychology of the readers. The author deeply analyzed the signs, colours and typography of the novel and findings from his research revealed that the illustrations in the novel are in synergy with the topic and textual content of the novel. The author concluded that the illustrations in the novel highly affect the psychology of readers, thereby making the readers create an imagery of the novel in their minds.

Rahmawati (2019) conducted a study on selected ten (10) cover pages of TIME magazine from the official website of Magazine. The study was specifically on Donald Trump's edition of the Magazine from 2016 to 2019, using the theory of Charles Sanders Peirce. The focus of the study was on the icons and symbols presented on the cover pages of the magazine. Findings from the study revealed both positive and negative views like the dominant leadership feeling of Donald Trump that is full of desires, tricks, lots of disasters, decisive, and disappointments. The positive views are his braveness and confidence. These signs and symbols are analyzed under the umbrella of C.S. Peirce theory. The author concluded that further research can be conducted on semiotic analysis under different theories presented by Ferdinand de Saussure or Ronald Barthes approaches and objects can be any advertisement, billboard events, etc.

Amirdabaghain (2019) researched a highly acclaimed novel named "Animal Farm", written by George Orwell. The author analyzed several cover pages of the translated versions of the novel in his research. The novel was written in the third person narrative. The researcher observed the typography, font colours, background theme, font weight, shapes as well as the position of the written element. The analysis of the book consists of two positions. One is pre-revolution and the other is post-revolution. The conclusion of his research shows that the pre-revolution book covers contain pictorial representation, symbols, and different colours associated

with Islamic context while the post-revolution book covers stand in profound contrast. This research sets values of beliefs and ideology.

Bellentani (2016) wrote in his research that monuments and memorials have artistic and aesthetic values as well as political functions. The researcher used a semiotic analysis approach to fetch out the meaning and concept of these monuments and their political dimensions. To analyze the monuments, the researcher personally visited the place where the monuments are originally situated. He selected the Bronze Soldier in its current location (The Defense Force Cemetery of Tallinn, Estonia), the War of Independence Victory Column in Freedom Square, Tallinn, Estonia and the Skating and Biking Practices near the Monument to the Soviet Army, Sofia, Bulgaria. Results from the study showed that one cannot portray the full meaning of the monuments at once and their meaning can vary. The author concluded that the full interpretation of the monument can't be done by the designers because unexpected thoughts and alterations can be merged time by time with different aspects.

Adham (2012) explored media as a strong component that is used to spread or convey messages in the form of images, through the selection of five magazines that were published in some Middle East countries. The Magazines are: Sayidaty magazine based in Dubai, U.A.E.; Laha magazine based in Beirut, Lebanon; Nadine magazine based in Beirut, Lebanon; Safoori magazine based in Riyadh, Saudi Arabia, and Al-Sada magazine based in U.A.E. Thereafter, the researcher analyzed the magazines under the theory of Kress Van Leeuwen framework. Findings from her study revealed that the male gender plays a dominant role within the family that was shown in the advertisement while the females adopt a servile role within Arabian society. More so, the researcher pointed out some advertisements and concluded that the Arabian media will change dramatically and it will seem to be a female dominant society than men.

Related Research on the use of Semiotics in LIS
Hayati (2018) examined four Islamic university libraries in Indonesia with a focus on the symbols that are found in them. Using Ferdinand de Saussure's approach, the author analyzed the data and defined Islamic values based on Stuart Hall's representation approach. The author concluded that exterior and interior Islamic symbols are present in the libraries of Islamic universities such as the dome, calligraphy, mosque, hijab and quotes from the Holy Quran. The result showed that there is no logical relationship between signifier and signified.

John (2016) investigated Information Systems (IS) in his research using a mixed-method approach to collect data. The author applied the Mingers and Willcocks framework to his research and also, identified sixfold frameworks of IS i.e. producers, consumers, contents, messages, code and medium. Analysis from the study showed that communication technology is usually, primarily used in information systems and semiotics are very important in the information system. The finding revealed that IS is a very important factor as is used in big data, analytics, data privacy, and security as semiotics.

