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議程手冊

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環境與文化資源學系

Department of Environmental and Cultural Resources

	場地 時間	行政大樓第一會議室		
		指導教授	報告人	報告內容
口頭發表	08:45	趙芝良	陳芝璇	COVID-19 疫情下的空間社交泡泡：建構新竹公園周遭使用者個人空間發展概念
	09:00	黃書偉	趙昕聖	大專碩博士生對於社會住宅之看法—以計畫行為理論探討
	09:15	丁志堅	洪煒婷 羅孟馨	城市運輸決策支援系統—以新竹市大眾運輸系統實作
	09:40	江天健	曾詩晴	隱藏的客家文化：以屏東縣佳冬鄉石光見為例
	09:55	張瑋琦	許愷霓 施雨萱	以客家飲食智慧為基礎之防災食農教育指標訂定之研究
	10:20	趙芝良	黃佳嫻 徐尉捷	從使用者評論分析濕地旅遊目的地意象：網絡內容資料挖掘策略
	10:45	闕雅文	董子瑜	臺北市立動物園的非市場財效益評估：旅行成本法結合條件行為法之應用
	11:00	曾慈慧	叢晨蘭	新冠疫情下國人旅遊模式之替代：計畫行為理論之延伸
	11:15	鄭國泰	周奕安	ESG 概念應用於大學永續評估指標之 AHP 研究—以國立清華大學為例
	評閱老師：張瑋琦、黃書偉、丁志堅、江天健、趙芝良、闕雅文、鄭國泰、曾慈慧、倪進誠、楊宗翰			

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		指導 教授	報告人	報告內容
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	11:45	闕雅文	林瑋旻	消費者生鮮食品在意之因素對虛擬通路的影響
	評閱老師：黃書偉、闕雅文、江天健、丁志堅、楊宗翰			

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		指導 教授	報告人	報告內容
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	11:45	鄭國泰	鍾景琳	研究香港近年的隱私問題--以修例風波進行探討
	評閱老師：趙芝良、鄭國泰、倪進誠、曾慈慧、張瑋琦			

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COVID-19 疫情下的空間社交泡泡：

建構新竹公園周遭使用者個人空間發展概念

陳芝璇

摘要

城市綠地空間在社會上擁有功能性與重要性，是一般民眾從事休閒遊憩時不可或缺的場域，亦是減緩都市人口擁擠互動、維持公共衛生條件的重要場所。隨著新型冠狀病毒疾病（COVID-19）疫情對於社會仍存在著風險，有鑑於經濟、社交、休閒與人際互動的需要衍生出新名詞，如：「社交泡泡（social bubble）」的概念，且盼以不同隔離圈方式，做到防疫與活動的開放，以維持大眾的心理健康與社會運作。除凸顯個人社會與身體距離概念的重要，同時也將抽象的個人空間具象化，學者呼籲 COVID-19 危機有可能從根本上改變我們與公共空間的關係，同時也呼應環境行為學重視個人空間(Personal space, Hayduk, 1978)發展，並應用於環境空間規劃與設計相應需求。

本研究將利用新竹公園作為主要研究場域，其兼具室內展館與室外綠地開放空間的特質及提供市民的休憩功能，更是疫情時期人們排解憂愁、舒展身心的公共空間。透過問卷調查個人社經、活動屬性與對疫情的心理恐懼程度(Ahorsu, 2020)。並以停止距離程序（stop-distance procedure）作為實值空間數據的量測蒐集的量化資料的方法，總共記錄八種情境下的結果，操縱變因有三項分別是新冠肺炎疫情發生前與後、室外與室內環境以及站立與坐立姿態。最後藉由敘述性統計（Descriptive Statistics）以及獨立樣本 t 檢定進行資料推論與分析。

透過量化資料的分析與質性意見的蒐集，得出結果為在疫情爆發後，對於新冠肺炎疫情相關議題較敏感者，個人空間距離的感知層面會有較大幅度的變化；室內或室外等環境因素以及站立或坐姿對人們感知空間距離的影響不大。由於此個人空間距離的改變將可能持續到未來，因此都市綠地中的公共空間設計和活動方式是否能改善因應，值得深入探討與省思。

關鍵字：城市綠地空間、環境支應性、社交距離

The Spatial-Social Bubble from COVID-19 Pandemic : Personal Space Development of the Visitors in Hsinchu Park

Abstract :

Urban green space has functionality and importance in society. It is an indispensable place for people to engage in leisure and recreation. It is also important to reduce the crowded interaction of the urban population and maintain public health conditions. As the coronavirus disease (COVID-19) pandemic still poses risks to society, new terms have been derived from the needs of economy, social interaction, leisure and interpersonal interaction, such as the concept of "social bubble". And I hope to use different isolation methods to achieve pandemic prevention and open activities to maintain the public's mental health and social operations. In addition to highlighting the importance of the concept of personal social and physical distance, while also concretizing abstract personal space, scholars call for the COVID-19 crisis to fundamentally change our relationship with public space, and also call for the importance of environmental behavior to personal space (Personal space, Hayduk, 1978) developed and applied to the corresponding needs of environmental space planning and design.

This study will use Hsinchu Park as the main research area, which has the characteristics of an indoor exhibition hall and an outdoor green space, providing a function for the public to rest. It is also a public space for people to relieve their worries and relax during the pandemic. Through questionnaires, individuals' characteristic, activity attributes, and psychological fear of the pandemic were investigated (Ahorsu, 2020). The stop-distance procedure is used as the method of quantitative data collected for the measurement of real-valued spatial data. A total of eight scenarios are recorded. There are three manipulative variables: before and after the outbreak of COVID-19, outdoor and indoor environments, as well as standing and sitting postures. Finally, descriptive statistics and independent samples t-test are used to infer and analyze data.

