Data-driven decision making in a knowledge worker environment

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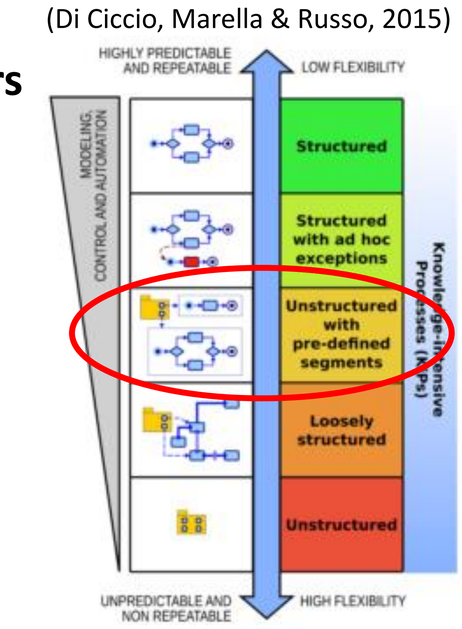
Research Objective

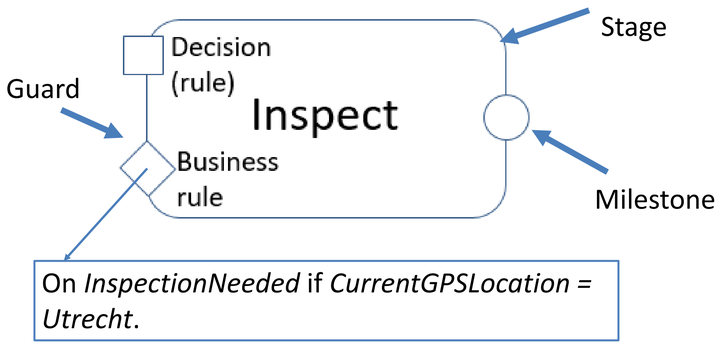
We design a Business Process Model to assist knowledge workers in making decisions in a data-driven environment. This is useful in lots of environments, including condition-based maintenance where we use data to decide on how and when repairs have to be scheduled.

(Di Ciccio, Marella & Russo, 2015)

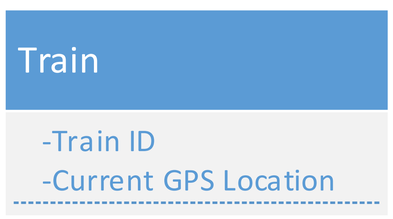


Expected Contributions

- We start from an existing framework: Guard, Stage, Milestone model, combined with a data model.
- We extend this model to incorporate the possibility of decision making using OR solutions.



GSM model



Class diagram

State of Research

Using this new model including the recommendations for decisions, we try to remodel the tender procedure at an airplane component maintenance company.

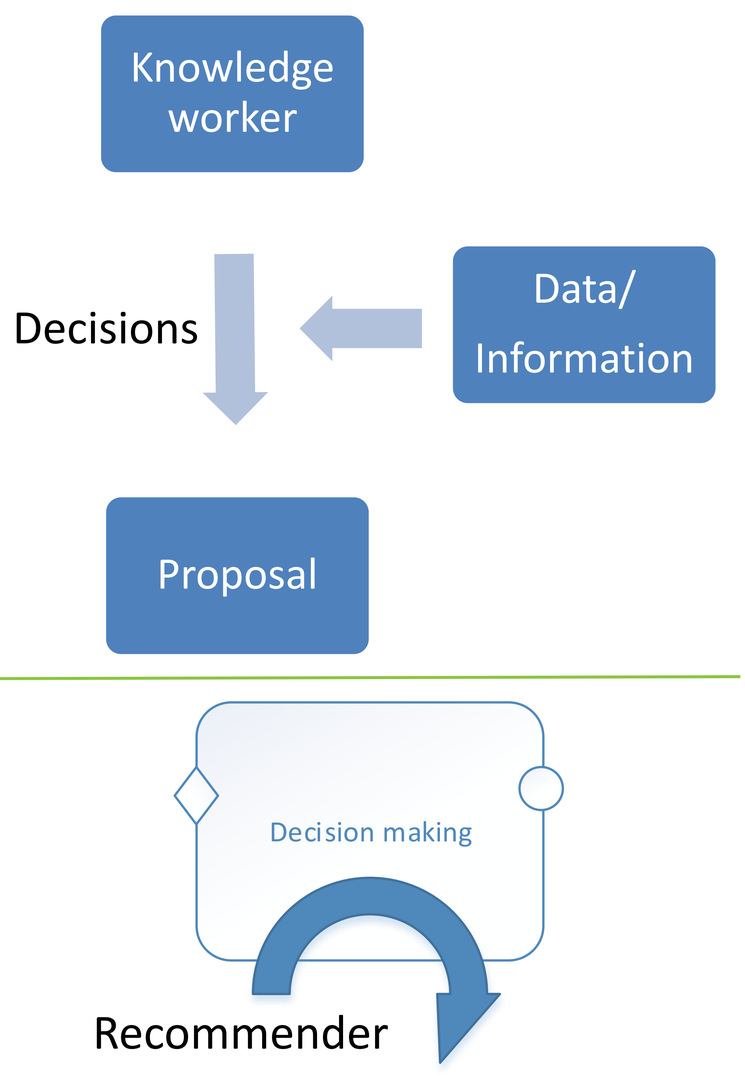
Based on data, a knowledge worker decides which price to propose, winning or losing the offer.

Next Steps

- We will approach this problem also from an operations research perspective, using OR models or learning models we try to improve the recommendations that can be given to the knowledge workers.

Research Details

- Currently, decision making is difficult because a lot of data is suggested, often in different ways.
- In the semi-structured data models, there is little possibility of helping the decision maker by structuring this data or even recommending based on this data.
- We propose a special stage in the GSM model that uses algorithms to recommend a decision, simplifying the process for the knowledge worker.



Acknowledgments and References

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