

# Towards a transferable and domain-independent reputation indicator to group students in the Collaborative Logical Framework approach

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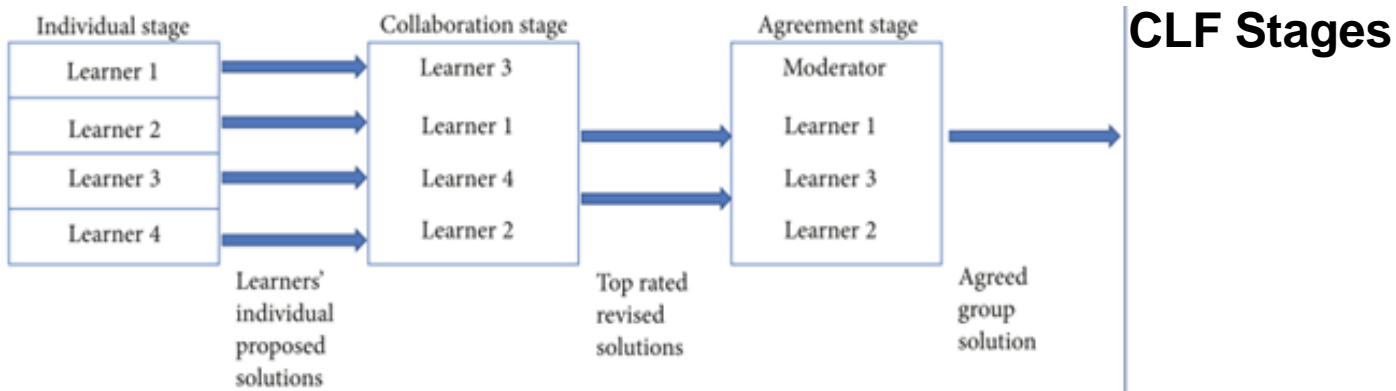
# 1. Motivation

- Relevance of MOOCs / eLearning → The future of Distance / Higher? Education.

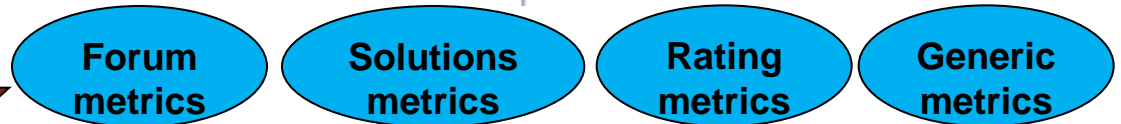
Generic challenges:

- **CH 1** Large-scale environment personalisation?  
→ User Modelling (preferences & needs)
- **CH 2** Is collaborative process taking place?  
→ intelligent monitoring & updating of the User Modelling
- **CH 3** Adaptations and recommendations  
→ standardisation and reuse
- **CH 4** Structured collaborative environments  
→ appropriate collaborative objectives

# 2. Background



## Indicators



Participative

Thinker-out

Insightful

Unsecure

Useful

Gossip

Non-collaborative

Inspirable

With-initiative

Inspirator

Communicative

Thorough

Forum conversations started	Forum messages sent	Replies to student interactions
$N\_thrd = \sum_i^n (x_i)$ ; $x$ number of threads started on day $i$ and $n$ a set of days in the experience $M\_thrd = \text{average}(N\_thrd) = (1/N)(\sum_i^n (x_i))$ ; $N$ number of days in the experience $V\_thrd = \text{variance}(N\_thrd)$ $L\_thrd = N\_thrd / \sqrt{V\_thrd}$	$N\_msg = \sum_i^n (x_i)$ ; $x$ number of messages sent on day $i$ and $n$ a set of days in the experience $M\_msg = \text{average}(N\_msg)$ $V\_msg = \text{variance}(N\_msg)$ $L\_msg = N\_msg / \sqrt{V\_msg}$	$N\_reply\_thrd = \text{number of messages in the thread started by user}$ $M\_reply\_thrd: N\_reply\_thrd / N\_thrd$ $N\_reply\_msg = \text{number of replies}$ $M\_reply\_msg: N\_reply\_msg / N\_msg$

