

On the Effectiveness of Minisum Approval Voting in an Open Strategy Setting: An Agent-Based Approach

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Resume

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Agenda

- Open Strategy
- Research Gap and Research Question
- Methodology
- Results
- Conclusion

Open Strategy (OS)

- Rising research interest (Seidl, Von Krogh, and R. Whittington, 2019)
- Defined as
 - Inclusive
 - Transparent
 - (social) IT enabled (Tavakoli, 2015)
- Better-performing strategies (Sailer, Schlagwein, and Schoder, 2018)

Research Gap and Research Question

- Lack of experimental evidence
- How do
 - the number of strategy-making participants
 - the level of an organizations' complexityaffect the discovery of better-performing strategies in an OS approach?

Methodology

- Agent-based simulation, because (Leitner and Wall, 2015)
 - data
 - mathematical tractability
- Based on the *NK* model (Kauffman and Weinberger 1989)
 - Fitness landscapes -> performance landscapes
 - *N* is number of decisions, *K* is number of interactions

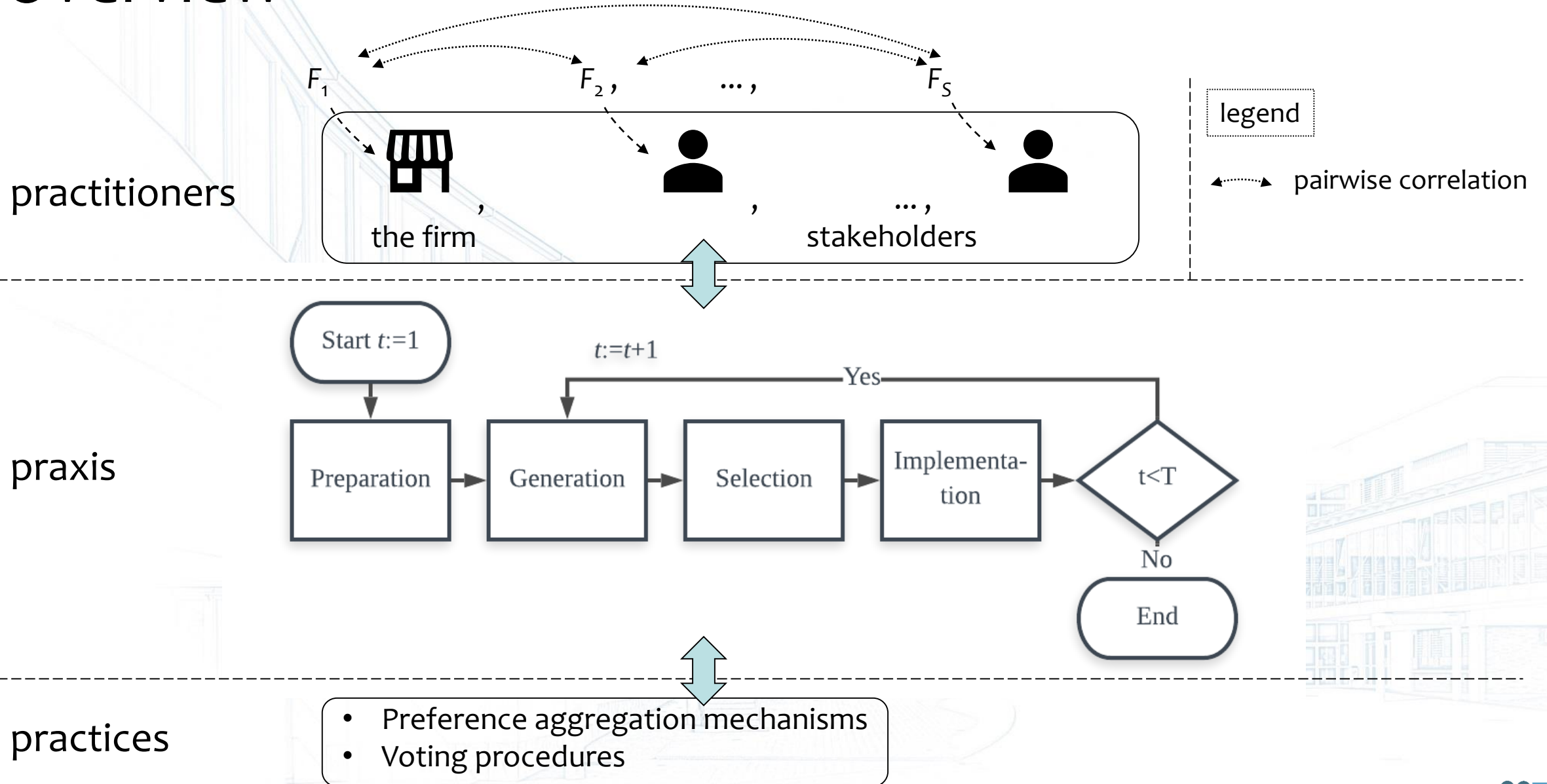
Simulation

- An organization (*the firm*)
- Stakeholders
- Diverse objectives
- Aggregation mechanism

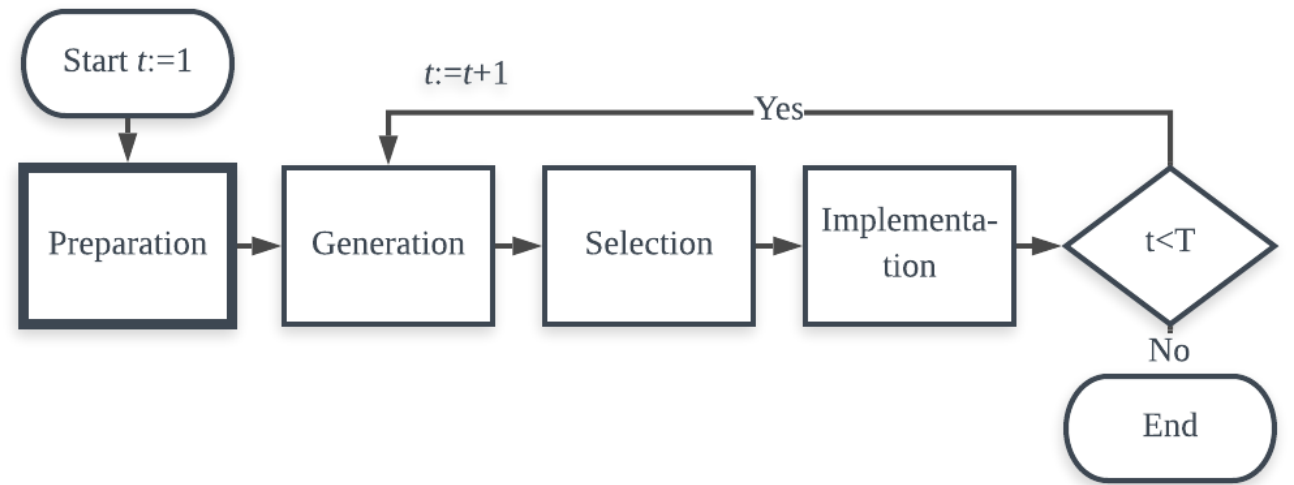
Open Strategy as a Practice (Tavakoli, Schlagwein, and Schoder, 2017)

- Praxis:
 - cyclic strategy process
 - context
 - phases
- Practitioners:
 - participants in the praxis
 - utility
- Practices:
 - tools and mechanisms
 - minisum approval voting