Through the analysis of quantitative data and the collection of qualitative opinions, the result is that after the outbreak, people who are more sensitive to issues related to the COVID-19 pandemic will have greater changes in the perception of personal space distance. However, indoor or outdoor environments factors and standing or sitting postures have little effect on people's perception of spatial distance. Since this change in personal space distance may continue in the future, whether the public space design and activity methods in urban green spaces can be improved to respond is worthy of in-depth discussion and reflection.

Keywords: Urban Green Space, Environmental Affordance, Social Distance

大專碩博士生對於社會住宅之看法-以計畫行為理論探討

趙昕聖

摘要

為了保障弱勢族群與落實居住正義，政府自 2011 年頒布，並推行相關社會住宅政策長達十餘年，而隨著社會住宅的比例逐漸提升，未來符合條件之青年族群亦有機會申請到社會住宅居住，本研究希望能透過問卷調查了解大專生與碩博士生對於社會住宅的看法為何，因此搭配計畫行為理論探討大專碩博士生對於社會住宅的態度、主觀規範、知覺行為控制與意圖及行為之關聯性，同時問卷中也搭配風險認知與鄰避效應之概念，試圖探討大專碩博士生對於社會住宅的鄰避性，希望能從研究中更加了解大專碩博士生內心對於社會住宅的真實看法，以利後續對於相關政策之檢核與改善。

研究結果顯示大專碩博士生的態度與知覺行為控制對於社會住宅的支持意圖呈現正向顯著關係；而知覺行為控制與意圖兩者皆對於社會住宅的支持行為呈現正向顯著關係，此外多數大專碩博士生對於社會住宅政策偏向支持立場，對於其興建在自身鄰里也不會產生明顯的鄰避效應。

關鍵字：社會住宅、住宅政策、鄰避效應、計畫行為理論

Views of college, master, and doctoral students on social housing -Discussion on the Theory of Planned Behavior

Abstract :

To protect disadvantaged groups and implement housing justice, the government has promulgated the Housing Act in 2011 and has implemented social housing policies for more than ten years. With the gradual increase in the proportion of social housing, young people who eligible the condition will also have the chance to apply the social housing. This research hopes to find out what college, master and doctoral students think about social housing through the questionnaires. And then with the Theory of Planned Behavior (TPB), it explores the relationship between the attitudes, subjective norms, perceived behavior control to intentions and behaviors of college, master and doctoral students on social housing. At the same time, the questionnaire also incorporates the concepts of risk perception and the NIMBY effect to explore the college, master, and doctoral students would have the NIMBY effect to social housing or not. The research hopes to learn more about the true views of them on social housing, then also facilitate the follow-up review and improve the related policies.

The results of the study show that to the college, master and doctoral students, the attitudes and the perceived behavior control have a positive and significant relationship with the supportive intention for social housing; while both perceptual behavioral control and intention have a positive and significant relationship for the supportive behavior of social housing. In addition, most college, master, and doctoral students are biased supporting the social housing policy, and they will not have an obvious NIMBY effect if the social housing would build nearby their neighborhood.

Keywords : Social Housing, Housing Policy, NIMBY Effect, Theory of Planned Behavior

城市運輸決策支援系統--以新竹市大眾運輸系統實作

洪煒婷、羅孟馨

摘要

人們有著工作、就學、消費、娛樂、醫療等各種需求，為了做到地區之間的往來移動，必然需要透過交通運輸網絡的串聯來滿足，在人口密集的城市地區，除私人運輸工具之外，公共運輸更是扮演不可或缺的角色，完善的公共運輸網絡規劃，除須考量供給與需求間的平衡之外，也須思考如何滿足弱勢族群（缺乏交通能力的學生、行動不便者與高齡者等）的移動需求，已達成社會正義的理想。

本研究在對文獻進行梳理後，瞭解到運輸站點的設置會顯著影響到整體公共運輸規劃及決策之品質(Currie, 2010; Jiao & Dillivan, 2013; 彭以安, 2021)，因此，為了使運輸服務資源的分配更為合理且符合民眾所需，本研究以新竹市作為實作之對象，以開放資料為基礎，將大眾運輸站點作為提供運輸供給服務的節點，人口及公共服務設施因素作為運輸需求指數的評估標準，結合 GIS 路網分析與疊圖分析，檢視各區域的運輸服務缺口在空間上的分布情形與差異。

研究結果顯示，新竹市的運輸服務以市中心（新竹火車站周邊）的服務供給最為充足，此區域為全市的交通樞紐，明顯呈現供給大於需求的現象；市中心的外圍則有較嚴重的運輸服務缺口，因為此區域的站點普遍上服務水平較低，再加上人口密度較高、公共服務設施也不少，產生供不應求的狀況；遠離市中心的區域（香山區、東區近寶山鄉），在供給與需求皆低的地區，運輸服務缺口較不顯著。本研究進一步建立了一套城市運輸決策支援系統，藉由 ArcGIS Pro 結合 Python 程式語言，將運輸服務供給與需求以地圖視覺化呈現，並且建構一套自動化程序，讓使用者在地圖上動態新增站點，並自動化運算出該站點對整體服務缺口產生的變化，此自動化程序可提供決策者考量站點設置時的決策支援。

關鍵字:決策支援、大眾運輸、ArcGIS Pro、運輸服務缺口、地理資訊系統

Urban Decision-making Support System--Implemented with the mass transit system of Hsinchu City

Abstract :

People have various needs, such as work, schooling, consumption, entertainment and medical treatment. In order to move between regions, it is necessary to meet the needs through the connection of transportation networks. In populated urban areas, besides private transport, public transportation plays an indispensable role. To complete public transportation network planning, in addition to considering the balance between supply and demand, we also need to think about how to meet the traffic demands of vulnerable groups (students, the physically challenged and the elderly who lack commute ability), so as to achieve the ideal of social justice.

After combing the literature, we recognize that the installation of transportation stops will significantly affect the quality of overall public transportation planning and decision-making. Therefore, in order to make the distribution of transportation service resources more reasonable and meet the needs, we take Hsinchu City as the object of trial implementation. We take the mass transportation stops as the nodes that provide transportation supply services, and the factors of population and public service facilities as the evaluation criteria of transportation demand index which are based on the existing data. Combined with the application of network analysis and overlay analysis, we examine the spatial distribution and differences of transportation service gaps in various regions.

