

# **RESEARCH@UCSI**

### CENTRE OF EXCELLENCE FOR RESEARCH, VALUE INNOVATION AND ENTREPRENEURSHIP

### OFFICE OF POSTGRADUATE STUDIES



e-ISSN: 2710-7256

OCTOBER 2023 Vol.5 No.5

### BARAKAT TRUST GRANT AWARD 2023 Paper Sizes Used in Persian Medieval Manuscripts: Creating a Materials Construction Digital Database

Prepared By Prof. Dr. Mandana Barkeshli Head of Research De' Institute of Creative Arts and Design, UCSI University



Prof. Dr. Mandana Barkeshli is currently Head of Research of De' Institute of Creative Arts and Design at UCSI in Malaysia. She is also Honorary Principal Fellow of Melbourne University at the Grimwade Centre for Cultural Materials Conservation. By profession she is a conservation scientist specializing in materials technology of manuscripts and miniature paintings. She is internationally recognized for her discoveries related to traditional preventive measures in Persian medieval manuscripts such as saffron stigmas used as inhibitor to counteract destructive effect of green verdigris pigment in Persian miniature paintings and henna dye used as fungicide in Persian paper dyeing processes during 16th to 19th centuries. She has received numerous fellowships and awards in recognition of her international recognized research works, including a Petra Kappert Fellowship from the Centre for the Study of Manuscript Cultures at the University of Hamburg, Barakat Trust from United Kingdom and MacGerorge Fellowship from Melbourne University, Australia.

#### **Brief Summary**

In May 2023 , an international grant was awarded by the Barakat Trust from United Kingdom in order to create digital database on paper sizing used in Persian medieval manuscripts based on historical recipes from the 15th to 19th century. The proposed grant research project is the extension of previous generous research grant on medieval Persian paper dyes awarded by Barakat Trust on 2020. In this project a digital database will be made documenting and archiving the recipes in Persian and English along with the process of reconstruction of fifteen different sizing materials based on historical analysis through photos, videos, and procedures step by step. The database will be used for scientific analysis research accessible online and a platform for comparative study of other materials used in Persian and Islamic manuscripts. The research project will be conducted jointly at De' Institute of Creative Arts & Design at UCSI University and The Grimwade Centre for Cultural Materials Conservation Laboratory of the University of Melbourne (GCMCC).

#### **Project Team Members**

In the first stage a team of five members are formed. The main principle investigator Prof. Dr. Mandana Barkeshli is supervising the project from UCSI University. The Co-researcher is an early career Mary Lugton Post-Doctoral Fellow, Dr. Sadra Zekrgoo from Grimwade Centre, The University of Melbourne. Two research assistance as archivists from both countries and a computer technician as the digital database consultant will also be involved.

#### Introduction

Paper sizing (āhār dādan) is a process of preparing the surface of paper to make it suitable for writing, illuminating, or painting on. After a sheet of paper has been formed and dried, the cellulose fibre it contains can continue to absorb water unless it has been 'sized' or highly burnished.

In Iran, once the paper was dried, it was sized by soaking it in albumen or a starchy solution to fill in and even out the surface for painting. Before the Islamic era, in the Sassanid period (fifth-sixth century CE), the Iranians used sizing materials over the cloth to prepare the surface for writing and painting. After learning the process of papermaking from the Chinese, Iranians started the tradition of sizing paper to prepare a suitable surface on it for writing and painting. The chief contribution of Iranian papermakers working under Arab rule was the perfection of rag paper thanks to improved techniques for beating the fibres and by preparing the surface for writing by sizing it with starch. Wheat starch and later gum tragacanth or emerusus were used as sizing substances. our investigation based on historical analysis showed that a number of different sizing materials were prescribed in Persian historical treatises mainly from the late Seljuk and early Ilkanid (seventheighth century Hijra/twelfth-thirteenth century CE), Timurid (14th -15th CE), Safawid (16th -18th CE) and Qajar periods (/late 18th-19th CE). From previous study of the applicant, the materials can generally be categorised as vegetable and animal base sizes. Vegetable base sizes include starches, gums, plant mucilage, fruit juices, sugar, and animal base sizes.



#### **Aims & Objectives**

This project aims to continue the second phase of the project that was supported by Barakat Trust between 2020-2022 entitled: "Paper Dyes Used in Persian Medieval Manuscripts: Creating a Materials Construction Digital Database" at the The Grimwade Centre for Cultural Materials Conservation Laboratory of the University of Melbourne (GCMCC) which the report is already submitted.

The second phase of this project aims to reconstruct the medieval Persian sizings that have been used in the manuscripts production of Persia during 15th to 19th Century. The recipes and their reconstruction procedures will be added and documented in digital database to share the knowledge gathered based on theoretical and practical experiments conducted at the UCSI University, Malaysia. The created digital database will be expanded for future scientific analysis to add each reconstructed paper sizings with its scientific characteristic using laboratory tools as reference for identification of paper sizes to be accessible online.

