

國立臺灣大學文學院圖書資訊學系

碩士論文

Department of Library and Information Science

College of Liberal Arts

National Taiwan University

Master Thesis

我國政府機關於開放資料推行之影響因素分析：

以量化模型探討

Exploring the factors influencing government agencies'  
open data implementation: A quantitative approach

吳孟家

Meng-Chia Wu

指導教授：楊東謀 博士

Advisor: Tung-Mou Yang, Ph.D.

中華民國 108 年 3 月

March, 2019


## 摘要



政府開放資料 (Open Government Data, OGD) 的推行有助於施政透明化、提升政策效率、促進公民參與並增進國家整體經濟發展，於現今已成為全球政府致力推動的計畫之一。此外臺灣於 2017 年開放知識基金會 (OKI) 的「全球開放資料指標評比」中總體成績排名再度蟬聯第一，顯示我國政府機關已經持續參與並累積一定程度的開放經驗，為適合進行政府開放資料相關之研究場域。然過去相關開放資料研究大多以質化方式挖掘潛在影響因素，且研究過程較少考量時間歷程對機關推行開放資料之影響。因此，本研究旨在探討影響我國政府機關推行開放資料之因素與影響程度；並對於執行開放資料之時間歷程不同的機關，以多群組比較分析潛在因素的影響程度差異。

本研究藉由文獻回顧統整出 12 個潛在構面，包含 9 個影響機關開放資料的發布與推行之潛在因素以及 2 個內在構面，並以整合型科技接受模式 (UTAUT) 作為理論架構，建立影響政府機關推行開放資料之潛在因素模型。此外研究採用科技部專題研究計畫問卷，調查國內共計 666 個政府機關（包含中央政府一級至三級機關、地方政府一級及其所屬機關）之開放資料推行結果，以最終 436 份有效問卷進行量化分析。透過結構方程模式的「偏最小平方法」(Partial Least Squares SEM; PLS-SEM) 加以驗證不同測量變項對開放資料意願與行為的影響程度高低。

研究結果發現，當前整體政府機關主要以 (1) 開放資料的價值認知、(2) 組織能力、(3) 認知有用性等三個潛在因素對於增進機關開放資料意願具有正向顯著效果、影響程度最強烈。至於外部影響、外部促成條件、與領導階層的影響程度雖然未及上述三者強烈，同樣對開放資料的意願具有正向顯著的影響。而預期成本、預期風險則對於機關開放資料的推行意願具有負向顯著影響。至於法令政策構面，則於本研究中對開放資料意願不具有顯著影響力。研究者建議於有限資源的限制下，機關可以著重培養機關人員專業技術能力、進行適當教育訓練，並定期提供相關價值知能培訓課程。



從多群組比較分析之結果可以發現，對於較早參與開放資料之機關可側重培養機關對開放資料的價值與利益認知；加強領導者對開放資料點重視與支持態度；並提升外部影響對機關領導者的正向影響力。至於較晚參與開放資料之機關，研究建議可以持續加強機關人員的專業能力；並鼓勵機關領導者積極於外部環境獲取相關資源、知識與經驗，以促進機關儘早投入開放資料計畫的行列。

關鍵詞：開放資料、政府開放資料、偏最小平方法、多群組比較分析、整合型科技接受模式

# Abstract



The implementation of Open Government Data (OGD) is expected to contribute to the transparency of governance, the efficiency of policy, the promotion of public participation and the improvement of a country's overall economic development. It is now one of the most committed projects for governments around the world. At the same time, researchers from different disciplines also have engaged in exploring the complexities of open data initiatives from different perspectives. While exploring the potential influential factors of OGD, most open data researchers adopt a qualitative approach, and the effect of time influence on the agencies' OGD implementation is often neglected. Therefore, this study aims to investigate the complexity of OGD by employing a quantitative approach. In addition to discussing the respective impacts of the focused factors of the study on the agencies, this study also uses multi-group analysis (MGA) to explore whether the factors have different impacts on the agencies with different years of experience in OGD implementation. Recently, Taiwan has been ranked first in the overall score of "Global Open Data Index" by the Open Knowledge Foundation (OKI) in 2017, indicating Taiwan government agencies have participated and accumulated related experiences in releasing governmental datasets to the public. Accordingly, the context of Taiwan e-Government in open data development is selected for conducting this research.

Based on the existing literature, this study develops 11 factors, including 9 exogenous variables and 2 endogenous variables to form the conceptual framework of the research. Specifically, the unified theory of acceptance and use of technology (UTAUT) is adopted as one of the frameworks for forming the theoretical foundation of the research. Other related literatures from the socio-technical perspective are also employed in the study for conceptualizing the proposed hypotheses for testing. During

the data collection stage, this study recruits a survey design by distributing questionnaires to government agencies of Taiwan to collect empirical data. A total of 666 questionnaires are distributed to the agencies, including central government agencies, six-municipality agencies, and other local government agencies, and the number of the valid questionnaires are 436. Later, the developed hypotheses of the research are tested by using partial least squares structural equation modeling (PLS-SEM).

According to the empirical data analysis, perceived value, organizational capability, and perceived usefulness are the three factors having the strongest positive effect on the government agencies' intention to open their datasets. In addition, other factors, including external influence, facilitating condition, and leadership involvement, are found to have moderate positive effect on the agencies' engagement in OGD activities. On the contrary, perceived effort and perceived risk have negative impact on the agencies' intention to open datasets. The empirical result indicates that legislation and policy is not found to have statistical significance on the agencies' intention.

It is suggested that under limited resources, government agencies should focus on cultivating the professional and technical abilities of their staff by administering appropriate education and training, as well as routine training courses on fostering value perception and recognition of open data initiatives. Lastly, according to the empirical results of multiple-group analysis, for agencies that have been implementing open data for years (more than two years), it is important for the agencies to further recognize the value and benefits that open data can have on both the public and themselves. In addition, the respective leaderships of the agencies should be supportive and continually prioritize the agencies' engagements in open data. Specifically, external influence is found to exert a strong and positive impact on the leaderships of the agencies toward open data further. For agencies that have just recently begun implementing open data

(less than two years), it is identified that organizational capabilities of the agencies are critical to influence their intention to open data. It is recommended that facilitating conditions such as trainings, resources, and experience sharing should be obtained from other agencies or higher-level authority to further support and encourage their participation in open data initiatives.

Keywords: Open data; Open government data; Partial least squares; Multi-group comparative analysis; unified theory of acceptance and use of technology(UTAUT)