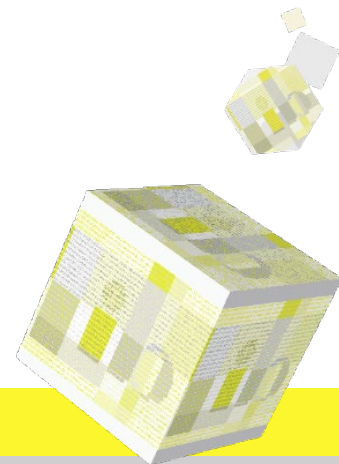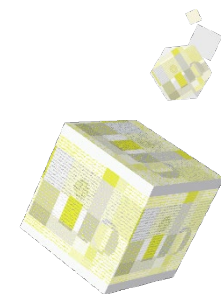# To use or not to use? Exploring the factors influencing professional reusers' intention to adopt and utilize governmental open data in Taiwan

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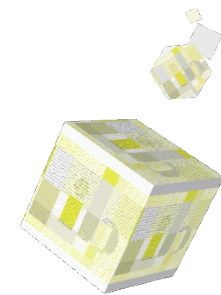
Introduction

- Recent research indicates that open data use has not kept with the expectation while related infrastructure such as open data platforms has been online to provide services (Najafabadi & Luna-Reyes, 2017; Zuiderwijk, Janssen, & Susha, 2016).

- There are difficulties in obtaining people's participation in using governmental open data, and there is a need to understand what factors influence people's engagement in using governmental open data.

- This research attempts to explore and discuss open data use from the perspective of Taiwan's professional reusers, who use governmental open data to develop for-profit business applications.
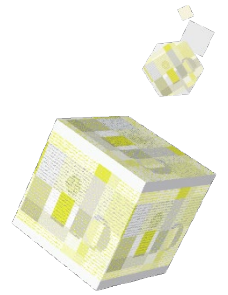
The proposed research

- The following research questions are investigated in this exploratory study in Taiwan:

  a) What are the critical factors that influence professional reusers' intention to use governmental open data?

  b) What is the nature of the impact of the factors?

  c) What would be the potential strategies to sustain an open data ecosystem based on the perspective of professional reusers?
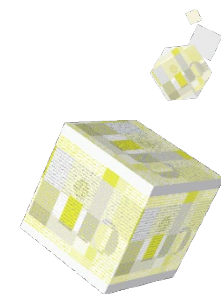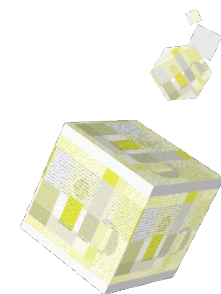
Research methods

- A purposive sampling approach was applied to locate relevant candidates for conducting interviews:
  - The participants were invited from the annual open data contest held by the Industrial Development Bureau of Ministry of Economic Affairs.

- The interviewees were from various business industries and used a variety of open datasets, such as geographic, custom, health and medical, weather, economic, traffic, transportation, tourism, and legal case datasets.

- Semi-structured interviews were conducted, and qualitative data analytic techniques were utilized.
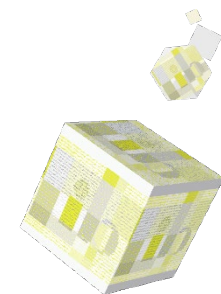
The discussion

- Perceived usefulness and perceived effort were found to have the most important influences when professional reusers evaluate whether they would adopt and use governmental open data.

- Professional reusers' perceived usefulness toward open data use can gradually become lower while they are not satisfied with the quality of the retrieved datasets.

- Perceived effort weighs when professional reusers find that they indeed have to spend considerable time and resources on the processes of data access, data cleaning, and data integration, which contradicts their original expectation of increasing efficiency and reducing operational cost by using governmental open data.
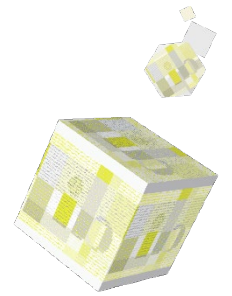
The discussion

- Professional reusers are still evaluating the long-term feasibility of using governmental open data in their business services while they are concerned about the potential risks of data quality and data supply.

- External influences were found to come from international open data trend, social groups, government promotion, and peer organizations.

- External influences tend to simply act as the catalyst and its strength can gradually decrease.
  - Then, perceived usefulness, perceived effort, and perceived risk weigh more.

The discussion

- Facilitation from professional reusers' surrounding environment can help them reduce cost and motivate their open data use.

- Professional reusers need to verify whether their open data use can be in compliance with related legislation and license for developing commercial applications.
  - The complex bureaucratic system and existing legislation and regulations can sometimes become barriers.

- Professional reusers were found to maintain a high level of self-efficacy that they are confident of possessing sufficient domain expertise and technical skills for using governmental open data.
  - This result may contradict the argument of some open data literature that technical skills and expertise should be available to facilitate and promote open data use.
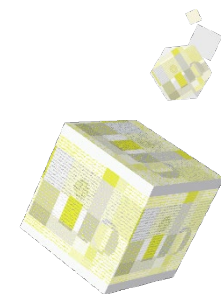
The implications

- The quality aspects, such as data quality and system quality, of the utilized open data portals and related information systems can be the antecedent factors to influence professional reusers' perceived usefulness and perceived effort.

- The quality aspect factors are also expected to have impacts on professional reusers' perceived risk of using governmental open data.

- The influences of the identified factors are expected to vary as the time of professional reusers' open data use proceeds and the related using experience accumulates. Longitudinal study can be another potential research strategy that can be applied to study the phenomenon further.

The implications

- It is also possible that the identified factors can have different influences on the other types of open data users.

- The identified factors can be further incorporated with Ajzen's (1991) theory of planned behavior to represent behavioral beliefs, normative beliefs, and control beliefs that determine professional reusers' attitude, subjective norm, and perceived behavioral control toward governmental open data use.

- There is still a need to bridge the gap by enhancing professional reusers' perceived usefulness of using governmental open data. The practical implications of the research are also presented in the paper.

Conclusion

- This research contributes to explore and discuss the factors that can determine professional reusers' intention to use governmental open data.

- Perceived usefulness and perceived effort are the two major factors.

- Perceived risk is also considered in terms of data quality and long-term data sustainability.

- Professional reusers maintain a high level of self-efficacy toward open data use while external influences and facilitation condition from their surrounding environment also matter.

- Existing legislation and regulations within the bureaucratic system also have the impacts.

- The discussion and implications of this study provide insights to researchers and practitioners regarding potential research directions and how open data policies can be further developed and implemented to attract data users.