NAVIGATING CHANGE: MEDIA, TECHNOLOGY, BUSINESS, ECONOMICS, AND INNOVATION IN THE 21ST CENTURY

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Dr. Kamal Goel

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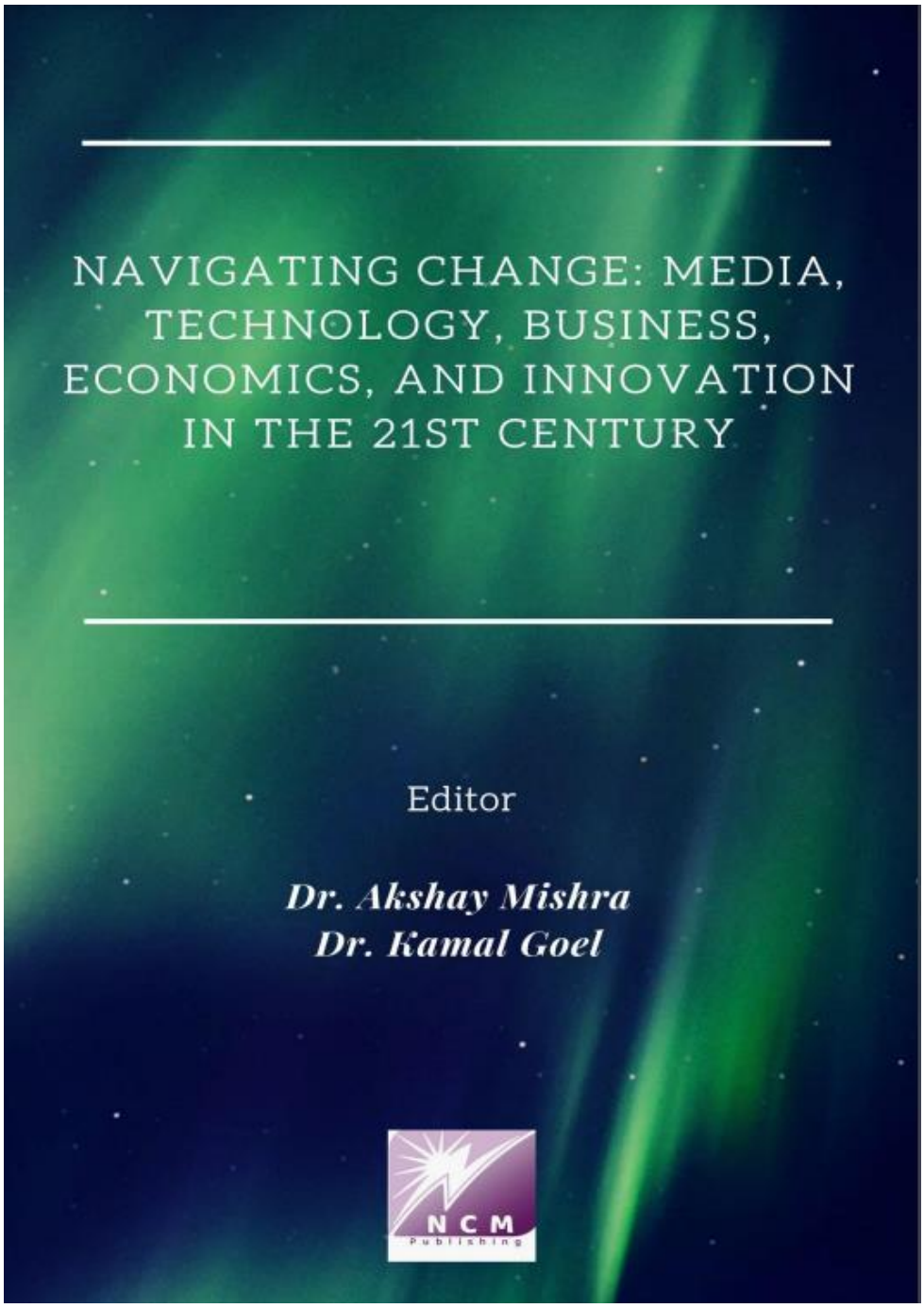

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Navigating Change: Media, Technology, Business, Economics, and Innovation in the 21st Century

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Published by: NCM Publishing House

Publishing Date: 09.09.2024

ISBN: 978-625-95075-0-7

Link Book Chapter NCM

https://www.ceocongress.org/files/E-Book/Book%2017.pdf?_t=1725271204

Navigating Change: Media, Technology, Business, Economics, and Innovation in the 21st Century

Publication No: **27**

Editors	***Dr. Akshay Mishra*** ***Dr. Kamal Goel***
Cover Designer	***Mr. Kerim KARADAL***
ISBN	978-625-95075-0-7
Publisher Certificate No	**51898**
Publisher Type	International Publishing House
Release Date	2024

NCM Publishing

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e-mail: ceocongress.info@gmail.com

www.ceocongress.org

LIBRARY INFORMATION CARD

Mishra, Akshay and Goyal, Kamal; Editor, 7, 2024. **Navigating Change: Media, Technology, Business, Economics, and Innovation in the 21st Century**. NCM Publishing House, Bursa.