#### **Project Description**

The project will be conducted in four phases as follows:

#### • First Phase: Archiving the Recipes

In the first stage it is aimed to create a database from identified recipes based on historical treatises which is translated in English from classical Persian. From previous researches conducted by the applicant twenty five important treatises from the Taimurid, Safawid and the Qajar eras (fifteen to nineteenth century) were identified for studying the medieval paper sizing techniques. From the historical recipes around fifteen sizings were identified for paper sizing techniques in Persian medieval paper manuscripts. Recipes from each manuscript will be archived for digital database and will be categorized according to sizing characteristics, materials and techniques.

#### • Second Phase: Identification and Preparation of Materials

In the second stage all the materials that have been identified will be prepared from local traditional herbal stores and old bazars of different cities of Iran to make ready for the reconstruction of the Persian medieval sizings. However, based on previous research, it is found that there is a need for further research and survey for certain materials that are mentioned in historical recipes, but are not used in the modern Persian language and literature. Further investigation will be carried out, that can be conducted in places such as Iran Herbarium Centre.

#### • Third Phase: Reconstruction of Medieval Paper Sizes

In the third stage all the sizing materials will be reconstructed at UCSI University with the collaboration of The Grimwade Centre for Cultural Materials Conservation Laboratory of the University of Melbourne. For the reconstructions acid free papers will be used, and the process will be documented step by step following the instructions of each recipe. Photos and video recordings will be used to enhance the documentation. The findings will be linked to each recipe in the database for the purpose of future scientific analysis to identify the sizes used in original samples.

#### • Fourth Phase: Creating Digital Data-Base

In the fourth stage a digital data base will be created at UCSI University linked with The Grimwade Centre for Cultural Materials Conservation Laboratory of the University of Melbourne with the following information:

1) Each recipe, along with its source from historical treatises, in both Persian (Farsi) and English.

2) A step by step instruction for reconstruction of each sizing materials along with the photos and videos linked to the historical recipe in the relevant treatise.

3) The database will be designed in a way that can be linked to previous phase to add the scientific laboratory data analysis using scientific instruments such as GCMS, Raman, XRF, FTIR, UV, IR, colour spectrometry and false colour imaging to create a platform to identify the sizings, and to understand their material culture. This will contribute to better decision-making on their preservation, conservation and restoration.

#### **Project Outcome**

There will be two outcomes for the proposed project as follows:

1) Around fifteen sizing materials used in Persian medieval paper sizes will be reconstructed based on historical recipes from twentyfive historical treatises.

2) A digital database will be created on Persian sizing materials and techniques based on historical recipes demonstrating original recipes in written form and step by step procedures in the form of written instructions, photos and videos.



The digital database will be designed in a way to be able to be expanded and to create a platform for future scientific analysis research on the original samples for identification and comparative study online not only Middle Eastern Melbourne University special collection but also other institutions.

#### **Impact and Benefits**

From this project the conservation scientists, paper conservators, codicologists, museum curators and collection managers who deal with Persian manuscripts and miniature paintings will benefit the outcome of this research. Moreover, the database will be a platform for future conservation science research focusing on scientific analysis, characteristics of materials, and comparative studies of Islamic manuscripts from different regions. This database can be used as a model for documentation of similar data of others branches of Islamic manuscripts, such as Ottoman Turkish, Urdu, etc. Persian Manuscript Materials

Home About Paper Fibre Paper Dyes Sizing Pigments/Dyes Black Inks Contact

Welcome to Persian Manuscript Materials.

A website dedicated to the study of the material technology of Persian manuscripts.

Navigate this website to learn more about Paper Fibre, Paper Dyes, Paper Sizing, Pigment & Dyes, and Black Inks used to create Persian manuscripts.





### vivo V29 UNVEILS A FUSION OF FASHION AND TECHNOLOGY:

### ICAD Fashion Students Shine at the Media Launch Event

Assistant Professor Lucas Lim led a project in collaboration with five UCSI University ICAD students for the vivo V29 media launch. The team consisted of four students from the Bachelor of Fashion Design with Marketing program and one student from the Diploma of Fashion Design program. vivo Malaysia provided a platform for these young designers to showcase their creativity at the fashion show during the launch.

During the fashion show, models confidently walked the runway with the vivo V29 5G, showcasing designs inspired by its aesthetics. The vivo V29 5G's photography feature, particularly its ability to perform well in low-light conditions, impressed celebrities, influencers, media, and guests attending the Starry Odyssey fashion show.



Assistant Professor Lucas Lim, De' Institute of Creative Arts and Design, UCSI University



Assistant Professor Lucas Lim, representing the Faculty for Fashion Design at UCSI University, expressed gratitude to vivo Malaysia for granting this incredible opportunity to showcase the students' creative designs. The collaboration with vivo Malaysia has been inspiring for the students, and they look forward to future stylish collaborations.

Mike Xu, CEO of vivo Malaysia, emphasized the brand's commitment to advancing smartphone technology and enhancing user experiences. He appreciated the designs created by UCSI students and acknowledged their contribution in capturing the attention of the fashion circle. The new vivo V29 5G, with its Aura Light Portrait 2.0 feature and stunning aesthetics, aims to empower users in their social lives.





vivo V29 53



Local young designer Sam Ooi June Lin, from UCSI University, shared his inspiration for the range of designs, focusing on the colors of planets and the dreamy charm of the Milky Way. Yuki Lee, a degree fashion design student, drew inspiration from the elegant Starry Purple color of the vivo V29 5G, incorporating sparkly crystal beads and shiny fabrics into her designs. Ms. Dharmishta, a fashion design student from India, included pearls and rhinestones in her design, taking inspiration from the vivo V29 5G's Starry Purple color.



