



**Politecnico  
di Torino**

**ScuDo**  
Scuola di Dottorato - Doctoral School  
WHAT YOU ARE, TAKES YOU FAR

Summary of Doctoral Dissertation  
Doctoral Program in Management Engineering (34th Cycle)

# **Technology-enabled business models and the consequences on tourism industry: current impacts on incumbents and communities and future impacts from AI technology adoption**

By

**Alessandro Destefanis**

\*\*\*\*\*

**Supervisor(s):**

Prof. Paolo Neirotti, Supervisor  
Prof. Elisabetta Raguseo, Co-Supervisor

Politecnico di Torino  
2022

---

## Abstract

Since early 2000s it is possible to witness to the relentless rise of **electronic platform-based companies** in almost every industry. The development of a technological infrastructure able to easily transfer and store even more data made possible the rapid diffusion of internet networks in most countries. The availability of cheap internet connections in most of our houses and mobile devices allowed and contributed to the creation of innovative business models able to exploit the great value hidden there. Usually this context has led to the rise of few champions in each industry able to dominate the digital channels of the market. This mechanism follows the “winner takes it all” logic, where the first companies able to reach the critical mass level of users get a position almost unreachable for the followers, due to the higher value offered to new users thanks to the network effect and the bandwagon effect. The **consequences of these champions’ rise on the society** are one of the most interesting socio-economics phenomena of our times. Successful digital-native companies have been able to exploit the power of the information in order to scale extremely fast, often overcoming incumbents in many economic and financial key performance indicators. Because of the timeliness of the phenomenon literature is still dealing with the subject and there are many gaps to be filled. Transportation, finance, tourism are all industries undergoing a process of change of internal and external equilibria due to the entrance of digital platforms in their markets, usually able to work more efficiently thanks to a lighter cost structure, possible because they were born as digital companies. The objective of this thesis is to estimate the current socio-economic consequences of the past diffusion of electronic platforms and to observe and postulate about the future consequences coming from the diffusion of the artificial intelligence technology, that is happening nowadays.

---

Using tourism industry and accommodation sector as setting of the research, this thesis applies multiple quantitative methods to test managerial theories extracting knowledge from two proprietary datasets, one related to all Airbnb listings in Italy and the other one related to all European artificial intelligence start-ups related to tourism. Adopting a deductive research approach, the thesis work started analysing the literature available about the managerial theories illustrating the challenges and opportunities of companies facing technology-enabled business model evolution, in order to test their validity in the specific circumstances given by the chosen research setting. To investigate the consequences of electronic platform business model diffusion some fixed-effect panel regression models have been run keeping as independent variable Airbnb diffusion and varying dependent variables and moderators. Furthermore, some analyses have been performed on successful artificial intelligence start-ups operating in the industry to postulate regarding the future consequences of current diffusion of artificial intelligence technology based business models.

In this vein, one of the debated points in literature is whether these new-born champions are building their success enlarging the market to new customers or stealing market shares to the incumbents, and how incumbents should react to the threat, if any. This thesis analysed the impact of Airbnb diffusion on hotels' profitability in the specific setting of Italian main touristic cities, finding that some categories of hotels suffer more than others.

Incumbents may be the first actors noticing the consequences of the rise of new business models, but on the other hand it is also interesting to explore how touristic destinations perceive this changes. In this regards the thesis analysed the consequences of Airbnb diffusion on rural Italian touristic destinations, finding that it could behave as an economic flywheel, increasing the wealth of these destinations.

Finally, the thesis shows the current trends related to the adoption of artificial intelligence happening in tourism industry. Applying text analytics to categorize all European artificial intelligence start-ups dealing with tourism industry and measuring their success it is possible to postulate how the tourism industry will change in the next years.

Overall the results point out how successful digital native electronic platforms are having a deep impact on the whole touristic ecosystem, contributing to induce changes we are all able to

---

witness in our lives. These changes will be further enhanced by the adoption of artificial intelligence.