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A Study on Open Government Data Reuse Movement in
Taiwan: Toward Data Practitioners' Perspectives

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摘要

隨著開放思潮進展，多年來各國普遍推動開放政府資料運動，廣泛釋出政府資料並號召民間個人或團體參與，期待以此類資料的應用效益活化不同領域的發展。然而，隨著越來越多人加入開放政府資料再利用的行列，身為資料提供者的政府機關有無提供民間適合再利用的開放政府資料，以及此類資料的價值能否於再利用的過程中獲得實踐並造福社會大眾等，諸多討論亦油然而生。為實務探知我國開放政府資料應用境況，本文以具有資料處理或編寫程式專業技能的開發人員為研究對象，藉由分析開發人員將開放政府資料開發為大眾實際可用產品的歷程，一窺開放政府資料精神獲得落實的情形，兼而探討開發人員所具有的資料開發者角色對開放政府資料加值應用之意義。

本研究為質性研究，首先自各式管道蒐集曾使用過開放政府資料開發產品的開發人員名單並寄送訪談邀請，總計招募35位開發人員參與；研究設計以半結構式訪談法蒐集開發人員第一手經驗後逐字謄錄為文本，接續參考紮根理論研究法的三階段譯碼策略進行持續比較分析；研究結果顯示，開發人員再利用開放政府資料開發產品的歷程係為具有明確目標的一系列行動。首先，開發人員會因六種類型需求決定再利用開放政府資料，各類型需求除具有心理學觀點的理論性，本研究亦發現其彼此間相互作用及滿足各需求條件之屬性；其次，開發人員再利用開放政府資料的行為呈現七個有序階段，本文借鏡資訊行為研究與軟體開發生命週期兩者內涵，充實其理論基礎；最後，開發人員再利用開放政府資料的經驗受到三大面向及五大因素影響，此發現不僅可對應至開放政府資料生態圈涉及的不同角色意涵，亦呼應資訊系統成功模式中所述對使用者經驗有著關鍵影響的不同要素。

本文各項研究結果對公部門具體改善開放政府資料應用環境有所實質助益，機關單位不僅可參考各需求類型，研擬並推展政策以吸引各界響應開放政府資料加值應用，也能基於對開放政府資料再利用行為的認識，於開發過程中提供開發人員適當的行政或技術奧援，降低開發成本以提升其應用此類資料的意願，更可針對影響開發人員經驗的各種因素或其對於開放政府資料的期許，逐步建置開發者友善的資料供用環境。綜言之，透過訪談實際的開放政府資料應用者，本研究得以深度分析其再利用開放政府資料的完整歷程，從中描繪公部門、開發人員與社會大眾彼此互動關係，同時理解公部門身為資料提供者應發揮的領導意義、開發人員以資料開發者角色將資料加值效益傳遞於民的公共價值，以及身為產品使用者的社會大眾藉由開放政府資料產品間接參與政府施政作為的民主精神。

未來研究除可轉向聚焦開放政府資料產品使用者，從消費市場角度探討此類資料發展良窳，亦可以資料或產品為導向探討不同單位的資料或服務品質有無差異，此外也能以有別與本研究執行期間適逢 COVID-19 疫情的時空背景，挖掘不同開發情境是否對開發人員再利用開放政府資料開發產品有所影響，甚或進一步參考本文研究設計以探討不同領域中資料再利用的實務。

關鍵詞：開放政府資料、資料開發者、資料再利用、需求研究、行為研究、使用經驗研究、紮根理論、質性分析

Abstract

As the wave of openness philosophy, many countries have been actively promoting the Open Government Data (OGD) movement over the past several years, involving the extensive release of government data and encouraging participation from citizens and communities. The aim is to activate the beneficial utilization of such data in various domains. However, with an increasing number of participants engaging in the reuse of OGD, questions arise regarding whether government agencies, as data providers, offer data suitable for reuse by the public. Additionally, discussions ensue concerning how the value and spirit of such data can be realized in the reuse process and how it can benefit society at large.

This dissertation focuses on developers with expertise in data processing and programming to gain practical insights into the state of OGD utilization in Taiwan. It seeks to analyze how developers transform OGD into practical and usable products for the public. The dissertation also aims to understand how the principles and values of OGD are effectively implemented in this context. Moreover, it delves into the significance of the roles that developers, as data practitioners, play in enhancing the value of OGD utilization.

This study employs qualitative research methods. Initially, it compiles a list of developers who have used OGD to create products from various sources and sends interview invitations. A total of 35 developers were recruited for participation. The research design adopts semi-structured interviews to collect firsthand experiences from developers, which are transcribed verbatim into textual data. Subsequently, continuous comparative analyses follow the three-stage coding strategy based on grounded theory.

The study results reveal that developers reusing OGD to create products is a sequence of actions with specific objectives. First, developers decide to reuse OGD based on six types of needs, which psychological aspects can demonstrate; moreover, the interactions among these needs and the conditional attributes for fulfilling specific needs are identified. Second, developers' actions in reusing OGD unfold through seven ordered phases, and the study enriches its theoretical foundation by drawing from information behavior research and the concepts of the software development life cycle. Third, three dimensions and five factors influencing developers' experiences reusing OGD are recognized; these dimensions and factors are relevant to various roles within the OGD ecosystem and align with certain critical elements in information system success models.

The outcomes of this study offer substantial practical insights to public sector entities. They can use the different needs identified in the study to devise and promote policies that attract a wide range of stakeholders to engage in the value-added utilization of OGD. Additionally, understanding developers' behaviors in reusing OGD can lead to the provision of appropriate administrative or technical support during the development process, which can reduce costs and enhance developers' willingness to reuse such data. Furthermore, the study enables the establishment of a developer-friendly data utilization environment based on various factors influencing developers' experiences and expectations regarding OGD.

In summary, this study analyzes developers' reasons, behaviors, and experiences reusing OGD, offering insights into the interactions between the public sector, developers, and citizens. It underscores the leadership role that government agencies

should play as OGD providers, the public value developers bring as OGD practitioners and the democratic spirit exhibited by the citizens as OGD product users who indirectly participate in government actions through the use of relevant products.

Future research can explore different aspects, including (1) discussing OGD utilization environment from a consumer perspective instead of a data practitioner viewpoint; (2) investigating whether data or service quality differs across various entities; (3) assessing the impact of different development contexts, especially given the unique circumstances of the COVID-19 pandemic during the study period, on developers reusing OGD to create products; (4) further considering different practical scenarios for data reuse across various domains.

Keywords: open government data, data practitioner, data reuse, need, behavior, use experience, grounded theory, qualitative analysis