Overall, the collaboration between UCSI University and vivo Malaysia for the vivo V29 media launch showcased the creativity and talent of the students while highlighting the technological advancements and aesthetic design of the vivo V29 5G.





### Self-Regulated Learning Writing Module (SRLWM)



Sun Jing is an experienced EFL lecturer at Zhengzhou Normal University. With a dedication spanning over 15 years, Sun has focused on the field of EFL. Currently, Sun is pursuing a Ph.D. at UCSI University, specializing in Education with an emphasis on the connection between SRL and EFL writing. Sun's expertise in EFL writing pedagogy and her inventive teaching methodologies have garnered her the esteemed second prize in the 2022 Teaching Design Competition for Higher Foreign Language Courses in Central and Western Regions in China.



Saeid Motevalli is an author, researcher, lecturer and therapist with more than 18 years of experience in the psychology field. he obtained the Bachelor, Master, and PhD in Psychology. Saeid is attached to Islamic Azad University in Iran (2014-2019), Universiti Pendidikan Sultan Idris (2019-2021), and Universiti Putra Malaysia (2020-2021). Since JAN 2022 has joined the Department of Psychology, Faculty of Social Sciences and Liberal Arts, UCSI University as a Head of the Child Psychology Program. He has been a lecturer for bachelor, master and PhD students for more than 9 years and collaborates as a principal investigator and co-investigator in national and international research. Previous to that he has been experienced as a counsellor and psychologist in private and governmental clinics such as prisons for more than 18 years. He has published several books, and articles in journals as well as presented at various conferences as a keynote speaker and presenter.

Self-regulated learning has several benefits for writing. To begin with, it allows individuals to take ownership of their writing process and develop individualized strategies tailored to their learning needs. This promotes better engagement and retention of the material being learned. In addition, self-regulated learning enhances metacognitive skills, such as planning, monitoring, and evaluating one's learning.

These skills are crucial in effective writing as they allow individuals to reflect on what they have learned, identify areas of improvement and set goals to enhance their writing. Furthermore, self-regulated learning fosters a sense of responsibility and autonomy, which is essential in writing. It allows individuals to take control of their writing process and develop the necessary skills to succeed in writing tasks. In conclusion, self-regulated learning promotes deeper learning and enhanced writing skills, making it a valuable approach for individuals looking to improve their writing abilities.

#### Introduction to Self-Regulated Learning Writing Module (SRLWM)

The importance of English has been emphasized in China due to the country's increasing globalization and the growing need for learners to seek academic and professional success, as well as for personal growth and development. In contrast, English writing has been an oftenneglected obstacle in China for long (Ren & Wang, 2014; Wang & Zeng, 2021) for such reasons as inadequate motivation (Darwish & Sadeqi, 2016; Teng et al., 2020; Wang, 2020), passive learning process (Bai & Wang, 2020; Wang, 2017) and improper teaching modules. The fact is that a group of learners have been gradually increasing their anxiety and diminishing their motivation to improve their English writing, because of the test-driven instruction (Li, Zhang & Parr, 2020; Zhang & Cheng, 2020) and tight course arrangements (Ren & Wang, 2014). As a result, it is a great challenge for writing learners to achieve satisfactory results in practice.

SRL is key to addressing academic success in EFL writing learning because it is the process by which learners take an active role in their writing learning by monitoring, controlling and regulating their cognitive, motivational and metacognitive processes. Essentially, learners take an active role in their learning in SRL. In the context of EFL writing, it's important to make learners commit to setting their goals, selecting appropriate writing strategies, monitoring their writing process and altering their expectations and effort, to encourage learners facing t the challenges of their peers and then articulating, defending, and revising their writing process, and to make active participation and collaboration of learners (Paris & Newman, 1990). The better performance of learners is the result of high SR, and it is supported by enhancing the motivation of learners in the learning process (Behlol & Khan, 2016). Learners' inadequate writing proficiency makes it difficult to motivate them to be self-regulated learners instead of rote ones. At the same time, good teaching modules improve learners' writing performance more effectively than conventional methods especially when they maximize learners' motivation by providing writing materials to meet their needs as well as to connect with their daily life (Abdelmohsen et al., 2020).



This module will work with SRL strategies for goal setting, planning and self-monitoring in the writing process. It will help learners overcome challenges they may face when trying to become more self-regulated, such as difficulty setting and achieving goals, lack of motivation and excessive anxiety.

