



香港樹仁大學

HONG KONG SHUE YAN UNIVERSITY

工商管理學系

DEPARTMENT OF BUSINESS ADMINISTRATION

Dr. Francis Cheung Business Analytics Research Centre

Annual Report

September 2023

- August 2024



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Hong Kong Shue Yan University
Dr. Francis Cheung
Business Analytics Research Centre
香港樹仁大學 張舜堯博士商業分析研究中心

Our Mission

The **Dr. Francis Cheung Business Analytics Research Centre** at the Hong Kong Shue Yan University aims to offer new insights into business performance through data analytics research, identify novel ways to address challenges and provide additional opportunities for businesses to grow. The Research Centre utilises various techniques such as text mining, data visualisation, machine learning and natural language processing in various areas, including marketing, operations, finance and accounting, as well as other aspects of business management to help businesses maximise their decisions.



Director's Foreword

We are enthusiastic to present the Annual Report of the Dr. Francis Cheung Business Analytics Research Centre (DFCBARC) for 2023–2024. This past year has been a pivotal period for our centre as we continue to build on our foundation of exploration and discovery.

We would like to extend our heartfelt appreciation to our esteemed donor, Dr. Francis Cheung, and to our committed colleagues. Their steadfast support has been instrumental in driving the progress of DFCBARC. Over the past year, we have successfully completed several projects whilst making significant headway on others. These accomplishments have deepened our understanding and contributed valuable insights to various fields.

Looking forward, we are enthusiastic about the opportunities that 2024–2025 holds. The Research Centre is dedicated to advancing our commitment to academic excellence and expanding the boundaries of knowledge in business analytics. We are eager to initiate different projects and push our research further, with the aim of achieving even more in the coming year. We also anticipate a wealth of opportunities for our students and researchers to engage in a variety of projects, seminars and collaborative activities. These experiences will enhance learning and promote intellectual growth and encourage knowledge exchange amongst peers and industry leaders.

We invite you to delve into this annual report, which offers a detailed overview of our achievements, ongoing projects and publications. We are excited to share our journey with you and look forward to the accomplishments that lie ahead in the coming year.

Dr. Monica Law

Centre Director, DFCBARC

August 2024

Centre Staff

Centre Directors

Dr. Monica C. C. LAW Head of Department and Associate Professor
Department of Business Administration

Dr. Celine Xiling CUI Associate Head and Associate Professor
Department of Business Administration

Research Project Leaders and Members

Dr. Mark C. H. NG Associate Professor
Department of Business Administration

Dr. Kelly Zhengmin PENG Associate Professor
Department of Business Administration

Dr. Nell Na SHEN Associate Professor
Department of Business Administration

Dr. Alice CHUNG Associate Head and Assistant Professor
Department of Business Administration

Dr. Lubanski C. F. LAM Assistant Professor
Department of Business Administration

Dr. Brian C.B. WONG Assistant Professor
Department of Business Administration

Dr. Qiang ZHOU Assistant Professor
Department of Business Administration

Dr. Roy K. H. Ho Assistant Professor
Department of Business Administration

Dr. Colin C. H. Law	Assistant Professor Department of Business Administration
Dr. Joseph S. L. KONG	Lecturer Department of Business Administration
Dr. Cynthia ZHANG	Sessional Senior Lecturer Department of Business Administration

Research Assistant

Ms. Tina Xueting Wang	From 1 August 2023 to 20 April 2024
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Student Research Assistants

Ms. Cecilia, Bai (MCP student)	From October 2023 to May 2024
Ms. Xiya Liu (MCP student)	From May 2024 to August 2024

Completed Research Projects

Research projects

Identifying business opportunities in the metaverse development trends from online review analytics

Anomaly detection in consumer review analytics for idea generation in product innovation

Exploring Hong Kong public attitudes towards and concerns about traditional Chinese medical treatments