The results show that in terms of the distribution of the transportation service gap in Hsinchu City, the transportation service supply in the city center is sufficient. This area is the transportation hub of the city, which obviously shows that the supply is more than the demand. There is a serious transportation service gap in the periphery of the city center, because the service level of stations is generally low, coupled with high population density and many public service facilities, resulting in a situation of short supply. In areas far from the city center, under the condition of low supply and demand, the transportation service gap is not significant. Based on the above, we establish an urban decision-making support system. Through the application of ArcGIS pro with python programming language, the supply and demand of transportation services are visualized on the map. And this process is built into an automatic process, so that users can show the changes of the point to the overall gap after adding sites at different locations on the map, so as to provide for decision-makers to consider site settings.

Keywords: Decision-making Support, Mass Transit, ArcGIS Pro, Supply-Demand Gap of Transportation, Geographic Information System (GIS)

隱藏的客家文化：以屏東縣佳冬鄉石光見為例

曾詩晴

摘要

現今在台灣社會上閩、客族群普遍具有融合之現象，然而目前卻缺乏對於文化融合後的現況討論，因此本研究便以屏東縣佳冬鄉石光見為例，試圖探討石光見在客庄變閩庄的衝擊下，當地居民對該地客家文化的理解與看法，更進一步討論，閩客族群互動對文化融合之影響。石光見位於六堆聚落中的「左堆」地區，以往相關文獻中皆指出其曾為客庄，而如今卻被視為閩庄，當地居民也以閩南人自居。本研究以過去研究較缺乏的現況調查為切入點，先用文獻回顧整理出石光見之地理與歷史背景，提出石光見曾為客庄的證據，再配合田野調查觀察目前當地留存的客家文化，最後藉由深度訪談看當地居民對該地客家文化的了解程度。經由文獻及訪談結果相互對照後得出，石光見為閩客文化整合之地區，其風俗習慣融合了閩、客兩個族群的文化，在當地整合成了一種新的文化，產生不同於其他地區的特殊性。同時，自訪談中發現該地居民對當地風俗中的客家文化不甚理解，此結果可能是由過去世代祖籍浮動所導致。此外，由閩客族群互動中，推測閩南文化在石光見及其周遭客庄盛行之原因，與交通、商業貿易及教育制度等等有關。

關鍵字：閩客融合、六堆客家、文化整合

Hidden Hakka Culture: A Case Study of Shiguangjian , Jiadong Township, Pingtung County

Abstract :

Nowadays, there is a general phenomenon of Hakka and Minnan populations' fusion in Taiwan society. However there is a lack of discussion on the current situation after cultural fusion. This study takes Shihguangjian of Jiadong Township Pingtung County as an example, exploring the impact of this village transform Hakka into Minnan, and local residents' view about Hakka culture. Besides, cultural fusion affected by the interaction of Minnan and Hakka culture will take for further discussion. Shihguangjian is located in the "left heap" of Liu-Dui settlements, which was once pointed out in relevant literature as a Hakka village. But now is regarded as a Minnan village, the local residents also consider themselves Minnan people. This study takes the current situation which lacks in past research as an entry point. Using literature review to sort out geographical and historical background of Shihguangjian, to prove that Shihguangjian was once a Hakka village. Then observes the Hakka culture that remains locally with field work. And finally sees the local residents' understanding of local Hakka culture through in-depth interview. After comparing literature and in-depth interview, the conclusion shows that Shihguangjian is an area of cultural fusion. Hakka and Minnan culture fuse together, and becomes a new culture which made local custom different from other regions. Moreover, interview has revealed that local residents don't understand the Hakka culture of local custom. This may be due to the fluctuation of ancestry in the past generations. In addition, from the interaction of Minnan and Hakka populations, it is speculated that the reasons for Minnan culture prevailing in Shihguangjian and Hakka village around are related to transportation, commercial trade and education system, etc.

Keywords : Hakka and Minnan's fusion, Liu-Dui Hakka, Cultural integration

以客家飲食智慧為基礎之防災食農教育指標訂定之研究

許愷霓、施雨萱

摘要

在氣候變遷的影響下，災害造成的損害十分嚴重，在急難當中不可或缺的糧食卻可能因產地受到的衝擊而無法供應，因此如何應對災變並降低糧食系統衝擊成為大眾關注的熱門議題。而透過良好的防災教育，做好災害來臨的準備，不僅能夠減緩因壓力帶來的心理創傷，也能使損失減至最低，不過若要降低糧食系統衝擊，在地傳統知識與食農教育，對於增加自身韌性與降低糧食系統衝擊的重要性是不容忽視的。而經文獻回顧發現，目前在防災教育中較為忽視在地傳統知識與食農教育的面向，因此本研究與防災教育先鋒學校苗栗縣西湖國小瑞湖分校合作，希望透過參與觀察法、深度訪談法、參與式焦點團體訪談法與資料分析，調查學校周邊客庄耆老所擁有之防災食農相關的客家傳統知識。本研究成果可做為西湖國小未來進一步設計防災食農教材之用，以及推廣以在地知識為基礎之國小防災食農教育之參考。

關鍵字：災害韌性、防災食農、客家傳統知識

Disaster prevention and food education indicator research: based on Hakka traditional knowledge

Abstract :

Under the influence of climate change, the damage caused by disasters is very serious. On the other hand, the food that is indispensable in the emergency may not be available due to the impact of the place of production. Therefore, how to deal with the disaster and reduce the impact of the food system has become a hot issue of public concern. Obviously, it can not only relieve the psychological trauma caused by stress but also minimize the loss in disasters through good education for disaster prevention and preparation for disasters. However, it cannot be ignored that the importance of local traditional knowledge and food education to reduce the impact of the food system and increase their own resilience. The literature review found that the aspects of local traditional knowledge and food education are currently neglected in disaster prevention education. For this reason, this research cooperates with the branch of Xihu Elementary School in Xihu Township in Miaoli County, hoping to investigate the traditional Hakka knowledge of the elders in Hakka village related to disaster prevention and food. The achievements of the research can provide the Xihu Elementary School and elementary schools based on the promotion of local knowledge with a reference of teaching materials for disaster prevention and food education in the future.