The module will cover a range of activities related to the learning of SRL writing, including:

- Set writing goals and develop a plan to achieve them
- Control the writing process
- Monitor and reflect on your writing
- Select appropriate strategies
- Seek feedback and use it
- Overcome obstacles and stay motivated



This module provides an SRL perspective on improving EFL writing learning in China. Not only does it adhere to the SRL theory, but it also provides valuable guidance for EFL writing learning. Upon completion of this module, students will possess a heightened comprehension of SRL techniques that can enhance their proficiency in SRL writing. Hence, regardless of whether you are a student, a lifelong learner, or an individual seeking to enhance your writing skills, this module will furnish you with valuable resources and tactics to develop into a more proficient and self-regulated learner.



### Sustainable Smart Cities and Digitalisation from a Lens' of Quantity Surveyor's

#### Prepared by Ts. Sr Dr. Nadzirah Hj. Zainordin & Ts. Sr Khoo Sui Lai School of Architecture & Built Environment, UCSI University



#### Ts. Sr Dr. Nadzirah Hj. Zainordin Head of Research & Postgraduates Studies

Graduated with Degree in QS from International University College of Technology Twintech, then pursuing his Master Degree in QS with Heriot Watt University. Her Ph.D from UTM. Concluded her Post- Doctorate with UTHM. Receiving her registered or professional surveyor status at very a young age, she is professional surveyor with Board of QS Malaysia (BQSM), Royal Institution of Surveyor Malaysia (RISM) and a Chartered Surveyor with the UK Royal Institution of Chartered Surveyors (RICS). She is also amongst the earliest pioneer of Professional technologist (Ts) with the Malaysia Board of Technologist (MBOT). Served one of the top private university in Malaysia UCSI University as Head of Research & Postgraduate STudies. In addition, she actively participated in research, published more than 150 research papers, wins local/ international invention awards, and leads/ co-researcher more than 20 research grants. Recently she is awarded as International Scholar Young Researcher and Outstanding Teaching Award at international level. Recently awarded by the Royal Institution of Surveyors Malaysia (RIMS) a Young Surveyor of the Year. Her research interest is on sustainable and resilient development, practices in Higher Education Institutions and construction industry. She also actively participates with professional bodies national and international level.



#### Ts. Sr Khoo Sui Lai

Graduated with Bachelor of Building in Construction Economics from University of Technology, Sydney (UTS), now pursuing his Ph.D (Engineering) with Universiti Tunku Abdul Rahman (UTAR). Receiving his Consultant Quantity Surveyor (CQS) with Board of Quantity Surveyors Malaysia (BQSM), fellow member of Royal Institution of Surveyor Malaysia (RISM) and a Chartered Surveyor with Royal Institution of Chartered Surveyors (RICS). He is also Professional Technologist (Ts) with the Malaysia Board of Technologist (MBOT). Currently as lecturer in UCSI University for Quantity Surveying programme. Furthermore, he actively participated in research, published research papers, won local/ international invention awards, and leads/ co-researcher for few research grants. His esearch interest is digital construction, economics, and sustainable development in the construction industry. He also actively participates with professional level

#### Foreword

As the world grapples with pressing challenges such as urbanization, environmental degradation, and technological advancements, the role of a quantity surveyor has evolved to encompass not only traditional cost management but also sustainable practices, smart city initiatives, and digitalization. In this article, we explore how quantity surveyors are uniquely positioned to contribute to the creation of sustainable and technologically advanced urban landscapes.

#### Sustainability: Shaping Urban Development for the Future

Quantity surveyors are instrumental in shaping the built environment by integrating sustainable principles into construction projects. Their expertise in cost estimation, procurement, and project management is now harnessed to minimize resource consumption, reduce waste, and promote environmentally friendly practices.



Material Selection and Life Cycle Analysis

•Quantity surveyors collaborate with architects and engineers to assess the environmental impact of materials used in construction. By conducting life cycle assessments, they can recommend materials with lower carbon footprints, longer lifespans, and ease of recycling, thereby contributing to sustainable construction practices.

Energy Efficiency and Green Building Standards

•Quantity surveyors play a pivotal role in evaluating the cost-effectiveness of energy-efficient technologies and green building certifications. Their analysis ensures that sustainable features, such as solar panels, energy-efficient lighting, and insulation, align with project budgets while delivering long-term energy savings.

Waste Reduction and Recycling

•Through effective waste management planning, quantity surveyors help reduce construction waste and promote recycling. By minimizing waste generation and diverting materials from landfills, they contribute to a more sustainable construction process.

#### Smart Cities: Bridging the Gap with Technology

Smart city initiatives aim to enhance urban living through the integration of technology, data, and infrastructure. Quantity surveyors play a significant role in the implementation of these initiatives by leveraging their skills in data analysis, cost control, and project coordination.

- 1. Infrastructure Planning and Connectivity: Quantity surveyors collaborate with urban planners to assess the financial feasibility of smart infrastructure projects, such as smart grids, intelligent transportation systems, and broadband networks. Their insights ensure that these projects align with budgetary constraints and long-term city goals.
- 2. Data-Driven Decision Making: The integration of data analytics and sensor technologies in smart cities requires careful budgeting and resource allocation. Quantity surveyors contribute by analyzing the costs associated with data collection, processing, and maintenance, enabling informed decision-making.
- **3.**Smart Building Integration: In smart cities, buildings are equipped with technologies to optimize energy usage, improve occupant comfort, and enhance security. Quantity surveyors ensure that the integration of these technologies aligns with project budgets and contributes to the overall efficiency and functionality of the city's infrastructure.