Key findings

- The perspectives of three groups of stakeholders, namely, the public, industry and experts, on metaverse are not the same. Various data sources, including social media and online news outlets, are used to understand the perspectives of the three target groups.
- For the practical implications, industry professionals may, based on our research results, gain an improved understanding of the types of metaverse-related products desired by the general public. The differences indicate some business opportunities in the metaverse development.
- Machine learning and deep learning are compared.
- Autoencoder, as the representative of deep learning, exhibits its effectiveness in anomaly detection product innovation.
- This research aims to examine the online responses of the general public to gain insights into attitude toward and concerns about traditional Chinese medicine (TCM) and topics discussed amongst Hong Kong residents.
- Responses were collected from the popular local discussion forum Baby Kingdom by using Python web crawling techniques. Chinese TCM keywords were used to gather relevant comments posted between January 2016 and October 2023, which resulting in a dataset of 17,568 comments.
- The analysis revealed recurring public concerns about and topics related to conditioning and specific diseases, including gynaecological problems. Major concerns of the public were the quality of clinic services, fair pricing and convenient locations.

Motivational profile and knowledge creation in esports: Examining the roles of mutualistic co-presence

- Significant and positive direct relationships were observed between four motivations and four knowledge creation modes.
- Mutualistic co-presence positively moderated the positive relationship between self-extrinsic, peer-extrinsic/ peer-intrinsic motivations and socialisation.
- When the mutualistic self-benefit outweighed, peer-extrinsic motivated gamers became less likely to perform internalisation, whereas self-extrinsic and peer-extrinsic motivated gamers were less likely to perform combination.

Ongoing Research Projects

Research projects	Project members
Investigating the impact of virtual influencers on consumer behaviour	Dr. Monica LAW
A study of brain activation through AI-powered training activities (Project for 'Research Matching Grant Scheme')	Dr. Roy HO Dr. Monica LAW Dr. Bobo LAU
Understanding the factors driving continuous visits of Hong Kong residents to Shenzhen and strategies for retaining Hong Kong customers in local businesses	Dr. Colin LAW Dr. Roy HO
Do they exaggerate in environmental, social and governance (ESG) reports? Triangulating amongst traditional AI, generative AI (GenAI) and expert intelligence	Dr. Zhou QIANG
Assessing the attractiveness and impacts of advertising boxes in YouTube videos through eye tracking	Dr. Monica LAW
Catch the eyes in charity crowdfunding: An exploration on campaign images using eye tracker	Dr. Nell SHEN

Publications

- Chen, P., Sun, H. L., Li, D. H., Feng, Y., Su, Z., Cheung, T., Cui, X., Ungvari, G. S., Jackson, T., An, F. R., & Xiang, Y. T. (2024). A comparison of psychiatric symptoms between mental health professionals with and without post-infection sequelae of COVID-19. *Psychiatry Research*, *331*, 115631.
- Cui, C., Law, M., Ng, M., & Lam, L. (2024). What drives consumers to buy in live streaming commerce? A systematic literature review, *Journal of Logistics Informatics and Service Science*, *11*(2), 464–486.
- Cui, X., Zhu, Z., Liu, L., Zhou, Q., & Liu, Q. (2024). Anomaly detection in consumer review analytics for idea generation in product innovation: Comparing machine learning and deep learning techniques. *Technovation*, *134*, 103028.
- Ho, K. H., Hou, Y., Georgiades, M., & Fong, K. C. K. (2024). Exploring key properties and predicting price movements of cryptocurrency market using social network analysis. *IEEE Access*, *12*, 65058–65077.
- Ho, K. H., Law, M., Hou, Y., & Chan, T. T. (2024). Spillover analysis on NFTs, NFT-affiliated tokens and NFT submarkets. *Finance Research Letters*, *60*, 104598.
- Khireldin, A., & Law, C. (2023). A discrete event simulation model for airport runway operations optimization: A case study of Cairo International Airport. *Journal of Airport Management*, *18*(1), 78–92.
- Kong, J. S. L., Kwok, R. C. W., Lai, G. C. H., & Law, M. (2024). Motivational profile and knowledge creation in eSports: examining the roles of mutualistic co-presence. *Internet Research*. (In press).
- Law, C. (2024). The Impact of Vaccination, Infection and Fatality Rate on ASEAN Air Transport Industry in the Pandemic Period. *Journal of Asian Economic Integration*, *6*(1), 31–62.
- Law, M., Ng, M., & Lai, Y. K. S. (2024). Switch or continue to use? An empirical investigation into mobile payment applications. *Journal of Global Scholars of Marketing Science*, *34*(2), 163–185.