Keywords : disaster resilience, disaster prevention and food education, Hakka traditional knowledge

從使用者評論分析濕地旅遊目的地意象：網絡內容資料挖掘策略

黃佳嫻、徐尉健

摘要

濕地是地球生產力最高的生態系之一，其豐富生物多樣性使之成為重要生物基因庫。因此與紅樹林生態系統服務所提供的濕地棲地環境營造策略，正被廣泛地思考與執行以支持生物多樣性保護的維護。然而，使用者偏好對提供生態系統服務的相關訊息與管理決策這方面的研究則不多。隨著網絡的蓬勃發展，許多遊客會在有評論功能的平台上發表對於該地區的想法，民眾透過社群平台發表評論、分享拜訪經驗的頻率正逐漸攀升，線上評論開始成為建立網絡口碑的關鍵因素，而可能成為研究者進一步空間標定與視覺的重要分析基礎。

本研究利用目的方法鏈（the Means-End Chain），擷取其具有能連結目的地屬性、結果與價值的結構化能力(Gutman, 1982)；以台中高美濕地和新竹香山濕地作為個案，取其 同為野生動物保護區且具有相似的濕地景觀特質；以 2016 年到 2021 年 8 月為期，收集使用者在 Google Map 網站所分享的線上評論，萃取地標包括高美濕地、高美濕地木棧道、高美野生動物保護區、高美濕地遊客中心、高美風車大道、高美腳踏車道、高美燈塔、香山濕地、賞蟹步道、風情海岸與新竹濱海野生動物保護區等，二個濕地各 搜集近 19000 筆的文字評論，以帶有評論的文章為主，擴增語料庫後以自然語言方式處理、斷詞，高美濕地產生個 10187 詞彙，而香山濕地產生了 8368 個詞彙。於不同地標各篩選出現次數排名前 50 之詞彙加以統計、視覺化，了解不同地標最常使用的評論 用詞。文字分析部分則採用 R 語言軟體進行文字探勘，評論資料，並運用文字探勘技術從非結構性文字資料，萃取出民眾對於高美濕地以及香山濕地的空間意象。以了解不同使用者對濕地功能的認知與現行經營管理之具體效益，以利於後續經營管理策略擬定之參考。

關鍵字：文字探勘、空間識覺、方法目的鏈、網路爬蟲

Analyzing Wetland Destination Image from Users Online Reviews: A Web Content Mining Approach

Abstract :

Wetland is one of the most productive ecosystems on the planet, and its rich biodiversity makes it an important biological gene pool. Therefore, the wetland habitat environment construction strategy provided by the mangrove ecosystem service is being widely considered and implemented to support the maintenance of biodiversity conservation. However, there is not much research on user preferences regarding the provision of ecosystem services related information and management decisions. With the rapid development of the Internet, many tourists will post their thoughts about the area on platforms with commenting functions. The frequency of people posting comments and sharing visit experiences through social platforms is gradually increasing. Online comments have begun to become the key factor in building an online reputation, and it may become an important analysis basis for researchers to further space calibration and vision.

This study uses the Means-End Chain to extract its structural ability to link destination attributes, results, and values (Gutman, 1982); take Taichung Gaomei Wetland and Hsinchu Siangshan Wetland as examples, Whichever is the same as a wildlife sanctuary and has similar wetland landscape characteristics;Based on the online comments shared by users on the Google Map website in the past five years, the extraction landmarks include Gaomei Wetland, Gaomei Wetland Boardwalk, Gaomei Wildlife Sanctuary, Gaomei Wetland Visitor Center, Gaomei Windmill Avenue, Gaomei Wetland Bike Lane, Gaomei Lighthouse, Siangshan wetland, Crab Viewing Trail, Fengqing Coast and Hsinchu Coastal Wildlife Reserve, etc. Each of the two wetlands collected nearly 19,000 text comments, focused on articles with comments, and processed and segment words in natural language after amplifying the corpus. Gaomei Wetland produced 10,187 vocabulary, while Siangshan Wetland produced 8,368 vocabulary. Count and visualize the top 50 vocabularies ranked by the number of occurrences of each filter in different landmarks to understand the most frequently used commentary words of different landmarks. The text analysis part uses R language software to conduct text exploration, comment on the data, and use text exploration technology to extract the spatial image of the people for the Gaomei Wetland and Siangshan Wetland from the unstructured text data. To understand the cognition of different users on wetland functions and the specific benefits of current operation and management, so as to facilitate the reference of subsequent operation and management strategies.

Keywords: Text Mining, Spatial Perception, Means-End Chain, Web Crawler

臺北市立動物園的非市場財效益評估：

旅行成本法結合條件行為法之應用

董子瑜

摘要

臺北市立動物園歷來為全國重要的旅遊地之一(臺北市立動物園, 2020), 做為一個符合國際潮流的現代動物園, 除了遊憩功能外, 臺北市立動物園也必須同時顧慮教育、研究、保育等功能(劉松達, 2016)。而其隸屬於教育局底下的特性(詹心懿, 2007), 也使得遊客對動物園在教育方面的期待也相對高(臺北市立動物園, 2020)。園方近幾年也推出了各式教育活動(臺北市立動物園, 2021), 期望打造一個兼顧娛樂與教育的環境教育場域。