Language: English

Editors: Dr. Akshay Mishra; Dr. Kamal Goel

ISBN: 978-625-95075-0-7

Bukti Korespondensi

Bukti

CHAPTER 8

Biophilic Study of Co-Working Space Design in College Libraries

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ABSTRACT

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Keywords: Biophilic design, Co-working Space, Library.

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INTRODUCTION

The Covid-19 pandemic has changed the life order of all communities throughout the world, various health efforts and protocols are still being implemented even though almost 4 (four) years have passed. All humans on this Earth are very aware of how important it is to maintain air quality, especially in the shared spaces of University libraries. This research discusses a review of university library design literature with a biophilic design approach to library functions for students from various faculties. Trisakti University has 9 (nine), namely: Faculty of Law; Faculty of Economics; Medical School; Faculty of Dentistry; Faculty of civil engineering and planning; Industrial Technology Faculty; Faculty of Earth and Energy Technology; Faculty of Landscape Architecture and Environmental Engineering; Faculty of Fine Arts and Design with 23 (two or three) study programs. Since 2020, the library has been centralized in Building M – Campus A, Trisakti University, equipped with facilities for reading, discussing and doing assignments.

The library at a university is the heart of the university, and is one of the supporting facilities to support the Tri Dharma of Higher Education for teaching, research and community service activities. (Rahayu, 2017) Likewise, Tri Hardiningtyas stated that according to its function, a college library is to develop, process and maintain library collections and provide library administration services to university library users. (Hardiningtyas, 2016) After the Covid-19 pandemic, the way we communicate with each other continues to change, including the learning process and using shared spaces such as the university library. This research tries to make a study based on literature data related to interior design by applying a form of biopolitical design for university libraries.

The term Biophilic comes from the word biophilia which can be interpreted as 'love of nature' which emerged around the 1980s, starting with increasing urbanization, resulting in a weakening of human relationships with nature. Based on this condition, the field of architecture created the idea of biophilia with the aim of returning humans to closeness to nature. (Adiyanto, 2017) As time goes by, including rapid technological advances, it also results in various mental health problems and unhealthy lifestyles. Biophilic design will change and become a solution to increase human physiological and psychological interaction with nature, because the essence of biophilic design is designed to create a space where there will be interaction with nature which is a basic human need. (Benaya, 2019) According to Browning in Hui (2019) Biophilic design has 14 (fourteen) designs grouped into 3 (three) categories, as can be seen in the following table:

Table 1. 14 Biopholic Design Patterns

Categories	Biophilic Design Patterns	Pengertian
Nature in the Space	P1. Visual Connection with Nature	A pattern that relies on the sense of sight to perceive space that is connected to nature both directly and indirectly Example: Placing a Window in the work area  (travelkompas) → Work desk facing the window
	P2. Non-Visual Connection with Nature	A pattern that relies on the senses of hearing, smelling, touching and feeling in experiencing space related to nature in a multi-sensory way.  (kretivv) Caption: Reading room with natural design
	P3. Non-Rhythmic Sensory Stimuli	Patterns related to nature are random and last a short time so that space users are not aware of them but can create a fresh, interesting and enthusiastic atmosphere.  (pemkot Bandung) Interactive reading room layout
	P4. Thermal and Airflow Variability	Patterns related to air movement, temperature and humidity with dynamic and variable properties in the interior resemble original conditions in nature  (leisure – Harian Jogja) Dynamic layout like natural conditions
	P5. Presence of Water	A pattern that places water elements in the space to provide a comfortable and calming atmosphere so that it has a positive impact on the users of the space.  (Hans Schlupp) There is a pool that can cool the air