Wells (2015) examined Social Semiotics in his research. The author explained that Halliday was a linguistic scholar who coined the term "Social Semiotics". Again, the author distinguished between Social Semiotics and Traditional Semiotics and argued that semiotics would be able to understand the apparent "Chaos" that lies outside of its traditional boundaries. The author used the Case Study method in his approach and utilized the components of

information technology i.e. the electronic display (screen/ monitor). The author wrote about the history of CRT monitors and its pixels or dots in detail and used the term "Computer Semiotics" in his study for LIS tools such as the OPAC (Online Public Access Catalogue), article databases, and search engines. He studied social semiotics based on social resources as an electronic display with the following elements: Discourse, genre, style, and mode. The author concluded that the mouse and keyboard are more familiar devices than the light pen. More so, the author wrote that the major advantage of social semiotics is that it provides multi-channels like sound, image or text to conduct multiple research.

Mai (2001) used Pierce's framework of semiotics to clear the method of interpretation in his research. The researcher wrote different steps of indexing that are determined by different researchers and related the subject indexing process as an unlimited semiosis that has various and many terms in it. To him, an interpretation of a subject matter is very important because it helps other users to gain access to the document. The conclusion from his research showed that a clear understanding and sound theory of the human subject indexing process is always very important. The author also indicated that information-seeking behaviour, information retrieval, and evaluation of information systems must be taken as critical elements of the indexing process.

Cronin (2000) examined the relationship between bibliographic references and citations in the context of scholarly communication. He used the word "First Cousin" for references and acknowledgements used in scholarly communications like articles, books etc. Citation, references and acknowledgements are the families of signs. Researchers mentioned or linked to on the web are multifaceted tasks. Because writing is a social act and dedication is a must for it. The researcher also identified in his research that semiotics usually do not provide a unifying theory so the intentional and extensional significance of citation can't be understood clearly. Only it provides a framework in which we examine a specific phenomenon and or examine the scope of these theoretical models.

Ma (1995) used DeVaney's Model for the semiotic analysis of educational television. He analyzed 150 homepages of some libraries in the United States in Five different phases, using a quantitative approach. The author focused on catalogues, reference services and collections and the conclusion from his study showed that cultural codes are represented as the icons encoding process on the web.

Based on the foregoing, it is apparent that several kinds of research have been conducted using the semiotic approach but there is no single work that has been conducted on the UMT Library Homepage. Hence, the conduct of this study.

Results and Findings

UMT Library Resources

Pictures/Images	Representation	Interpretation
	This picture shows a magnifying glass on a globe. The image contains a sea green colour having the text "Web OPAC" on it.	UMT web OPAC (Online Public Access Catalogue) provides complete bibliographical information on available physical resources in the library. Users can filter their search by title, author, subject, ISBN, series, call no, barcode, etc. Users can also search and get the details of resources available on different campuses.

A magnifying glass and a globe indicate that any user can search for its OPAC from anywhere in the world with the help of the internet. The sea green colour of this image resembles the ocean and shows that the UMT library contains a huge collection. This colour also matches the theme of library furniture. The OPAC facilitates its users to search for their required books by Urdu typing. |
| | This picture has different types of books in standing position and having a tag of "New Arrivals" | UMT library updates its collection every month. New books are added and the title pages of new books are displayed on the new arrival section of UMT library homepage. There are numerous details available on it. The image shows various titles of books which means there is no classification method applied in searching the new arrivals. |
| | This image has a cubic shape in which we can see the initials of Learning Resources. This image contains blue, green and orange colours. | Learning Resources are the resources where a user or researcher fulfils their intellectual needs from different kinds of primary, secondary and tertiary sources of information. As we all know cubic shapes have different sides and corners. This image also contains a cubic shape. It indicates that libraries have different types of learning resources. These are a general collection, reference collection, these and projects, a textbook collection, world |

bodies collection, government publications, audio-video collection, research publications, periodicals (current and archives), and Pakistan Foundation London Collection. This huge collection of learning resources makes the UMT library a house of knowledge and wisdom.