本研究使用旅行成本法(Travel Cost Method, TCM)評估臺北市立動物園的整體遊憩效益, 並建立遊憩需求模型。臺北市立動物園一共有「遊憩」、「教育」、「研究」與「保育」四大功能, 其中與遊客最為直接相關的功能有「遊憩」與「教育」功能。本研究將旅行成本法結合層級分析法(Analytic Hierarchy Process, AHP)分別計算此兩項功能帶來的消費者剩餘。另外, 臺北市立動物園近年舉辦的教育活動, 大多都是偏知識性的教案活動(臺北市立動物園, 2021)。然而比起知識性教案, 在戶外環境中的學生得以與動物親身接觸、觀察, 也能夠更深刻的反思環境與人的關係, 這是知識性教案所無法達成的。因此本研究以旅行成本法配合條件行為法(Contingent Behavior, CB), 探討動物園若新增能親身接觸動物的教育活動對遊客旅遊行為的影響。

實證分析方面, 本研究以 On-Site Poisson 模型作為實證模型, 並以 LIMDEP 軟體、EXCEL 進行數據分析。研究結果顯示, 最近一年每人每次消費者剩餘(Consumer Surplus, CS)為 5,685 元, 平均到訪次數為 2.12 次, 每人每年 CS 值為 12,052 元; 未來一年若無新增親身接觸動物的教育活動則每人每次 CS 值為 4,079 元, 平均到訪次數為 1.95 次, 每人每年 CS 值減少至 7,954 元, 與最近一年相比, 減少了 66.1%; 反之, 未來一年若有新增親身接觸動物的教育活動則每人每次 CS 值為 42,110 元, 平均到訪次數為 2.46 次, 每人每年 CS 值增加至 17,118 元, 相較於最近一年 CS 值, 增加了 42%。且在整體遊憩效益中, 遊憩功能占 17%, 教育功能占 83%, 顯示遊客對於教育功能的期待與重視。由此可知, 臺北市立動物園若能新增親身接觸動物的教育活動, 將能增加民眾前往旅遊之動機, 增加全年遊憩效益與到訪次數。

關鍵字：遊憩效益、環境教育、旅行成本法、層級分析法、條件行為法

Assessment of the Non-Market Goods Value of the Taipei Zoo: Application of Travel Cost Method and Contingent Behavior

Abstract :

Taipei Zoo has been one of the most important tourist spots in Taiwan. Being a modern zoo that conformed to the international trend, in addition to recreation function, it must also takes educational, research, conservation function into consideration. And the feature that it belongs to the Ministry of Education makes tourists have relatively higher expectation for the zoo's education. It also has launched various educational activities in recent years, hoping to create an environmental education field that combines leisure and education.

This study uses the Travel Cost Method (TCM) to evaluate the overall recreation value and establish the tourists' recreation model of Taipei Zoo. The Taipei Zoo has four major functions: recreation, education, research and conservation. Among them, the functions most directly related to tourists are "recreation" and "education". This study combines TCM with the Analytic Hierarchy Process (AHP) to evaluate the Consumer Surplus (CS) of this two functions separately. In addition, most of the educational activities held by the Taipei Zoo in recent years are knowledge-based. However, compared with it, students studying in the outdoor environment can have contact and observation with animals directly. They can also introspect about their relationship with the environment which is something that cannot be achieved by knowledge-based lesson plan. Therefore, this study also uses TCM combined with Contingent Behavior (CB) to evaluate the change in tourist's behavior when adding these educational activities.

In terms of empirical analysis, this research uses the On-Site Poisson model as the empirical model, and uses LIMDEP and EXCEL for data analysis. As shown in the result, the recreation value of Taipei Zoo the recent year was NT\$5,685 per person per trip, 2.12 average trips, NT\$12,052 per person per year. In the coming year, if there are no new educational activities allowing tourists to contact with animals, the recreation value per person per trip is NT\$4,079. With 1.95 average trips, the recreation value per person per year reduces to NT\$7,954, which is a 66.1% reduction compared with the recent year. Conversely, if there are new educational activities allowing tourists to contact with animals, the recreation value is NT\$17,118 per person per trip. With 2.46 average trips, the recreation value per person per year increases to NT\$42,110, which is a 42% increase. And in the overall recreation value, the recreation function accounted for 17%, and education function accounted for 83%, showing tourists' expectation toward education function. In

light of this, we could tell that if the Taipei Zoo add educational activities allowing tourists to contact with animals, it will increase the motivation of people to visit and the recreation value throughout the year.

Keywords: recreation value, environmental education, travel cost method, analytic hierarchy process, contingent behavior

新冠疫情下國人旅遊模式之替代：計畫行為理論之延伸

叢晨蘭

摘要

新型冠狀病毒的爆發重創全球經濟活動，尤其是觀光旅遊產業。在多數國家均施行「鎖國」政策及台灣政府防疫措施的推行下，國人旅遊的範圍與方式也因此受到限制。然而部分民眾仍有旅遊的需求，因此其可能選擇以其他方式替代原先的旅遊模式。本研究旨在探討在新冠疫情下國人的旅遊替代行為，以計畫行為理論為基礎，通過知覺風險附加變量擴展計劃行為理論模型，進而分析國人在疫情下的知覺風險程度與其旅遊行為模式轉變之關聯，以及其未來在食宿行遊購娛六個面向上可能從事的替代旅遊。本研究採用混合研究方法，先進行質性深度訪談了解受訪者在疫情下可能從事的旅遊替代行為，再根據訪談結果與文獻資料參考研擬問卷題項並實施前測，最終以便利抽樣法發放 500 份線上問卷。研究對象主要為國內 18 歲以上具有自主經濟、決策能力者。研究結果期望提供觀光旅遊等產業作為參考建議，使其在危機發生時能迅速適應並調整產業經營模式。

關鍵字：新型冠狀病毒，旅遊替代，計畫行為理論，知覺風險

Factors Affecting Taiwanese Residents' Travel Substitution Behavior During COVID-19 : Extended Theory of Planned Behavior

Abstract :