- Ng, M., Law, M., Lam, L., & Cui, C. (2023). A study of the factors influencing the viewers' satisfaction and cognitive assimilation with livestreaming commerce broadcast in Hong Kong. *Electronic Commerce Research*, 23(3), 1565–1590.
- Peng, K. Z., Cooke, F. L., & Wei, X. (2023). Managing minority employees in organizations in Asia Pacific: Towards a more inclusive workplace? *Asia Pacific Journal of Management*, 40(3), 877–902.
- Sun, H. L., Wang, Y. Y., Feng, Y., Cui, X., Cheung, T., Su, Z., ... & Xiang, Y. T. (2024). COVID-19 and Sleep Problems: A Perspective from Bibliometric Analysis. *Behavioral Sleep Medicine*, 1–15.
- Xiang, Y.T., Sun, H.L., Chen, P., Bai, W., Zhang, L., Feng, Y., Su, Z., Teris Cheung, T., Gabor S Ungvari, G.S, Cui, X., Ng, C.H. & An, F. (2024). Prevalence and network structure of depression, insomnia and suicidality among mental health professionals who recovered from COVID-19: A national survey in China. *Translational Psychiatry*, 14(1), 227.
- Yi, L., Shen, N., Xie, W. and Liu, Y. (2024). Rational herding: evidence from equity crowdfunding. *Management Decision*, 62 (3), 1008-1029.
- Zhang, Y., Law, M., Cui, X., & Huang, L. (2024) Social media commerce: an empirical study of platform, people and information from the trust transfer perspective. *Journal of Systems and Information Technology*, 26(2), 164–181.

Conference Paper / Book Chapter

- Shen, N., Han, S., Su, J., & Lu, H. (2024, March 23-24). *Policy uncertainty and family firm's R&D investment*. Global Family Business Conference, The University of Hong Kong.
- Wong, C. B., & Liang, Y. (2024). Unravelling purchaser retention: Exploring the influence of direct and moderating factors for single and multiple NFT platform purchasers. In A. Olanrewaju, & S. Bruno, *Advancements in architectural, engineering, and construction research and practice* (pp. 167–181). Springer.

Seminars / Workshops

Demystifying the dimensions and roles of metaverse gaming experience value: A multi-study investigation

Co-organiser: Mrs. Dorothy Koo and Dr. Ti Hua Koo Centre for Interdisciplinary Evidence-Based Practice and Research (HKSYU)

Speaker: Dr. Phil ZHOU, Zhongyun (Associate Professor, School of Economics and Management, Tongji University)

Date: 29 May 2024

Seminar abstract

Despite the importance of understanding Metaverse Gaming Experience Value (MGEV) for the design and prosperity of metaverse gaming, prior research has not yet provided context-specific theoretical knowledge of its dimensions and roles, nor offered practical insights into enhancing experience value among metaverse gaming players. To address this knowledge gap, we conducted an abductive, multi-study investigation to develop a multi-dimensional typology of MGEV, demonstrate its nomological validity, and propose a person-centered approach for investigating MGEV. First, we performed qualitative manual coding of online textual reviews to identify six MGEV dimensions and proposed a two-axis typology of the MGEV that categorizes these dimensions according to both motivation (intrinsic versus extrinsic) and activeness-based (active versus reactive) perspectives. Second, based on a total of 7,581 reviews of 75 Metaverse gaming experience providers over seven years, we developed a deep-learning classification model to automatically code the textual data and composed a panel dataset. Then, using the panel dataset, we demonstrated the nomological validity of the MGEV typology by validating the relationships between MGEV dimensions and players' word of mouth. Third, we applied a person-centred approach to the coded data using cluster analysis and uncovered three player groups with diverse MGEV profiles (i.e., intrinsic value-dominated, extrinsic value-dominated, and mixed) and metaverse gaming participation characteristics. Our work contributes to theory and practice by identifying the

context-specific and fine-grained dimensions of MGEV, establishing a valid MGEV framework, and revealing multiple player groups with different MGEV profiles.




