New topic for a Master Thesis at the Chair of Accounting and Managerial Control

To whom this may concern, Vienna, November 14, 2024

the well-known agency problem arises when there is a conflict of interest between a principal, who delegates tasks, and an agent, who carries them out on the principal's behalf. Information asymmetry between these parties leads the agent to act in self-interest (use the information advantage) or fail to fully align with the principal's goals, resulting in economic inefficiencies or risks.

This situation bears many similarities to the quickly developing issues in and around artificial intelligence, in particular so-called AI-agents, which are currently being developed by the leading AI-firms. Quite recently the company Anthropic released a Beta feature of their software called "Computer use" which is capable of controlling windows machines. It is only a matter of time before even more autonomous AI-agents emerge.

In a recent article Kolt (2024) gives an overview of the similarities between such upcoming AI-agents and the often-studied principal agent relationship in economics. These new AI systems contrast from the currently existing services of generative technologies such as chatGPT, due to their capability "... to autonomously plan and execute complex tasks with only limited human involvement" (Kolt, 24, p. 9). Thus, the AI-agent and principal relationship also features non-verifiable actions, uninformative KPIs, the delegation of authority, or information asymmetry. However, the usual "solutions" to these problems in the agency theory, such as proper design of incentives or monitoring, may prove to be ineffective.

In this master thesis the student is supposed to synthesize the most recent state of the literature of this topic. Then it should be studied how such autonomous AI-agents may be controlled (from an economic perspective). Can the application of principal-agent theory be nevertheless beneficial when adapted to this new setting? How could AI-agents be modelled in an agency framework? Can you come up with novel solution mechanisms?

Interested students may apply until 15.12.2024 (incl.). To do so, please submit

1. a motivation why you want to research this topic,
2. at least one concrete idea or research question you would like to address,
3. a description of the competencies you bring with you that enable you to do this work, and
4. a copy of your transcript of records

in a single .pdf file via mail to markus.eigruber@univie.ac.at.

Best regards,

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References

Kolt, Noam, Governing AI Agents (April 2, 2024). Available at SSRN: https://ssrn.com/abstract=4772956.