Overview



Preparation phase



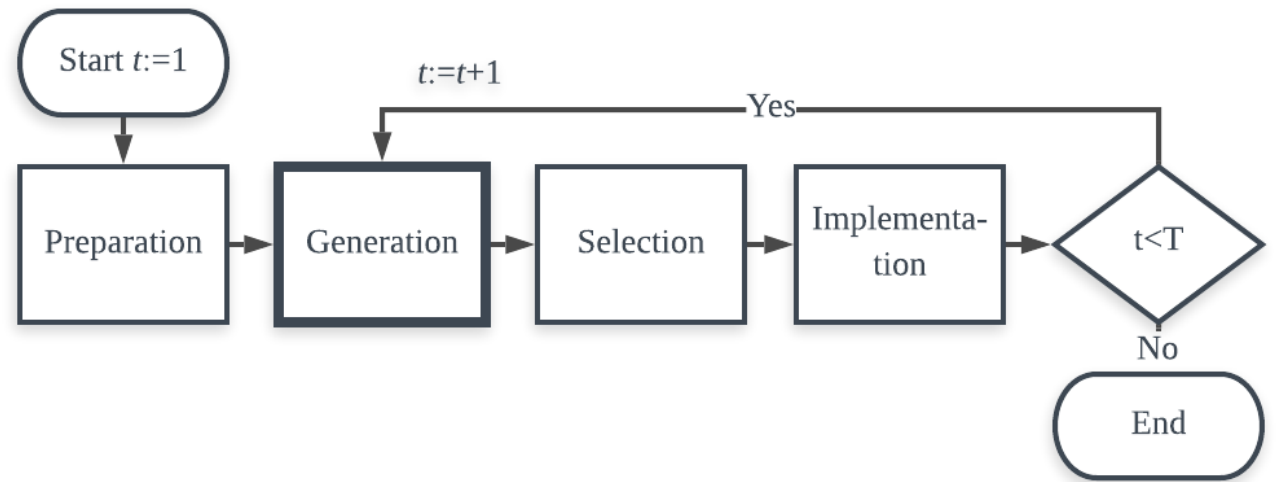
- Initialize

- Firm, stakeholders and their performance landscapes according to *NK* framework ($N = 10$)
- Correlation between landscapes
- Starting strategy
- Communicate starting strategy to stakeholders

- Fix scenario parameters

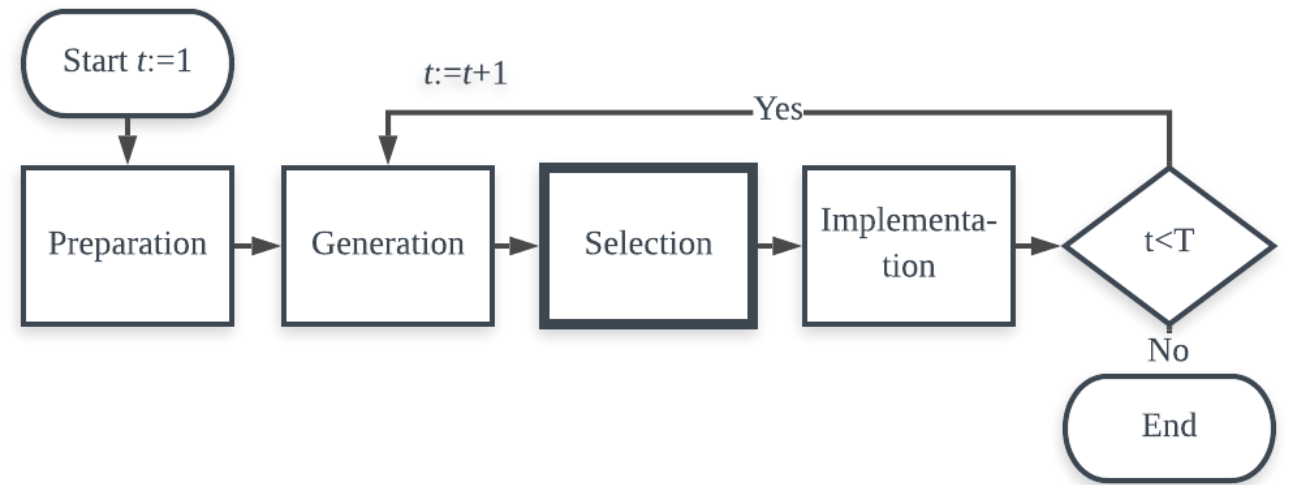
- Aggregation mechanisms
- Number of stakeholders
- Complexity