Mrs. Dorothy Koo and Dr. Ti Hua Koo Centre for Interdisciplinary
Evidence-Based Practice and Research
2023-2024 Wednesday Lunchtime Seminar Series

**Demystifying the Dimensions and Roles of Metaverse Gaming Experience
Value: A Multi-Study Investigation**

29/05/2024 | 12:30 - 13:50 (Hybrid Mode)

 **RHB 108, Research Complex, HKSJU, 6 Wai Tsui Crescent, Braemar Hill,
Hong Kong**

 **Zoom Meeting ID: 965 1422 4894**

Despite the importance of understanding Metaverse Gaming Experience Value (MGEV) for the design and prosperity of metaverse gaming, prior research has not yet provided context-specific theoretical knowledge of its dimensions and roles, nor offered practical insights into enhancing experience value among metaverse gaming players. To address this knowledge gap, we conducted an abductive, multi-study investigation to develop a multi-dimensional typology of MGEV, demonstrate its nomological validity, and propose a person-centered approach for investigating MGEV. First, we performed qualitative manual coding of online textual reviews to identify six MGEV dimensions and proposed a two-axis typology of the MGEV that categorizes these dimensions according to both motivation (intrinsic versus extrinsic) and activeness-based (active versus reactive) perspectives. Second, based on a total of 7,581 reviews of 75 Metaverse gaming experience providers over seven years, we developed a deep-learning classification model to automatically code the textual data and composed a panel dataset. Then, using the panel dataset, we demonstrated the nomological validity of the MGEV typology by validating the relationships between MGEV dimensions and players' word of mouth. Third, we applied a person-centered approach to the coded data using cluster analysis and uncovered three player groups with diverse MGEV profiles (i.e., intrinsic value-dominated, extrinsic value-dominated, and mixed) and metaverse gaming participation characteristics. Our work contributes to theory and practice by identifying the context-specific and fine-grained dimensions of MGEV, establishing a valid MGEV framework, and revealing multiple player groups with different MGEV profiles.



Speaker: Dr. Phil ZHOU, Zhongyun

Zhongyun (Phil) Zhou is an Associate Professor at the School of Economics and Management at Tongji University. He holds two Ph.D. degrees from the University of Science and Technology of China and the City University of Hong Kong. His current research interest focuses on the usage and impacts of emerging digital technologies (especially those related to artificial intelligence and the Metaverse) for sustainable development. He has published 60+ publications, including 40+ journal articles in Journal of Management Information Systems, Journal of Business Ethics, European Journal of Information Systems, Information & Management, Decision Support Systems, Journal of the Association for Information Science and Technology, and others. Phil is currently Guest Associate Editor for Journal of Management Information Systems (special issue on the Metaverse), Senior Editor for Information Systems Journal (where he is also co-editing a special issue on QCA) and Information Technology and People, and Associate Editor for Electronic Commerce Research and Applications and Industrial Management & Data Systems.



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Chaired by: [Dr Monica Law](#) and [Dr Celine Cui](#)

**Department of Business Administration
Hong Kong Shue Yan University**

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Seminars / Workshops (cont.)

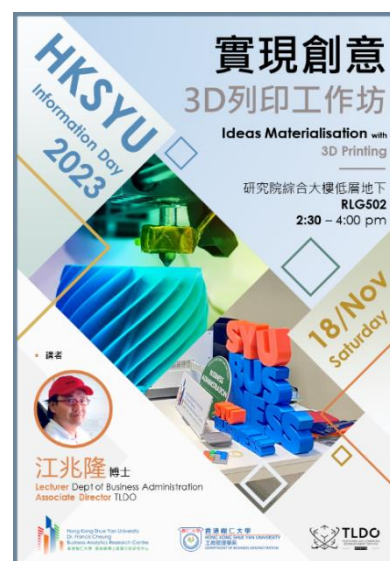
Idea Materialisation with 3D Printing

HKSYU Information Day 2023

Date and time: 18 November 2023 (2:30–4:00 pm)

Venue: Research Complex LG502

Speaker: Dr. Joseph Kong, Department of Business Administration, HKSYU



Facets of Video Games

Guest Sharing Session

(Department of Japanese Studies, Chinese University of Hong Kong)

Date and time: 15 March 2024 (9:15–10:00 am)

Speaker: Dr. Joseph Kong, Department of Business Administration, HKSYU



Guerlain 200 Years of Creativity and Innovation

Date and time: 3 April 2024 (2:00–3:30 pm)

Research Complex Lower Block RLB502

Speaker: Ms. Mandy Tang, Training Manager for Makeup & Fragrance, Guerlain (Asia Pacific)



Creative Corner

The Creative Corner at the Research Centre offers a space for staff and students to explore their creative passion and turn their imagination into reality. From brainstorming and ideation to final design and fabrication, this corner is managed by Dr. Joseph Kong and is committed to helping students in every step of the creative process. In the past year, the Research Centre also provided teaching support and seminars on 3D printing to various courses, including BUS 403 and BUS 471.