#### Digitalization: Transforming Quantity Surveying Practices Digitalization: Transforming Quantity Surveying Practices

In the rapidly evolving landscape of construction and project management, the integration of digital technologies is revolutionizing traditional practices. Quantity surveying, a field long associated with meticulous cost estimation, procurement, and project oversight, is undergoing a transformative shift driven by digitalization. This article explores the ways in which digitalization is reshaping quantity surveying practices, enhancing efficiency, accuracy, and collaboration across the construction industry.





- 1. Building Information Modelling (BIM): At the forefront of the digital revolution in quantity surveying is Building Information Modelling (BIM), a collaborative process that involves creating and managing digital representations of a project's physical and functional characteristics. Quantity surveyors use BIM software to generate accurate 3D models that encompass architectural, structural, and MEP systems. These models enable real-time collaboration among stakeholders, facilitate clash detection, and streamline the extraction of quantities for cost estimation.
- 2. Precision in Quantity Takeoffs: Digital tools allow quantity surveyors to perform more precise and rapid quantity takeoffs. With BIM models and specialized software, they can quickly extract quantities of materials, components, and systems directly from the digital model. This automation reduces errors associated with manual measurements and accelerates the estimation process.
- **3.** Cost Estimation Software: Advanced cost estimation software enables quantity surveyors to create detailed estimates by inputting material costs, labor rates, and other project-specific data. These tools can integrate with BIM models, allowing for dynamic adjustments as the design evolves. This integration enhances accuracy and supports informed decision-making during project planning.
- 4. Project Management and Collaboration Platforms: Digital project management platforms facilitate seamless communication and collaboration among project teams, including architects, engineers, contractors, and clients. Quantity surveyors can track-

## -project progress, manage budgets, and monitor expenditures in real time, ensuring that projects stay on schedule and within budget.

- **5.** Risk Management and Analytics: Digitalization enables quantity surveyors to analyze and mitigate project risks more effectively. By harnessing historical project data and predictive analytics, they can identify potential cost overruns or delays and implement proactive measures to mitigate these risks.
- 6. Remote Work and Mobility: Cloud-based solutions and mobile apps empower quantity surveyors to work remotely and access project information from anywhere. This flexibility enhances productivity and responsiveness, especially when collaborating with global teams or managing multiple projects simultaneously.
- 7. Sustainability Integration: Digital tools enable quantity surveyors to integrate sustainability considerations into their analyses. They can assess the environmental impact of various design and material choices, helping stakeholders make informed decisions that align with sustainability goals.
- 8. Data-Driven Insights: The digitalization of quantity surveying generates vast amounts of data that can be leveraged for insights. By analyzing historical project data, quantity surveyors can identify patterns, trends, and best practices, enabling continuous improvement in cost estimation and project management.

#### In Short

Digitalization is ushering in a new era of efficiency, accuracy, and collaboration in the field of quantity surveying. By embracing Building Information Modeling (BIM), cost estimation software, project management platforms, and data analytics, quantity surveyors are streamlining processes, minimizing errors, and delivering greater value to stakeholders. As the construction industry continues to evolve, the integration of digital technologies will remain instrumental in shaping the future of quantity surveying, ensuring that projects are executed with precision, sustainability, and success.

Quantity surveyors are at the forefront of shaping sustainable and technologically advanced urban environments. By integrating sustainability principles, contributing to smart city initiatives, and embracing digitalization, they play a critical role in ensuring that construction projects align with environmental goals, enhance urban living, and leverage the power of technology for the betterment of society. As cities continue to evolve, the role of quantity surveyors will remain pivotal in striking a harmonious balance between sustainable development, technological innovation, and responsible resource management.

#### References

- 1.Board of Quantity Surveyors Malaysia (BQSM) www.bqsm.gov.my
- 2. Royal Institution of Surveyors Malaysia (RISM) <u>www.rism.org.my</u>
- 3. National Construction Policy 2030
- 4. Akinshipe, Olushola & Ikuabe, Matthew & Aigbavboa, Clinton. (2022). Digital Transformation in Quantity Surveying: Where Lies the Issues?. 10.54941/ahfe1002658.

### UCSI University

### INSTITUTE OF COMPUTER SCIENCE AND DIGITAL INNOVATION

### A Smart Port Management System in Malaysia (SPMSM)



**S M Topazal** Institute of Computer Science and Digital Innovation (ICSDI), UCSI University, Kuala Lumpur Campus



Ts. Dr Ghassan Saleh Hussein Al-Dharhani, Assistant Professor & Head of Department, Digital Innovation Institute of Computer Science and Digital Innovation (ICSDI), UCSI University, Kuala Lumpur Campus.



Ts. Dr Raenu A/L Kolandaisamy, Assistant Professor & Acting Director Institute of Computer Science and Digital Innovation (ICSDI), UCSI University, Kuala Lumpur

ampus.



Ts. Dr Shayla Islam, Associate Professor & Acting Deputy Director Institute of Computer Science and Digital Innovation (ICSDI), UCSI University, Kuala Lumpur Campus.