Generation phase



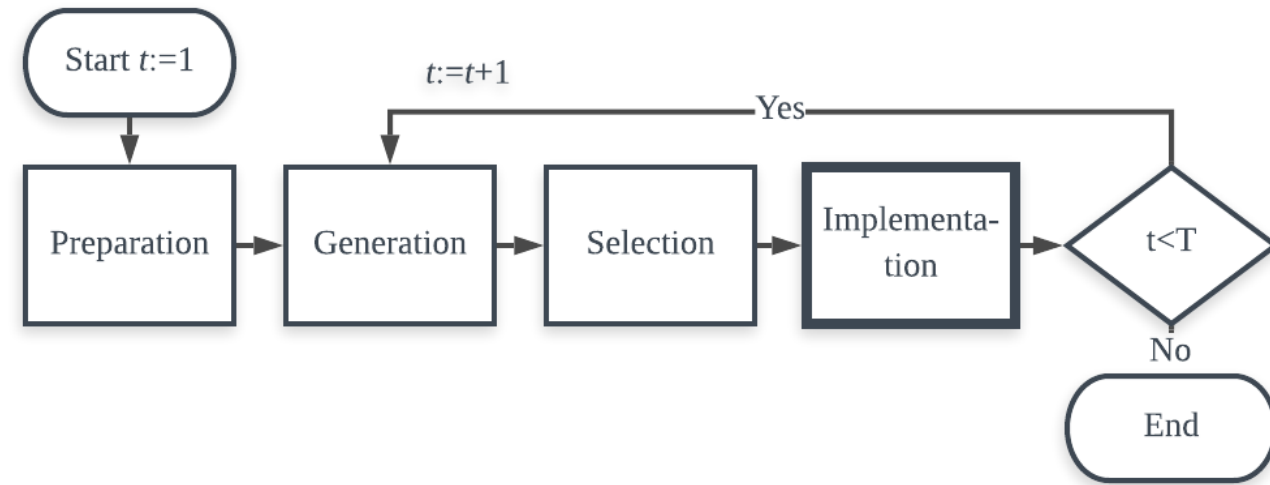
- Discovering and evaluating 2 alternative strategies
 - In the neighborhood of strategy in $t - 1$ (Hamming distance)
 - Evaluated according to expected performance (stakeholders' landscapes)
 - Evaluation error
 - Stakeholders submit best alternative for aggregation
- Distilling alternatives to a shortlist
 - Minisum approval voting
 - Result is three best rated alternatives plus current strategy

Selection phase



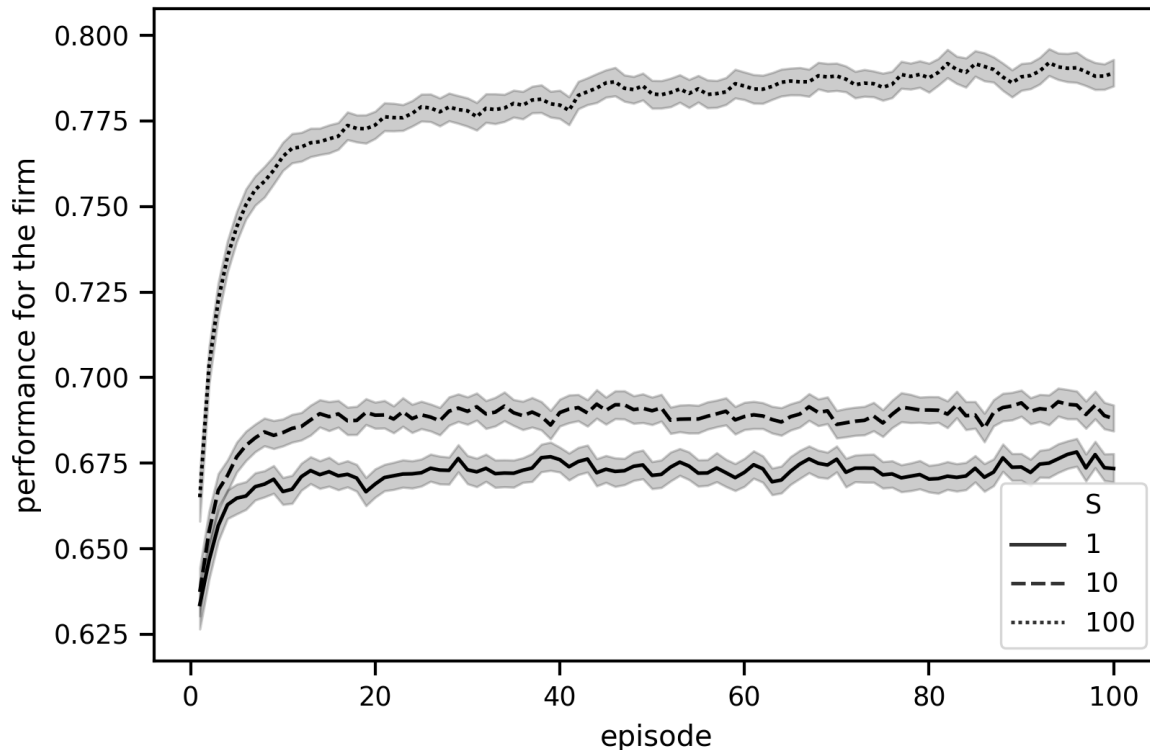
- Stakeholders evaluate distilled shortlist
 - Shortlist is communicated to stakeholders
 - Stakeholders evaluate and rank alternatives on their own landscapes
 - Evaluation error
- Borda count voting
 - Allocates points based on rankings
 - Alternative with highest points wins