The Creative Corner is well equipped with the following essential tools for cutting-edge creative needs:

- AI-capable and video editing PC with i9 processor and 3080Ti display card,
- M2 Mac Mini for video editing,
- Vlog recording and production facilities, and
- FDM 3D Printer (220 mm × 220 mm × 250 mm with PLA material).



Student Competition

Inter-University Project Competition (2024)

This is the third year of the competition organised jointly by the Department of Business Administration at HKSYU and the City University of Hong Kong (CityU), supported by Bauhaus International (Holdings) Limited. Dr. Joseph KONG and Dr. Yongjin PARK, the course leaders of eBusiness at the HKSYU and CityU respectively, organised the competition. With reference to the personal experience of Dr. Kong, who participated in the Hong Kong Computer Society competition, a guest sharing was organized for students from HKSYU and CityU to have a more detailed view of the company's direction and expectations of the business proposals.

Before the competition, one online seminar was conducted for HKSYU and CityU students. The details are as follows.

Date: 17 October 2023

Speakers:

Ms. Frances Wong, Managing Director, Bauhaus International (Holdings) Limited

Mr. Peter Liang, Legal Counsel, Bauhaus International (Holdings) Limited

The Inter-University Project Competition took place on 3 January 2024 at Lecture Theatre RLB 303, Research Complex Lower Block, Hong Kong Shue Yan University (HKSYU). Further, the competition was honoured to have the following guests on the panel: Madam Winnie TONG, Co-founder and Chairlady of Bauhaus; Mr. Sunny YEUNG, CEO of Bauhaus; Dr. Ron KWOK, Director of the Alumni Relations Office and Associate Professor of Department of Information Systems, CityU; and Dr. Monica LAW, Head of the Department of Business Administration, HKSYU. The panel had not been informed of each team's university in advance for a fair and equitable evaluation. The competition enabled the students to showcase their innovative projects and demonstrate their understanding of eBusiness management and related data analytics.

After months of hard work and dedication, we are thrilled to share the results of the competition:

- Champion - a team with BBA and MDIT students
- First runner-up - a team with BBA-DM students
- Second runner-up - a team with CityU students

The teaching case of this industry–institution collaboration between HKSJU BUS383 and CityU IS2505, supported by Bauhaus, titled ‘Business Datafication Project with University-Industry Collaboration Using Business Case Competition’, was presented at the 14th Canada International Conference on Education (CICE-2024).

We would like to express our gratitude to all the participants, faculty advisors, the organising committee and judges for their enthusiasm, commitment and expertise, which contributed to the competition’s success.



Sharing from Research Assistants

My name is Tina, the research assistant at the Research Centre. I hold a Master's in Applied Accounting from the Australian National University and a Bachelor's in Commerce of Accounting with First Class Honours from Hong Kong Shue Yan University. Presently, AI and big data are global trends, and I am also interested in using big data for business analysis. With considerable enthusiasm for big data and business analytics, I am currently working as a full-time research assistant at the Dr. Francis Cheung Business Analytics Research Centre. I am eager to explore technology's immense potential in business. Furthermore, I have had the opportunity to work on a variety of projects in different fields. As a research assistant, my main responsibility is to implement the project. I need to read extensive literature to find the research subdivision direction; analyse the research methods; collect, process and analyse data and, eventually, complete the draft reports. I utilise various techniques, such as Python and DiVoMiner, to help analyse the data and explore the research results.