A smart port management system is a web-based digital system that will help to differentiate seaport organizations of Malaysia in making a variety of right decisions (Notteboom et al., 2020). Seaports are considered a significant contributor to increasing the economy of a country. The system "A Smart Port Management System Malaysia (SPMSM)" is mainly built for "Seaport in Malaysia", which helps to solve the problem with existing systems of ports and provides the necessary information (Abdul et al., 2017). For instance, Malaysia has 7 major ports there are "Port Klang, Tanjung Pelepas, Johor, Penang, Bintulu, Kuantan, and Labuan" (Rosufila, 2021). They were not providing any "Live chat" options for customers, even though "Shanghai Port" is the largest port in the world, despite that, we provided "Live Chat" option/service in our system which will help customers or staff to get instant information from the port authority, and to keep track of their container. Port efficiency is the capacity of a port system to produce the greatest amount of output when the system's input is constrained. The performance of the port system is referred to as port efficiency (Haingomalala, 2020). It is an association between input and output. Both parametric and non-parametric techniques are necessary for an effective port. A new model that incorporates simulation, data analysis, and queuing system models can be used to measure the port's efficiency and anticipate it in terms of port efficiency (Anjide et al., 202).



Figure 1: The SMPS's graphical user interface



As the research involves the development of the port, which is considered an important topic as it is linked with the economy of the country and helps maintain a healthy relationship with other countries. Different sources are utilized to get enough information that will be suitable for doing research and contain unique and accurate information. The methodology for developing a port management system (DPMS) involves a mixture of quantitative and qualitative methods (Aspers et al., 2019). The Rapid Application Development (RAD) methodology will be used to build the final system for the "A Smart Port Management System in Malaysia (SPMSM)", which provides flexibility, speed, and responsiveness (Muñuzuri et al., 2019) (Molavi et al., 2019). Besides that, it helps quickly achieve high-quality software.

The system will increase the effectiveness of port performance, improve organizational control and exploration, and provide a way to make the decision about the route of the container in case of sea storm or heavy rain. This system (SPMSM) will help to provide information about the arrival and departure date, goods, agent, berth, store, equipment, vessel, travel, queries & reports, location, the capacity at the berth to take another ship, and instance chat with authority as shown by figure 1. As this (SPMSM) is mainly built for Malaysian people who started businesses like sole proprietors, partnerships, corporates, and young people who intend to start a new business, as well as global people also can use it. It promotes the legislation and provides the stakeholder with more information about their business, products, and other stuff (Notteboom et al., 2020). The smart port management system will help to improve the coordination between the customers and stakeholders, help to create a sustainable environment, and help to increase the efficiency and progress of the system. The communication retrieving smart port management utilizes communication and network technologies and techniques that help the port stakeholders and managers to make valuable decisions (Rosufila, 2021). It provides information to users on what products can be delivered on what date. The system contains some additional features that improve it from the existing system that is: the system is more graphical by adding different types of infographics. The smart port management system • Knowledge Base Management System • User Interface • User This system is built to use by the admin of the seaport management and user in which businesspersons and other citizens (Malaysian) can sign-up. Figure 2 depicts the admin "Dashboard/Back end". After a successful login to the system, all the admins will see this dashboard.

The system can provide the user and admin with one way to apply. According to the analysis the respondents consider the updated infrastructure of the port system convenient for the users. Due to advancements in technology, various business sectors have adopted modern technology in their businesses to work more precisely and accurately (Muñuzuri et al., 2019), which provides them with more income. According to the survey, this system is strongly recommended by respondents because of userfriendly and easy to use.



#### Figure 2: Admin dashboard

#### References

Abdul, A. A. (2017). Developing a Decision Support System for Seaport Management (Case Study: Iraqi Seaports). . [online] Available at: <u>https://meu.edu.jo/libraryTheses/58736c189e360\_1.pdf</u>.

Anjide, T. (2021). Assessing the effectiveness of community action on marine and coastal litter: case study through the prism of social media groups in a Maltese locality (Mellieha). World Maritime University Dissertations. [online] available at: <u>https://commons.wmu.se/all\_dissertations/1671/</u> [Accessed 8 May 2022].

Aspers, P. a. (2019). What Is Qualitative in Qualitative Research. Qualitative Sociology,. [online] 42(2), doi:10.1007/s11133-019-9413-7., pp.139–160. .

Haingomalala, R. (2020). Increasing port competitiveness by enhancing logistics performance : a case of Madagascar. . World Maritime University Dissertations, [online] 67. Available at: <u>https://commons.wmu.se/all\_dissertations/1424/</u>.

Molavi, A. L. (2019). A framework for building a smart port and smart port index. . International Journal of Sustainable Transportation, 11, , pp.1–13.

Muñuzuri, J. O. (n.d.). Using IoT data and applications to improve port-based intermodal supply chains. Computers & Industrial Engineering, 139, 105668., 2020.

Notteboom, T. E. (2020). Maritime Economics & Logistics, 22(3), , pp.329–352.

