



Space Business

Emerging Theory and Practice

Edited by
Arto Ojala
William W. Baber

OPEN ACCESS

palgrave
macmillan



Vaasan yliopisto
UNIVERSITY OF VAASA

How can I get the book?

- ▶ Download the entire book for free, or just a specific chapter
 - ▶ <https://link.springer.com/book/10.1007/978-981-97-3430-6>
- ▶ Order a hard copy from Amazon or Springer
 - ▶ <https://www.amazon.com/Space-Business-Emerging-Theory-Practice/dp/9819734290>



About me



- ▶ Professor in International Business, since Feb 2020
- ▶ Affiliated to School of Marketing and Communication, University of Vaasa, Finland
- ▶ Head of International Business Program
- ▶ PhD from University of Jyväskylä (major: Information Systems), 2008
- ▶ MSc from University of Jyväskylä (major: Information Systems), 2004

- ▶ Appointed as Distinguished Visiting Professor, Kyoto University
- ▶ Ranked among the world's top 2% scientist by Stanford University

- ▶ Leading two research groups:
 - ▶ Space business (4 doctoral students + 1 research assistant)
 - ▶ AI in international business (3 doctoral students + 1 research assistant)

- ▶ Contact: arto.ojala@uwasa.fi



Why a book related to space business?

- ▶ "Stories" that should be collected, analysed, and documented (for learning)
- ▶ Relatively new field both in terms of research and business practice
- ▶ Limited research on the subject, and some of the existing literature is (partially) outdated
- ▶ The role of the space business is growing significantly, as New Space companies are constantly emerging
- ▶ Need for study materials for students, insights for people unfamiliar with the space business, entrepreneurs in the field, researchers, etc.

About the book

- ▶ 12 chapters
 - ▶ Initially we received 20 chapter proposals
 - ▶ 15 were selected for the second round based on extended abstracts
 - ▶ 12 chapters were accepted the after peer-review process
- ▶ 19 authors (professors, practitioners, doctoral students, etc.)
 - ▶ Finland, Ireland, Peru, Colombia, Monaco, Spain, Japan
 - ▶ 9 authors from the University of Vaasa

New Space Era: Characteristics of the New Space Industry Landscape

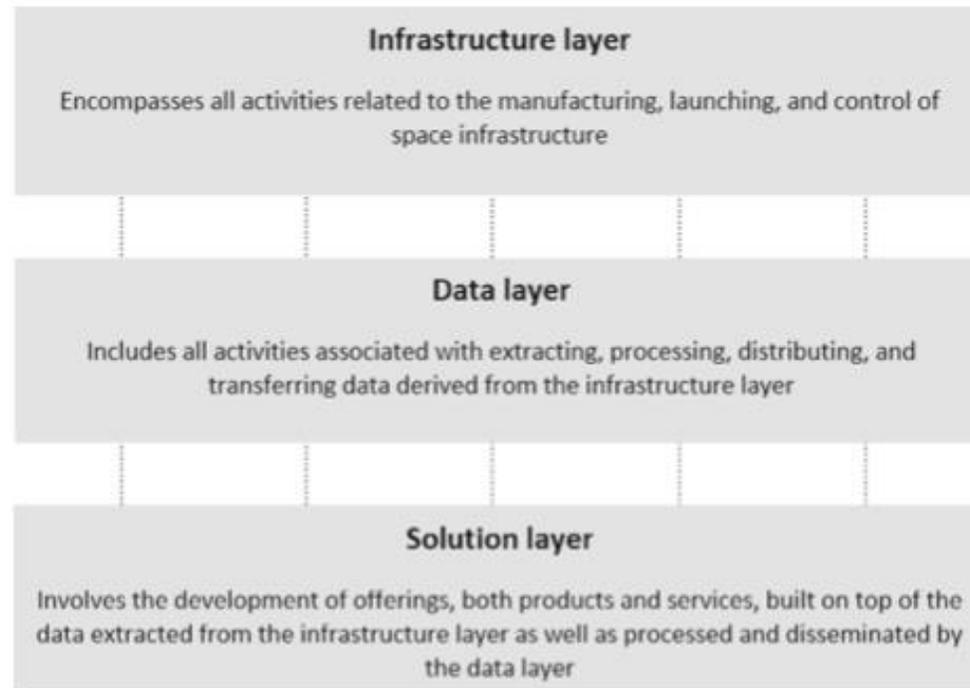
- ▶ By William W. Baber and Arto Ojala
- ▶ Gives an overview of New Space industry and evolution of space business
- ▶ Presents five characteristics of space business based on interviews with 10 experts from the space industry
 1. Space Business Is in a Phase of Decreasing Costs
 2. Resilience Is Greater than Previously in Space Business
 3. Increasing Regulation for Space Business
 4. Space Business Can Deliver Unique Benefits to Society
 5. Illegal and Irresponsible Business Activities will Evolve with Space Business

The Space Economy: Review of the Current Status and Future Prospects

- ▶ By Punnala, M., Punnala, S., Ojala, A., Kuusniemi, H.
- ▶ Based on published literature, examines the evolution of the space economy from government-led institutional exploration to a more market-driven business
- ▶ Elaborates seven main drivers of space-related economy:
 - ▶ Defence
 - ▶ PNT
 - ▶ Space exploration
 - ▶ Space transportation
 - ▶ Satellite communications
 - ▶ Earth observation
 - ▶ Science