During my tenure, I was responsible for three research projects: Traditional Chinese Medicine (TCM) project, Virtual Influencer Project and Eye Tracker YouTube Project. For the TCM project, I mainly studied Hong Kong residents' attitudes towards Chinese medicine and their preferences for discussion content. I used Python to crawl nearly 500,000 comments related to TCM, and cleaned the data through Excel and Python. Thereafter, I used DiVoMiner for word frequency and semantic network analyses and content coding. Additionally, I conducted a literature review, reading 40 relevant journal articles, and successfully wrote a draft paper. This project provided me with an opportunity to practice my essay writing and data analysis skills. The second project is the Virtual Influencer Project. I mainly reviewed the literature, summarised and analysed the experimental methods, objectives and conclusions and proposed the future research direction. Lastly, I completed the draft paper of this project, contributing to the research in the field of virtual influencers. The third project is to study the effectiveness of YouTube ads, focusing on people's psychological behaviour and attention whilst watching different ads. I used eye trackers to significantly study people's attention, and I also read and summarised over 20 articles. Currently, the project is underway.

This experience was challenging and rewarding. I have a good working relationship with Professor Monica and Professor Celine and learned many business analysis skills. My experience at the centre will be an unforgettable one.

Sharing from Research Assistants

My name is Cecilia Bai. As a student assistant at the research centre, I learned extensively about academic practices, particularly in reading literature, extracting key ideas and developing new topics in AI recommendation systems.

I am deeply appreciative of the guidance and support provided by Dr. Celine and Dr. Monica throughout my learning process. We held weekly meetings to review literature, helping me maintain clear objectives and make consistent progress in the literature review.



This literature review on AI recommendation systems explores four main themes: consumer attitudes and behaviours, industry types and modes of AI recommendation systems, trust and acceptance and technological limitations and necessary improvements. By examining the challenges of AI recommendation systems, the review provides insights into how these technologies enhance user engagement. It highlights the critical role of psychological factors and trust in shaping consumer attitudes towards AI recommendation systems, thereby influencing system adoption and effectiveness. The review also investigates the diversity of AI technologies, such as ChatGPT and augmented reality, and emphasises the importance of trust and ethical considerations in realising the full potential of AI recommendation systems across various industries. Through a detailed examination of consumer attitudes, sector-specific applications, technological foundations and trust issues, the review addresses existing research gaps and advocates incorporating insights from consumer psychology into AI technology categorisation and strategic use, thereby promoting ethical and user-centred design approaches.

Through one year of study in the master's programme and as a research assistant, I developed a marketing and consumer-oriented framework and gained extensive academic skills.

Sharing from Research Assistants (continue)

My name is LIU, Xiya (Thea), a part-time student research assistant at Dr. Francis Cheung Business Analytics Research Centre. During my five-month tenure as a student research assistant, I actively participated in two projects. The first project involved using an eye-tracker to analyse the effectiveness of ad boxes in YouTube videos and the audience's engagement with them. This project required conducting research design tasks, such as writing brief article introductions, summarising literature reviews, gathering the most recent and relevant supporting articles and collaborating with professors to design research experiments. I also conducted pilot tests to identify and address any potential issues that arose during the project. The other project was related to traditional Chinese medicines, in which I incorporated articles on this topic, integrated recent references and updated data from the research platform to enhance the study's validity. I also meticulously updated and modified figures in the article to improve visual representation. Concurrently, I provided support in organising application documents for the Master of Science in Marketing and Consumer Psychology programme.



Through the aforementioned experiences, I gained valuable skills and practical knowledge in conducting research. I learned how to effectively search for and review academic literature, collect and analyse data using various research methods and tools, collaborate with fellow researchers and communicate findings effectively. I likewise developed insights into the importance of time management and organisation in research projects, as well as the ability to critically evaluate research articles and identify gaps in existing literature. Furthermore, I acquired an understanding of the ethical considerations involved in research and handling sensitive data. Additionally, I refined my skills in presenting research findings clearly and concisely, verbally and in writing. This experience has been rewarding and strengthened my foundation in research methodology and academic writing. I am enthusiastic about further developing my skills and knowledge in this field as I advance in my academic and professional pursuits.



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August 2024



香港樹仁大學
HONG KONG SHUE YAN UNIVERSITY
工商管理學系
DEPARTMENT OF BUSINESS ADMINISTRATION



Dr. Francis Cheung
Business Analytics Research Centre
張舜堯博士商業分析研究中心