The outbreak of the COVID-19 has severely hit global economic activities, especially the tourism industry. With most countries have been put on lockdown and Taiwanese government's anti-epidemic measures, Taiwanese people has been restricted on their travel scope and methods. However, some people still have a need for travel, so they may change their original travel ways. This study aims to explore the travel substitution behavior of Taiwanese people during the epidemic. Based on the theory of planned behavior, the theoretical model of planned behavior is expanded through risk perception additional variables, and then the degree of risk perception of Taiwanese people during the epidemic and the change in travel behavior patterns are analyzed, as well as the travel substitution behavior that Taiwanese may engage in in six aspects of board, lodging, transport, sight-seeing, shopping and entertainment in the future. This study adopts a mixed-method research. First, we conduct qualitative and semi-structured interviews to understand the travel substitution behaviors that respondents may engage in during the epidemic. Then, based on the interview results and literature materials, the questionnaire items are developed and pre-tested, which is finally 500 online questionnaires were distributed by convenience sampling method. The research objects are mainly domestic people over the age of 18 with independent economic and decision-making capabilities. The results hope to provide tourism and other industries as references and suggestions, so that they can quickly adapt and adjust the industrial business model when a crisis occurs.

Keywords: Coronavirus Disease, Travel Substitution, Theory of Planned Behavior, Risk Perception

ESG 概念應用於大學永續評估指標之 AHP 研究

-以國立清華大學為例

周奕安

摘要

永續發展已成為時下各界關注的重要議題，儘管許多大學已將其概念納入發展方針，不過仍缺乏全面性的永續評估指標系統，反觀商業界近年來盛行以環境(Environmental)、社會(Social)與治理(Governance)概念來衡量永續實踐績效。然而過去 ESG 相關議題的討論多集中於商管金融領域，但鮮少研究將 ESG 指標應用至高等教育領域。

本研究整理國內外相關文獻，歸納出應用於國立清華大學之 ESG 指標初步架構，透過專家意見問卷進行指標修正後，建構出正式指標層級架構，接著將採用 AHP 層級分析法(Analytic Hierarchy Process)，依四螺旋模型遴選相關利害關係人分為產、官、學、民來進行 AHP 問卷調查，並在分析後歸結出國立清華大學在 ESG 總體結果以及 E、S、G 三個構面各自的重要程度為何。研究結果可提供大學不同面向的意見作為高等教育法人化和校務永續發展的參考方向，未來可進一步尋找適宜方法，建立適用於各大學之 ESG 分數計算公式，進而提供 ESG 各面向的政策建議。

關鍵字：永續發展、永續性、ESG、層級分析法、四螺旋模型

Applying the Concept of ESG on Sustainable Evaluation Index of University via Analytic Hierarchy Process : A Case Study of National Tsing Hua University

Abstract :

Sustainable development has become an important agenda in all walks of life nowadays. Despite many universities having already incorporated the concept into their institutional development policies, there is still a lack of comprehensive index systems for evaluating sustainability. In contrast, the concept of environmental, social, and governance (ESG) has become a prevalent index to measure the performance of sustainability in today's business world. Nevertheless, discussions of ESG-related issues have mostly focused on business management and finance, few studies conducted in the past have ever applied ESG concepts in the university education field.

This study reviews relevant literature, and summarizes the preliminary framework of ESG indicators applied to the National Tsing Hua University. After revising indicators through the expert questionnaire, an attempt had been made to construct a formal hierarchical structure of ESG indicators. The Analytic Hierarchy Process (AHP) method will be used in this study. Based on the Quadruple Helix Model, relevant stakeholders will be divided into "industry", "government", "academic" and "public" to answer AHP surveys. Level of importance attached to the ESG overall result, as well as to each dimension of E, S, and G of the National Tsing Hua University can be found after analysis. This study could provide different results, regarding the direction of the university's sustainable institutional development. Further can be found in the future in order to provide ESG policy suggestions.

Keywords: sustainable development 、 sustainability 、 Environmental, Social, and Governance (ESG) 、 Analytic Hierarchy Process (AHP) 、 Quadruple Helix Model

應用德爾菲法探討擴展概念下都市代謝指標之建構

鄭家鈺、王羿涵

摘要

都市是人類生活之共同體，扮演著人類社會經濟活動之中心，其中包含的資源存量龐大，在高度的經濟發展下，都市必須依靠其周邊地區的提供相對資源，因而產生高密度的能量和物質流動。在都市化及全球化的腳步下，人口、物質及能源緊連進入都市，造成資源與能源的高度需求與過度消耗，同時製造大量廢棄物及汙染物質，莫大的環境壓力因而產生，因此都市代謝作用(Urban metabolism)成為了一解方，透過研究物質流與能量流之輸入、儲放與輸出之過程，藉以探討都市可持續發展之潛力。過去國內對於運用都市代謝作用分析之文獻相對較缺乏，且常以物質及能量流動為主要探討目標，忽略都市環境本身對於都市代謝系統的影響，最後常淪於黑箱模型，導致無法有效了解都市代謝的詳細過程及相關性。為此，都市代謝之擴展概念便隨之而生，若假定各都市皆為相異之個體，其土地利用、都市規模及生活型態等因素，皆會對都市物質能量的流動產生影響，釐清各面向之關係便可以解決都市代謝中的問題。

故本研究首先藉由相關文獻回顧之方式彙整篩選出各項都市代謝指標，並應用修正式德爾菲法整合專家學者之意見，建構出各項評估指標系統，其中分為六大主要面向，包括都市流動(Urban Flow)、都市驅動力(Urban Driving Force)、都市格局(Urban Pattern)、都市型態(Urban State)、壓力(Pressure)、回應(Response)，與十六項次要面向及四十六項細項指標討論彼此間之影響，並將篩選出之指標進行相關權重分析。本研究所建構之指標體系，可提供未來了解都市代謝特性、衝擊及後續管理之角度，以適度提高面臨環境變遷時之抵抗能力，在資源配置及管理上做合理化之調適，以減緩所帶來之衝擊，進而達到都市永續性。

