



Innovative Approaches in Agent-Based Modelling and Business Intelligence pp 111–121

[Home](#) > [Innovative Approaches in Agent-Based Modelling and Business Intelligence](#) > Chapter

U-Mart: 20-Year Experience of an Artificial Market Study

[Hajime Kita](#)

Chapter | First Online: 08 December 2018

640 Accesses

Part of the book series: [Agent-Based Social Systems](#) ((ABSS, volume 12))

Abstract

The U-Mart is a collaborative study in artificial markets by economists and computer scientists. Since its start in 1998, the study has continued for 20 years. Design and development of an artificial market system also named U-Mart is the central activity in this study. From the beginning, it aimed to provide the artificial market a testbed for studies in financial markets and considered to model actual mechanism of real markets. With its hybrid design of agent-based simulation and gaming simulation, it is effectively used for education as well as research. This paper shows

the experience of 20-year study of the artificial market and discusses its future.

This is a preview of subscription content, [log in via an institution](#).

▼ Chapter

EUR 29.95

Price includes VAT (Poland)

- Available as PDF
- Read on any device
- Instant download
- Own it forever

Buy Chapter

▼ eBook

EUR 93.08

Price includes VAT (Poland)

- Available as EPUB and PDF
- Read on any device
- Instant download
- Own it forever

Buy eBook

▼ Hardcover Book

EUR 117.69

Price includes VAT (Poland)

- Durable hardcover edition
- Dispatched in 3 to 5 business days
- Free shipping worldwide - [see info](#)

Buy Hardcover Book

Tax calculation will be finalised at checkout

Purchases are for personal use only
[Learn about institutional subscriptions](#)

1. <http://www.robocup.org/> (Last access Feb. 20, 2018)
2. In this sense, it is similar to protocols such as POP (post office protocol) for e-mail. These days, WWW is used for most of the information systems, but the basic design of http, a protocol used for WWW, is session less. So as to achieve session-oriented communication over WWW, various additional techniques are used.

References

Arthur WB, Holland JH, LeBaron B, Palmer R, Tayler P (1996) Asset pricing under endogenous expectations in an artificial stock market. Technical report, Santa Fe Institute

Gilbert N (2008) Agent-based models. Sage Publications, Thousand Oaks

Hey T, Tansley S, Tolle K (eds) (2009) The fourth paradigm: data-intensive scientific discovery. Microsoft Research, Redmond

Kita H, Nakajima Y, Ono I (2006) An artificial market approach to institutional design for thin markets. In: SICE-ISASE international joint conference, pp 4596–4600

Kita H, Taniguchi K, Nakajima Y (eds) (2016)

Realistic simulation of financial markets,
analyzing market behavior by the third mode of
science. Springer, Tokyo

Koyama Y (2008) U-Mart as a new generation
artificial market. *Evol Inst Econ Rev* 5(1):53–62

Matsunaga T, Kita H (2006) A comparative study
of order-driven and quote-driven markets using
artificial markets. In: Takahashi S, Sallach D,
Rouchier J (eds) *Advancing social simulation: the
first world congress*. Springer, Tokyo, pp 95–105

Nakajima Y, Shozawa Y (2004) Usefulness and
feasibility of market maker in a thin market. In:
*Proceedings of the international conference on
experiments in economic sciences*, pp 1000–
1003

Ono I, Sato H, Mori N, Nakajima Y, Matsui H,
Koyama Y, Kita H (2008) U-Mart system: a market
simulator for analyzing and designing
institutions. *Evol Inst Econ Rev* 5(1):63–80

Shozawa Y, Nakajima Y, Matsui H, Koyama Y,
Taniguchi K, Hashimoto F (2008) *Artificial market
experiments with the U-Mart, agent based social
systems*. Springer, Tokyo

Taniguchi K, Ono I, Mori N (2008) Where and why
does the Zaraba method have advantage over

the Itayose method?—Comparison of the Zaraba method and the Itayose method using the U-Mart system—. *Evol Inst Econ Rev* 5(1):5–20

Yamada T, Koyama Y, Terano T (2008) Strategy experiments in an artificial futures market. *Evol Inst Econ Rev* 5(1):29–52 (2008)

Acknowledgements

The U-Mart is a collaborative study for long years, and the author expresses his sincere gratitude to Dr. Yoshinori Shiozawa, Dr. Takao Terano, Dr. Hiroshi Deguchi, and Dr. Hiroshi Sato as cofounders of the study and Dr. Isao Ono, Dr. Naoki Mori, Dr. Yoshihiro Nakajima, Dr. Yusuke Koyama, Dr. Hiroyuki Matsui, Dr. Kazuhisa Taniguchi, and Dr. Yuji Aruka who contributed to this study as core members. The author also thanks to all the researchers and students who contributed to the U-Mart.

Author information

Authors and Affiliations

Institute for Liberal Arts and Sciences, Kyoto University, Kyoto, Japan

Hajime Kita

Corresponding author

Correspondence to [Hajime Kita](#).

Editor information

Editors and Affiliations

**Graduate School of Business Sciences,
University of Tsukuba, Tokyo, Tokyo, Japan**

Setsuya Kurahashi

Keio University, Yokohama, Kanagawa, Japan

Hiroshi Takahashi

Rights and permissions

[Reprints and permissions](#)

Copyright information

© 2018 Springer Nature Singapore Pte Ltd.

About this chapter

Cite this chapter

Kita, H. (2018). U-Mart: 20-Year Experience of an Artificial Market Study. In: Kurahashi, S., Takahashi, H. (eds) Innovative Approaches in Agent-Based Modelling and Business Intelligence. Agent-Based Social Systems, vol 12. Springer, Singapore. https://doi.org/10.1007/978-981-13-1849-8_9

[.RIS↓](#) [.ENW↓](#) [.BIB↓](#)

DOI	Published	Publisher Name
https://doi.org/10.1007/978-981-13-1849-8_9	08 December 2018	Springer, Singapore

Print ISBN	Online ISBN	eBook Packages
978-981-13-1848-1	978-981-13-1849-8	Economics and Finance
		Economics and Finance (R0)

Publish with us

[Policies and ethics](#)

Search

Search by keyword or author



Navigation

Find a journal

Publish with us

Track your research