	P6. Dynamic & Diffuse Light	Patterns related to the movement of natural light due to differences in time which are dynamic and spread in space so that contrast between light and dark areas arises  (Arsitag) Utilize lighting from skylights So save energy
	P7. Connection with Natural System	Patterns that connect the interior with the ever-changing natural system so that space users can interact with nature.  (jurnalpost) The shape of the bookshelf resembles a tru… Tree
Natural Analogs	P8. Biomorphic Forms and Patterns	Patterns that imitate or stylize natural forms in shapes and motifs for forming and filling elements of space to present a natural atmosphere.  (Universitas Kristen Petra) Interiors that use patterns organic
	P9. Material Connection with Nature	Patterns that use natural materials that change over time so they can reflect the local environment.  (Universitas Kristen Petra) Fun experience concept
	P10. Complexity and Order	Patterns that apply repeating symmetry and geometric shapes at the same or different scales so that individuals can better understand space  (Uno a Uno) Apply symmetry and geometric patterns
Nature of the Space	P11. Prospect	Patterns that provide a wide, open and bright view of the space so that users can feel the diversity of the space.  (Eric Laignel) Open space interior design
	P12. Refuge	Patterns that create closed areas or limit views from outside the area so that users can feel safe and protected  (aksaramaya) Comfortable atmosphere

	P13. Mystery	Patterns that provide a sense of awe and curiosity about the sensations felt in space such as dynamic movement and changes from time to time  (VOA Indonesia) The reception area is separate from the area library
	P14. Risk/Peril	Patterns that provide a sense of danger or threat but still feel protected so that users of the space can increase curiosity, alertness and awe  (UGreen.io) Green atmosphere of the library interior

Of the 14 (fourteen) biophilic designs that are suitable for library interiors, the second category is Natural Analog, namely: Biomorphic Forms and Patterns (presenting a natural atmosphere in the form of applying textures); Material Connection with Nature (non-toxic application): Complexity and Order (applying open space).

In general, the spaces in the library are: collection room; reading room, service room and administrative work space for library staff, where it is also necessary to pay attention to the grouping of books from several faculties that have different student characteristics. For this reason, implementing biophilic design is the most appropriate, after the Covid-19 pandemic. The aim of this research is how to make the library space more effectively used according to its function as a reading room for students.

METHOD

This research uses a literacy review related to the study approach of several journals related to libraries, including: Nur Afizah MK, Azizah MD and Siti Rasidah MS that campus and building facilities are less supportive regarding the spatial layout of the division between collection rooms, reading rooms, service rooms to the administration room. Divisions that are too formal result in the library being less attractive to most students compared to the open spaces on campus grounds. (Nur Afizah MK, 2021). Meanwhile, according to Sri Rahayu, university libraries are included in the technical service unit as a means of technical support, including functioning as a place of education, a source of information, research, recreation and publication. (Rahayu, 2017)

RESULTS AND DISCUSSION

Several studies refer to students' comfort in using the university's central library, which consists of several faculties, each of which has student characteristics in carrying out the learning process. Therefore, the application of biophilic design in designing spatial layouts is in the second category, namely Natural Analog, namely: Biomorphic Forms and Patterns (presenting a natural atmosphere in the form of applying textures); Material Connection with Nature (non-toxic application): Complexity and Order (applying open space) researchers consider appropriate to apply for spatial layout in a university's central library.

CONCLUSION

The application of this second category of biophilic design is very good for helping the mental health process for users, especially students, both physically and psychologically. Previous case studies show that biophilic is successful in increasing productivity, reducing stress levels, and increasing the recovery rate of the human body.

The focus in biophilic is to create an interaction between the existing architectural composition with human behavior as users and the natural environment through complex activities with the aim of creating a quality of life, especially for health during this pandemic. Biophilic is used as an alternative so that the room concept that is built will be able to synchronize the relationship between nature and humans themselves. Three main design patterns can be implemented in the university central library space, as follows:

a. **Biomorphic Forms and Patterns,** the application of patterns that imitate or stylize natural forms in shapes and motifs for forming and filling elements of space to present a natural atmosphere.
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Biophilic Study Of Co-Working Space Design in College Libraries

by Asih Retno Dewanti

Submission date: 09-Oct-2024 10:41AM (UTC+0700)
Submission ID: 2479786029
File name: philic_Study_of_Co-Working_Space_Design_in_College_Libraries.pdf (331.41K)
Word count: 2006
Character count: 11483

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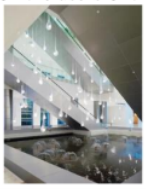
	P5. Presence of Water	A pattern that places water elements in the space to provide a comfortable and calming atmosphere so that it has a positive impact on the users of the space.  (Hans Schlupp) There is a pool that can cool the air

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