關鍵字：都市代謝、能值評估、修正式德爾菲法、DPSIR 架構、都市永續性

Applying Delphi Method to Establish an Extended Concept of Urban Metabolism Indicators

Abstract :

The city is the community of human life, which plays the center of human social and economic activities. It contains a huge stock of resources. Under the high economic development, the city must rely on its surrounding areas to provide relative resources, thus producing high-density energy and material flows. With the pace of urbanization and globalization, population, material, and energy are closely connected to the city, resulting in high demand and excessive consumption of resources and energy, and at the same time, a large number of wastes and pollutants are produced, thus causing great environmental pressure. Therefore, Urban metabolism has become a solution. By studying the process of input, storage, and output of material flow and energy flow, the potential of urban sustainable development is explored. In the past, there was a relative lack of literature on the application of urban metabolism analysis in China, which often focused on material and energy flow, ignored the influence of the urban environment itself on the urban metabolism system, and finally fell into the black-box model, which made it impossible to effectively understand the detailed process and correlation of urban metabolism. Therefore, the concept of expansion of urban metabolism comes into being. If we assume that all cities are different individuals, the factors such as land use, city size, and lifestyle will have an impact on the flow of urban material energy. Clarifying the relationship between all aspects can solve the problems in urban metabolism.

Therefore, in this study, firstly, various indicators of urban metabolism were collected and screened by reviewing relevant researches, and then the Modified Delphi Method was used to integrate the opinions of experts and scholars, and the evaluation index system was constructed, which was divided into six main aspects. Including Urban Flow, Urban Driving Force, Urban Pattern, Urban State, Pressure, Response, discuss the influence with sixteen sub-dimensions and forty-six sub-indicators and analyze the correlation weight of the selected indicators. The index system constructed in this study can provide a perspective for understanding the characteristics, impacts, and subsequent management of urban metabolism in the future, so as to moderately improve the resistance to environmental changes, and make rational adjustments in resource allocation and management, so as to mitigate the impacts brought about and achieve urban sustainability.

Keyword: Urban Metabolism, Ecological Energetic Analysis, Modified Delphi Method, DPSIR framework, City Sustainability

消費者生鮮食品在意之因素對虛擬通路的影響

林瑋旻

摘要

在新冠肺炎爆發之後，透過 Uber Eats、Foodpanda 等線上外送平台訂購餐點蔚為風潮，在這波疫情中消費者對生鮮食品的需求這一巨大商機也被各個商家注意到，因此加入線上外送平台這類虛擬通路的行列中，想要獲得消費者的青睞就必須要知道消費者在購賣商品的時候最在意的因素是哪些，以及消費者對這些因素在意程度的排序，若能夠清楚知曉這些資訊，就可以有效鎖定問題並予以解決，在競爭激烈的虛擬通路中獲得優勢。本研究依據台灣經濟研究院於民國 101 和 103 年的消費者問卷調查結果，得知消費者在採購農產品時，「新鮮」、「安全」、「品質」、「價格」、「產地」是重要選購考量，試圖了解上述五點因素在消費者使用虛擬通路購買生鮮產品的過程中是否也能發揮影響，另外在使用虛擬通路時的便利性也是一重要考量，因此將「便利性」同上述五點進行探討，希望透過本研究可以進一步了解消費者使用虛擬通路購買生鮮食品的情況，提供商家對後續提供服務與優化的參考。

關鍵詞：虛擬通路、生鮮食品、疫情

The impact of factors that consumers care about fresh food on online channels

Abstract :

After the outbreak of the new crown pneumonia, ordering meals through online delivery platforms such as Uber Eats and Foodpanda has become a trend. In this wave of epidemic, the huge business opportunity of consumers' demand for fresh food has also been noticed by various businesses, so they have joined the online and offline in the ranks of online channels such as delivery platforms, if you want to gain the favor of consumers, you must know which factors consumers care about most when buying and selling goods, and the order in which consumers care about these factors. If you can be clear Knowing this information can effectively pinpoint and solve problems, gaining an advantage in the fiercely competitive online channel. This research is based on the results of consumer questionnaire surveys conducted by the Taiwan Economic Research Institute in 2012 and 2014, and learned that when consumers purchase agricultural products, "freshness", "safety", "quality", "price", and "origin" are important Purchasing considerations, trying to understand whether the above five factors can also play an impact when consumers use online channels to buy fresh products. In addition, the convenience of using online channels is also an important consideration, so "convenience" is the same as the above five points are discussed, and it is hoped that through this research, we can further understand consumers' use of online channels to purchase fresh food, and provide merchants with reference for subsequent service and optimization. Keywords: online channels, fresh food, epidemic

Keywords: online channels, fresh food, epidemic

寵物飼養者之外來種飼養行為研究

陳弘儒、冼家俊

摘要

近年來人們飼養寵物的風氣日漸盛行，寵物與人們之間的關係早已密不可分，成為社會中重要的一環。而多數臺灣民眾所飼養的寵物屬於外來種，一旦遭飼主棄養將對臺灣原有生態環境造成重大的衝擊，臺灣至今已發生過多次外來種溢出後入侵本土生態系，而導致生態失衡的事件，對生態、產業、財產的衝擊不計其數。

根據研究顯示，部分民眾即使知道飼養外來種可能有導致生態破壞的風險，也並未降低飼養外來種作為寵物的意願，外來種寵物的比例依舊居高不下，因此本研究以計畫行為理論設計問卷，並以 SPSS22.0 版與 SmartPLS3 進行分析，探討全臺灣寵物飼主的飼養行為以及其對寵物及外來種寵物等各個面向的態度。

建立一套完整的管控機制及寵物進入台灣後的後續追蹤模式，將是確保臺灣的生態系統免受外來種入侵，且同時減少為了移除外來種所需的處理經費的首要目標，也是未來生態保育中應當採取的措施之一，希望透過本研究促使未來在擬定外來種寵物應對策略以及法規上有所助益。

關鍵字：計畫行為理論、飼養意向、環境衝擊

Research on the Exotic species pets Raising Behavior of Owners

Abstract :

In recent years, the trend of people keeping pets has become more and more popular, and the relationship between pets and people has long been inseparable and has become an important part of society. Most pets kept by the people in Taiwan belong to exotic species. Once they are abandoned by their owners, they will have a major impact on Taiwan's original ecosystem. So far, Taiwan has had many incidents where exotic species spilled and invaded the local ecosystem, causing ecological imbalance. Their impact on ecology, industry, and property is countless.