This icon shows a pile of journals, and a human hand holding a mouse.

UMT library has numerous electronic databases that provide a user free access to various collections of books, articles, and current research without cost; by just clicking on its hyperlink.

Holding a mouse in a human hand with a pile of journals indicates that journals or articles can be searched in electronic versions through the internet with thousands of current research available on them.

A human hand holding a tab and reading something on it beside the tab there is a notepad and a pen.

UMT library provides its users with various links to different sites where users can read numerous books according to their needs. The image of a tablet indicates through clicking on the link and can make notes when necessary.

The icon of Selective Dissemination of Information Resources shows stairs beside a vase with flowers and pebbles.

Selective Dissemination of Information Service provides a facility for users to get information according to their requirements. Users are recommended to fill out the form by clicking on it and submitting it with a captcha.

Stairs and a flowering vase reveal that the UMT library warmly welcomes its users to get information according to interest. When a user submits their information then he or she is updated with the current field of interest.

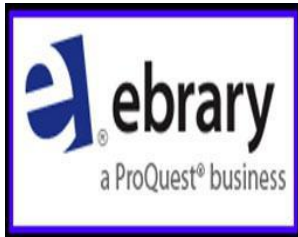This picture shows a laptop attached to a book. The laptop and a book are open.

UMT library has numerous collections of various resources. LRC digital library is one of them. In the section of the digital library, users can search its resources within the campus only. The picture of the laptop attached with a physical book

reveals that resources of UMT Library can only be accessible only in the premises of UMT.

Pictures/Images	Representation	Interpretation
	A logo and establishment date of UMT with a magnifying glass and UMT Research text is available in this image.	UMT research keeps a record of its employee's research. A magnifying glass indicates the search facility and establishing the date reveals that UMT library keeps a brief record of its employee's research history.
	This image contains a logo and a text of ebrary.	UMT website also facilitates their users through the material of ProQuest Database. The logo interprets its meaning that UMT users have the facility of retrieving information from ProQuest Database. User ID and Password are necessary. It means it is only restricted to UMT employees and enrolled students.

UMT Library Services and Facilities

Pictures/Images	Representation	Interpretation
	UMT library is a state of the art providing numerous services including lending, interlibrary loan, reference service, document delivery service, photocopy and scanning services, alumni services, and research/ publishing consultants.	On the UMT library homepage, there is no icon available regarding services and facilities provided by UMT library. Users can only access these services with direct concern to the UMT library staff. Only a brief introduction is available on this page.

Conclusion

Based on the data generated from this study, the researchers observed that the library homepage of the University of Management and Technology contains attractive and logical icons and images concerning the components of the library resources but lacks image(s) or picture(s) in the component of available facilities and the services being offered. More so, results from the research showed that the UMT library has a marvellous collection of resources and also

maintains its library homepage in a good manner. The homepage provides a brief and concise detail with logical images. Every image on the homepage offered a logical expression to the viewer, thereby justifying that the number of hits on the library's homepage proves its worthiness. As such, it can be boldly stated that the images and icons on the UMT library homepage convey satisfactory meanings to the online patrons of the library.

Recommendations

Based on the findings of this study, the following recommendations are made:

- An image/icon that portrays the component of resources and facilities should be provided on the homepage of the UMT library. By so doing, it would arouse the interest of the viewer/ library patron in wanting to explore more of the library holdings.
- The icon for E-Databases and E-Books should be classified under a single category of learning resources.
- Selected dissemination of information (SDI) is a special service but it was categorized in the resources section of the UMT homepage. It should be better organized to fall under the category of services.

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