Implementation phase



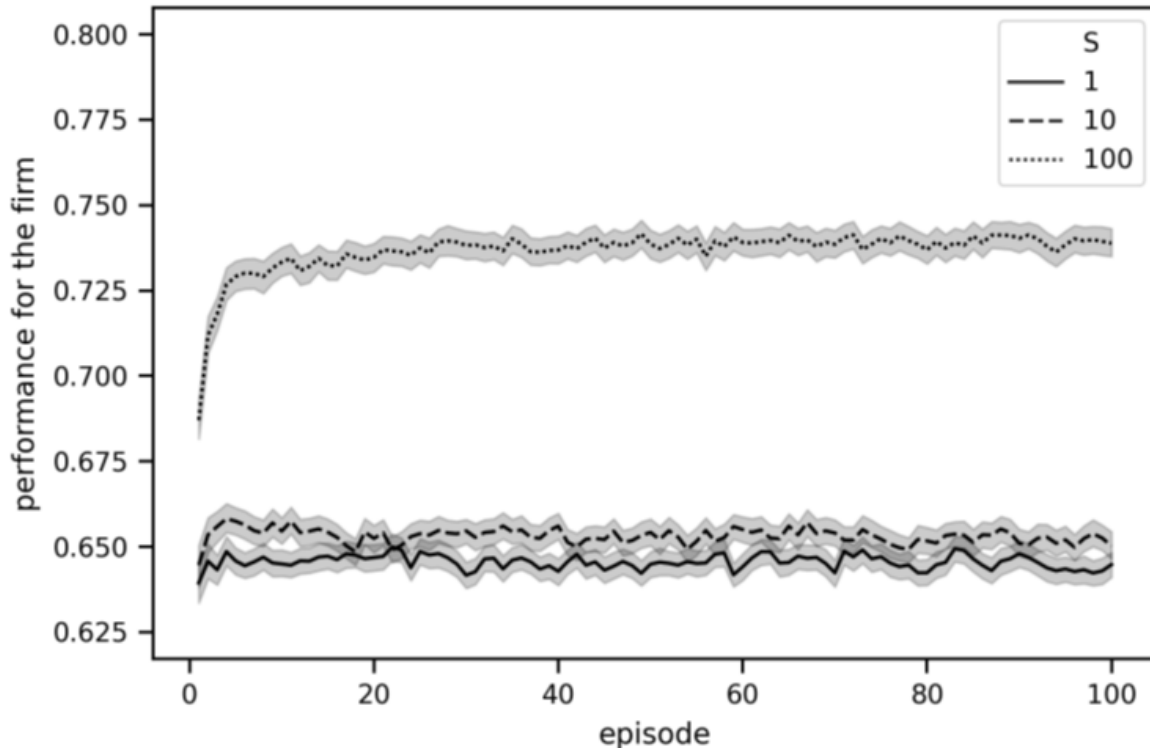
- Implementation of the winning strategy
- Computation of associated performance in the firm's landscape
- Track performance for analysis
- Implemented strategy becomes the current strategy in $t + 1$

Results (1)



- Moderate level of complexity ($K = 4$)
- Opening up the strategy process leads to rapid discovery of higher performing strategies
- Number of stakeholders significantly affects performance

Results (2)



- High level of complexity ($K = 7$)
- Similar patterns
- Significantly better strategies only for higher number of stakeholders

Discussion

- OS can lead to the discovery of better performing strategies
- Results are less pronounced in complex environments
- In a highly complex environment with a smaller number of participants, OS does not seem to offer this benefit
- Sensitivity analysis confirms the expectation that higher correlation among landscapes leads to higher performance

Limitations and Future Work

- Limitations
 - Complexity that might capture critical aspects of reality is eliminated
 - Stakeholders preferences are constant over time
- Future work
 - Network effects among stakeholders
 - Egalitarian vs. utilitarian aggregation
 - Further sensitivity analyses over control variables

Thank you for your attention

If you have any questions or comments, please contact me on

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