The New Space Ecosystem: Insights from the Architecture of Digital Platforms

- ▶ By Alghani K.A., Kohtamäki, M., and Kuusniemi, H.
- ▶ Studies the architectural configuration of the New Space Ecosystem
- ▶ Presents the architecture as layered structure, consisting of:



Exploring Emerging Business Model Value Chains in New Space

- ▶ By William W. Baber and Arto Ojala
- ▶ Explores business environment and business model value chains in the New Space era
- ▶ Based on the literature and expert interviews, the chapter presents eight different value chains in New Space business
- ▶ The chapter suggests business opportunities within these value chains
 - ▶ Provide insights into totally new opportunities that are emerging in New Space

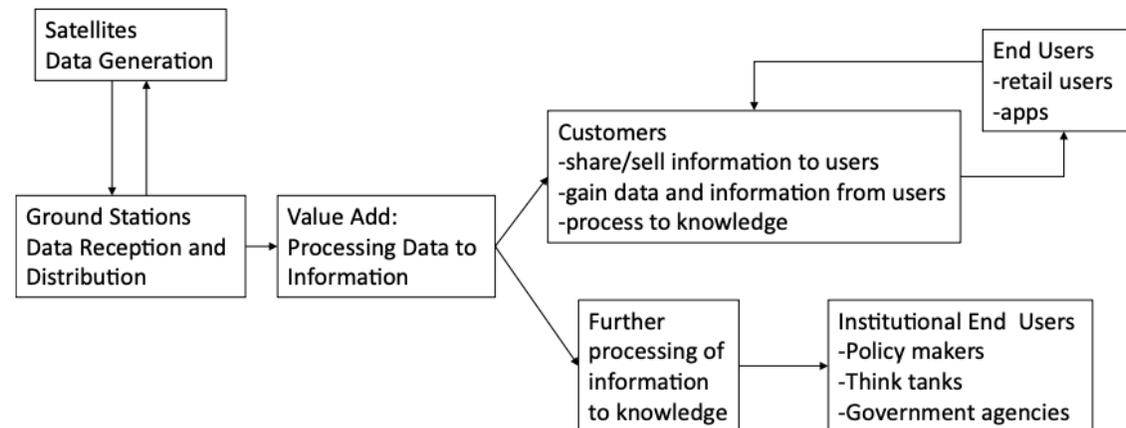


Fig. 1 Data value chain

National Regulation of Satellite Ground Stations: A Global Comparison

- ▶ By Tommi Rasila and Arto Ojala
- ▶ Examines ground station regulations within 20 countries
- ▶ Categorizes regulations into:
 - ▶ *Specific* regulations, such as ground station laws and RF licensing
 - ▶ *General* regulations, including building permits and export licensing
 - ▶ *Hidden* regulations, such as those related to geopolitics and national security matters
- ▶ Explains impact on different regulations to ground station operations
- ▶ Highlights the possibilities for foreign firms to operate and establish ground stations in different countries
- ▶ Emphasizes the need for harmonizing regulations globally



Suborbital Space Tourism: Doozy Experiences Beyond Earth

- ▶ By Jaskari, M-M., Jauffret, M-N., and Kauppinen—Räisänen, H.
- ▶ Delves into the experiences of actual space travelers, focusing on their experiences along the journey
- ▶ Focuses on experiences in various phases of the journey—pre, during, and after
 - ▶ Demonstrates how each phase plays a crucial role in shaping the overall travel experience
- ▶ Three one-to-one interviews, analysis of published interviews with six space travel astronauts
- ▶ Reveals how space travelers perceive their experiences and contributes to the development of the space tourism industry.



What next?

- ▶ What kind of book would you like to see related to the space business?
- ▶ A general book as a next edition of the existing one?
- ▶ Or something more specific:
 - ▶ A beginner's guide to the space business industry
 - ▶ A detailed book on the technology behind space exploration and business
 - ▶ An analysis of the global space economy and emerging markets
 - ▶ A book on how to start a space-related business
 - ▶ Case studies of successful space startups
 - ▶ A book about ethical / sustainability considerations in space business
 - ▶ A guide to international space laws and regulations.
 - ▶ A book on the next big innovations in space technology.

Topics we are working on at the University of Vaasa

- ▶ Sustainability and the space industry
 - ▶ How can the space industry improve its environmental sustainability?
 - ▶ How can the space industry enhance environmental sustainability?
- ▶ Geopolitics and the space industry
 - ▶ How do space technologies shape global power structures?
 - ▶ What is the impact of geopolitics on the global business operations of space firms?
- ▶ International growth of the space firms
 - ▶ How do the specific characteristics of the space industry impact the international growth of space firms?
 - ▶ How can AI be used to enhance the international growth of space firms?

Join the Nordic Space Economy Ecosystem Survey!

- ▶ We invite your company to participate in a unique opportunity to contribute to the ongoing mapping of space economy needs across Finland, Sweden, and Norway.
- ▶ Benefits of participation:
 - ▶ High visibility: Feature your company in the listing of Nordic space economy enterprises.
 - ▶ Collaboration opportunities: Connect with space industry leaders, researchers, and innovators.
 - ▶ Strategic positioning: Shape the future of the Aurora Region's space economy.
- ▶ By contributing, your company will be included in our interactive map of Nordic space enterprises, providing valuable networking and visibility.

<https://link.webropolsurveys.com/S/9CB3DDDD6E045FDCC>



Vaasan yliopisto
UNIVERSITY OF VAASA



Vaasan yliopisto

UNIVERSITY OF VAASA

Thank you!

arto.ojala@uwasa.fi

LinkedIn: <https://www.linkedin.com/in/arto-ojala-00742339/>