According to research, even if part of people know that raising exotic species may cause ecological damage, they have not reduced their willingness to raise exotic species as pets. The proportion of exotic species pets is still high. Therefore, the research is designed based on the Theory of Planned Behavior. The questionnaire was analyzed with SPSS 22.0 version and SmartPLS3 to discuss the raising behavior of owners in Taiwan and their attitudes towards pets and exotic species pets.

Establishing a complete set of control mechanisms and follow-up tracking mode for pets after entering Taiwan will be the primary goal of ensuring that Taiwan's ecosystem is protected from exotic species invasion and at the same time reducing the processing costs required to remove exotic species. It is also a measures that should be taken in ecological conservation. We hope that through the research, it will be helpful in formulating strategies and regulations for exotic species pets in the future.

**Keywords: Theory of Planned Behavior, raising intention,
environmental impact**

研究香港近年的隱私問題--以修例風波進行探討

鍾景琳

摘要

背景與目的：

2019 年的修例風波令警民關係惡劣，市民對政府失去信心，導致大量事件發生而引致社會動盪。中國中央為了保持香港的繁榮安定，對香港頒布了《港區國安法》，並收緊香港的自治程度，香港政府也對市民進行監管嚴密，導致香港各方面的自由遭到剝削。借此進一步探討香港因反修例運動導致整體社會構成的隱私問題。

研究方法：

本文以文獻研究法來分析香港現時所面對的隱私問題。文中會探討不同期刊和文獻的文章去分析反修例運動對香港構成的影響，以及《港區國安法》對未來帶來的轉變。並探討香港政府最近推出的新措施如何嚴密地監管市民的個人資料，以文獻回顧的方式去追溯香港反修例運動後與過去香港的差異。

研究結果

香港現時最大的私隱隱憂是市民的一切個人資料、行蹤、資產等資訊都會受到香港政府甚至中央監管。最初的《逃犯條例》修定是為了方便中央政府掌握香港市民的個人資料，後來的《港區國安法》更以國家安全為首，只要國安人員認為有機會危害國家安全的事一律禁止，換言之中國政府會用盡一切方法對香港進行全面監視，如安心出行應用程式、實名電話卡、智慧燈柱等的措施都是為了配合中央，把市民的一舉一動全收錄在案，以方便監管。

結論與建議

個人資料被政府全面監管是無可避免的事，市民可以做的是加強對個人私隱的保障，以及對個人權益及私人權上特別關注。首當其衝的是對加強網路安全以保障個人資料免被盜竊，亦可以習慣虛擬私人網路來連線，讓傳輸資料得到保護和隱匿身份免被追蹤。在使用通訊軟件時盡量選擇點對點加密，並多了解私隱和個人資料收集的政策，減少使用人臉識別技術。香港與中國日漸一體化是必然發生，應多注意兩者間的差異免犯國安法。

關鍵字：個人資料、資料泄漏、一國兩制、港區國安法

Research on Hong Kong's Privacy Issues in Recent Years--Discussing with the turmoil of the Anti-Extradition Law Amendment Bill Movement

Abstract :

Background and purpose:

Due to the turmoil of the Anti-Extradition Law Amendment Bill Movement in 2019, the relationship between the police and citizens has trended to worsen. Trust in the HKSAR Government has been decreased and people have lost their confidence in governance, leading to a chain of incidents happen which have caused social unrest. To maintain the prosperity and stability of Hong Kong, the Central Government of China promulgated the "Hong Kong National Security Law" and tightened the degree of autonomy of Hong Kong. The Hong Kong government also strictly supervised the citizens, which led to the exploitation of all aspects of Hong Kong's freedom.

Research methods:

This article analyzes the privacy issues under the impact of the Anti-Extradition Law Amendment Bill Movement that Hong Kong is currently facing by using a literature review research method. Discuss articles in different journals and documents to analyze the impact of the Anti-Extradition Law Amendment Bill Movement that on Hong Kong and the changes brought about by the "Hong Kong National Security Law" in the future. It also explores how the Hong Kong government's recent new measures closely monitor the personal data of citizens and use a literature review to trace the differences between Hong Kong after the anti-amendment campaign and the past.

Research result:

The biggest privacy concern in Hong Kong is that all personal data, whereabouts, assets, and other information of citizens will be supervised by the Hong Kong government and even the central government. The original "Extradition Law" was amended to facilitate the central government to grasp the personal data of Hong Kong citizens. Later, the "Hong Kong National Security Law" was even more focused on national security. If the national security personnel believe that there is a chance to endanger national security, it is prohibited. In other words, The Chinese government will use all methods to conduct comprehensive surveillance of Hong Kong. Measures such as "LeaveHomeSafe" app, Sim Card Name-based rationing plan, and Smart Lampposts are all to cooperate with the central government and record every move of the citizens to facilitate supervision.

Conclusion and recommendation:

It is inevitable for personal data to be fully monitored by the government. What the public can do is to strengthen the protection of personal privacy. The first thing to bear the brunt is to strengthen network security to protect personal data from theft. Using the virtual private network to connect so that the transmitted data is protected and the identity is hidden from being tracked. When using communication software, try to choose point-to-point encryption, and learn more about privacy and personal data collection policies, and reduce the use of face recognition technology. The gradual integration of Hong Kong and China is inevitable, and people should pay more attention to the differences between Hong Kong and China to avoid violation of national security laws.

Keywords: personal information, data leakage, One Country, Two Systems, port national security law