Rosufila, Z. (2021). Malaysia Port Industry: Favorable Outlook for 2022. Maritime Fairtrade. Available at: <u>https://maritimefairtrade.org/malaysia-port-industry-favorable-outlook/</u>



### Academic Freedom: Empowering the National Education Philosophy in Malaysia

Prepared By Assistant Professor Dr Hasbollah Bin Mat Saad Assistant Professor Faculty of Business and Management, UCSI University



Dr Hasbollah Bin Mat Saad was an Advocate and Solicitor in the High Court of Malaya and is presently an Assistant Professor at the Faculty of Business and Management, UCSI University (Kuala Lumpur Campus). His Specializations are: Constitutional Law, Contracts Law, Criminal Law, Education Law, Syariah Law and Comparative Laws

#### Abstract

Academic freedom is one of the basic rights toward improving the quality of teaching and learning processes. A quality educational system should have a clear goal of producing competitive, creative, and progressive human capital as well as capable of expressing thoughtful and sound ideas to enhance holistic and integrated national progress. Malaysia's educational system guided by the National Education Philosophy underscores that integrated education should be a key thrust in educating and producing students who are able to compete internationally. With the accomplishment of several key thrusts to achieve that goal, the National Education Philosophy has also laid down an education basis through the formation of a knowledge-based community peculiar to the foundation of integrated national development. Achieving this goal will contribute to strong and substantial progress in addressing the challenges of globalization that every individual in society needs to face. As such, academic freedom should serve as a core thrust in creating a sustainable and competitive society in crossing and facing the challenges of a borderless world that highs on the mental strength of each individual. This paper will focus on the concept of academic freedom and its role in empowering the National Education Philosophy in Malaysia by implementing the Legal Research Methodology. Initially, the legislative restrictions are the main issue faced by the key players in academic fields to defend their academic freedom.

#### Introduction

Academic freedom is closely related to the National Education Philosophy, and it is important for creating human capital that is able to cope with the ever-growing borders of the world nowadays. The legislative approach to the National Education Philosophy and academic freedom in Malaysia is discussed.

#### The Concept of Academic Freedom

Academic freedom means freedom from unreasonable control in carrying out the teaching and learning process and is one of the main contributing factors towards enhancing and producing quality outcomes among academics. It also means freedom from external control in fulfilling the role of the academicians or faculty in the process of teaching, learning, conducting research and other academic development. It comes with some obligations and constraints, including the willingness to manage and resolve conflicts and use interactive processes to hear criticism.

Academic freedom is the core value of every higher educational institution, and it is necessary for the development of ethics and individual intellectual and society. It involves the freedom to pursue knowledge, including the freedom to choose the areas of research, determine what will be taught in the classroom, deliver research results to colleagues, and publish research findings. However, academic freedom has limits, including the freedom to avoid controversial matters.

#### The Scope of the National Education Philosophy

The National Education Philosophy outlines that education in Malaysia is a continuous effort towards furthering and expanding the potential of individuals to create a balanced and harmonious human intellectual, spiritual, emotional and physical harmony. To form a knowledgeable generation in Malaysia, academic freedom must be given to those directly involved in the field of education. This freedom must be viewed from a positive point of view, providing sufficient space for academicians and students to identify the lessons learned. The knowledgeable society will be nurtured by the implementation of academic liberalization in the higher educational system, where students are given space to collect and analyze data -



-obtained, in accordance with the prescribed procedures. In view of the need for the National Education Philosophy, which outlines based on religious beliefs, academic freedom should not touch sensitive issues of society. The concept of Rukun Negara, which puts belief in God as the main element, shows that religion and belief are the elements to form a systematic and controlled system of society and that religion and belief are among the elements to be taken into account in determining the direction of national education.

Pasi Sahlberg states that healthy competition is a necessity in educating humans into thinking-minded people beyond the need to survive in their lives. Finland's Education Policy is built on the principles of lifelong learning and free education. Finland's educational system is based on competitiveness and healthy competition, and higher educational institutions are free to manage their own administration, determine the admission of students and design the content of the program that will be presented to the students. The government should take a positive initiative to maintain the educational system in Malaysia by establishing an integrated and productive teaching and learning environment, and by giving liberty to higher educational institutions to enhance the effectiveness of knowledge delivery.

The Ministry of Education Malaysia identified a number of missions to improve the quality of education, including the strengthening of academic freedom and the acceptance and delivery of information to ensure that Malaysians can achieve well-being and contribute to harmony and prosperity in families, communities and countries. In order to achieve a "well-being society", one must have an open mind and analyze the information presented before making any interpretation of any word for any purpose. This is also one of the essence of the National Education Philosophy. The reputation of a higher educational institution relies heavily on its academic independence, which means that any decisions related to academic development and planning must be free from interference, political influence and pressure, bureaucracy governing, partying, individualism and selfishness.

Academic freedom in Malaysia is quite prominent and growing, but it is still far behind other prominent higher educational institutions. Promoting academic freedom in any academic community will lead to a state of peace, security, and stability. The law must be interpreted in a fair and transparent manner to ensure that rights and freedoms are attained as much as possible. When people are blocked from expressing their opinions openly, they will begin to use secret methods, which can ultimately affect the stability of society. This can lead to human beings using violence because they feel that their voices are no longer being heard fairly. Public awareness of the importance of these rights and freedoms is paramount, and the general public can realize the outcome by looking at how developed countries are concerned with the enforcement of these rights and freedoms. Academic freedom is a dynamic factor that contributes to the progress of the country. If academic freedom and rights are blocked, the public system will become lame and fragile. According to the National Higher Education Strategic Plan, innovation and research are key elements that need to be disclosed to those directly involved in the relevant areas, so that a comprehensive and transparent decision can be obtained without any hesitation about any unhealthy legal complications imposed on them. In his academic work, the professor must have certain liberties, and the institution he works for must also enjoy certain rights. Academic freedom is regarded as a key requirement for achieving some of the goals of higher education, such as the development of knowledge, the quality of research, encouragement and support of initiatives, and the pursuit of truth without fear of negative restrictions and sanctions.

#### Legislative Approach to the National Education Philosophy and Academic Freedom in Malaysia

The long list of statutes that relate to freedom of speech in Malaysia is an easy indicator of the reality of academic freedom in Malaysia. The judiciary seems to indicate that the same treatment should be granted if it involves the same class of persons.

- 1. Federal Constitution,
- 2. Education Act 1966 (Act 550),
- 3. Private Higher Education Act 1996 (Act 555),
- 4. University and University Colleges Act 1971 (Act 30)
- 5. Defamation Act 1957,
- 6. Sedition Act 1948,
- 7. Official Secrets Act 1972,
- 8. Printing Presses and Publications Act 1984,
- 9. Copyright Act 1987 Communications, and
- 10. Multimedia Act 1998 (Act 588).

#### Conclusion

The law should be a practical approach to achieving justice, and the legislature must draw a clear line of exclusions. The legislature should not abandon the effort to clear the 'black cloud' that can affect the people as a whole. The law can be a tool for perpetrators to act without any 'borders', so the government and people must work together to make Malaysia a major democratic state. The rights of every person to be protected from being harassed by any party without reasonable cause under certain laws are essential to maintaining peace and order in society. Academic freedom plays a role in safeguarding these rights.

#### **Further Study and Reference**

Saad, H. B. M., A. Rajamanickam, R., & Ngah, A. B. C. (2019). Academic Freedom: Empowering the National Education Philosophy

in Malaysia. International Journal of Recent Technology and Engineering, 8 (2: Special Issue), 554-560. <u>https://www.ijrte.org/wp-content/uploads/papers/v8i2S/B10850782S19.pdf</u>



No	Funding Scheme	Submission Close Date
1	National Conservation Trust Fund (NCTF) <u>https://www.ketsa.gov.my/en-my/KetsaCore/Biodiversity/Pages/nctf.aspx</u>	Open all year round
2	Global Funding for Rubber Innovation <u>https://www.myrubbercouncil.com/globalrubberfund/index.php</u>	Open all year round
3	MOSTI Grants <u>https://sdb.mosti.gov.my/sdbcms/ms/garispanduan/</u>	Open all year round
4	Research and Innovation for Development in ASEAN (RIDA) <u>https://www.gov.uk/international-development-funding/research-and-innovation-for-development-in-asean-rida</u>	30 September 2023
5	LIF Global 2024 <u>https://raeng.org.uk/programmes-and-prizes/programmes/international-programmes/leaders-in-</u> <u>innovation-fellowships/lif-programmes/lif-global</u>	16 October 5PM BST
6	Innovative Veterinary Solutions for Antimicrobial Resistance (InnoVet-AMR) 2 in Food-Producing animals: Ruminants and Aquaculture <u>https://idrc-crdi.ca/en/funding/global-call-research-proposals-innovative-veterinary-solutions-</u> <u>antimicrobial-resistance</u>	30 October 2023

#### Please refer to your respective Head of Research for more information.

### Advisor

Distinguished Professor Dr Phang Siew Moi, FASc

### **Editorial Board**

- Professor Dr Mandana Barkeshli
- Associate Professor Ts Dr Shayla Islam
- Assistant Professor Dr Rajat Subhra Chatterjee
- Assistant Professor Ts Dr Thung Wei Eng
- Dr Wang Kang Han

### Contact

#### Centre of Excellence for Research, Value Innovation and Entrepreneurship (CERVIE)

10th Floor, Block G, UCSI University, No. 1, Jalan Menara Gading, UCSI Heights (Taman Connaught) 56000 Cheras, Kuala Lumpur, Malaysia

Tel: +603-9101 8880 (ext: 2256) Website: https://www.ucsiuniversity.edu.my/research

### Layout by

Nabiela Aminudin

# If you have any comments on the published content, or if you want to contribute to the forthcoming issues, please send them to the contacts listed above. The editors reserve the right to edit any articles for clarity and space before publication. Opinions and views expressed in this publication are not necessarily those of CERVIE, nor do acceptance and publication of articles imply their endorsement.

CERVIE neither endorses nor is responsible for the accuracy or reliability of any opinion, advice or statement published in this Newsletter. Under no circumstances is the publisher liable for any loss or damage caused by anyone's reliance on the advice, opinion or information obtained either explicitly or implicitly from the content of this publication.