# 3. Addressing issues and challenges

- I<sub>1</sub> → Overlapped indicators
- I<sub>2</sub> → Negative connotations
- I<sub>3</sub> → Set of indicators too large
- I<sub>4</sub> → Reputation in long term
- I<sub>5</sub> → Structured environment

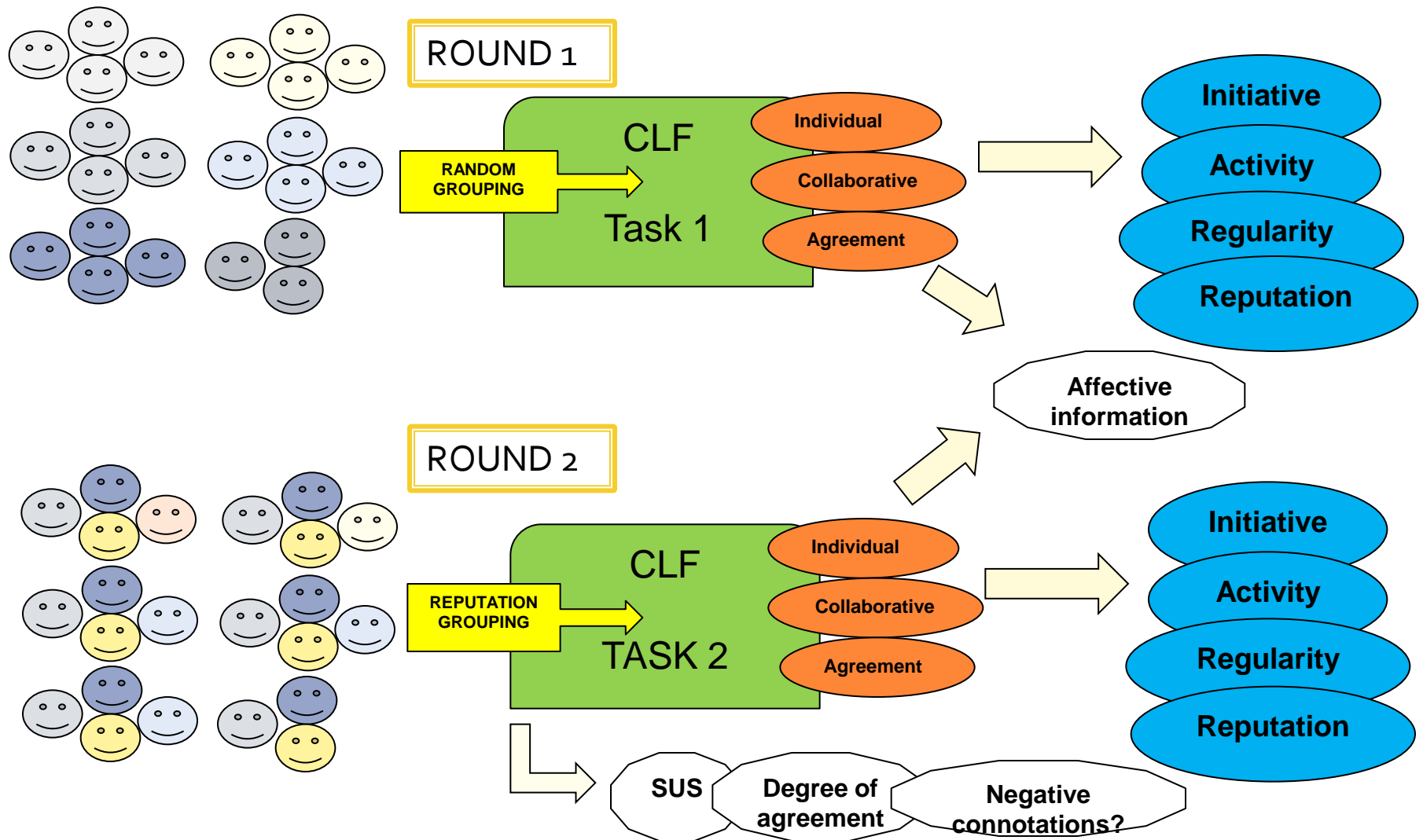
ISSUES

$$\text{Re } p = \frac{a * SI + b * RI + c * SNI}{a + b + c}$$

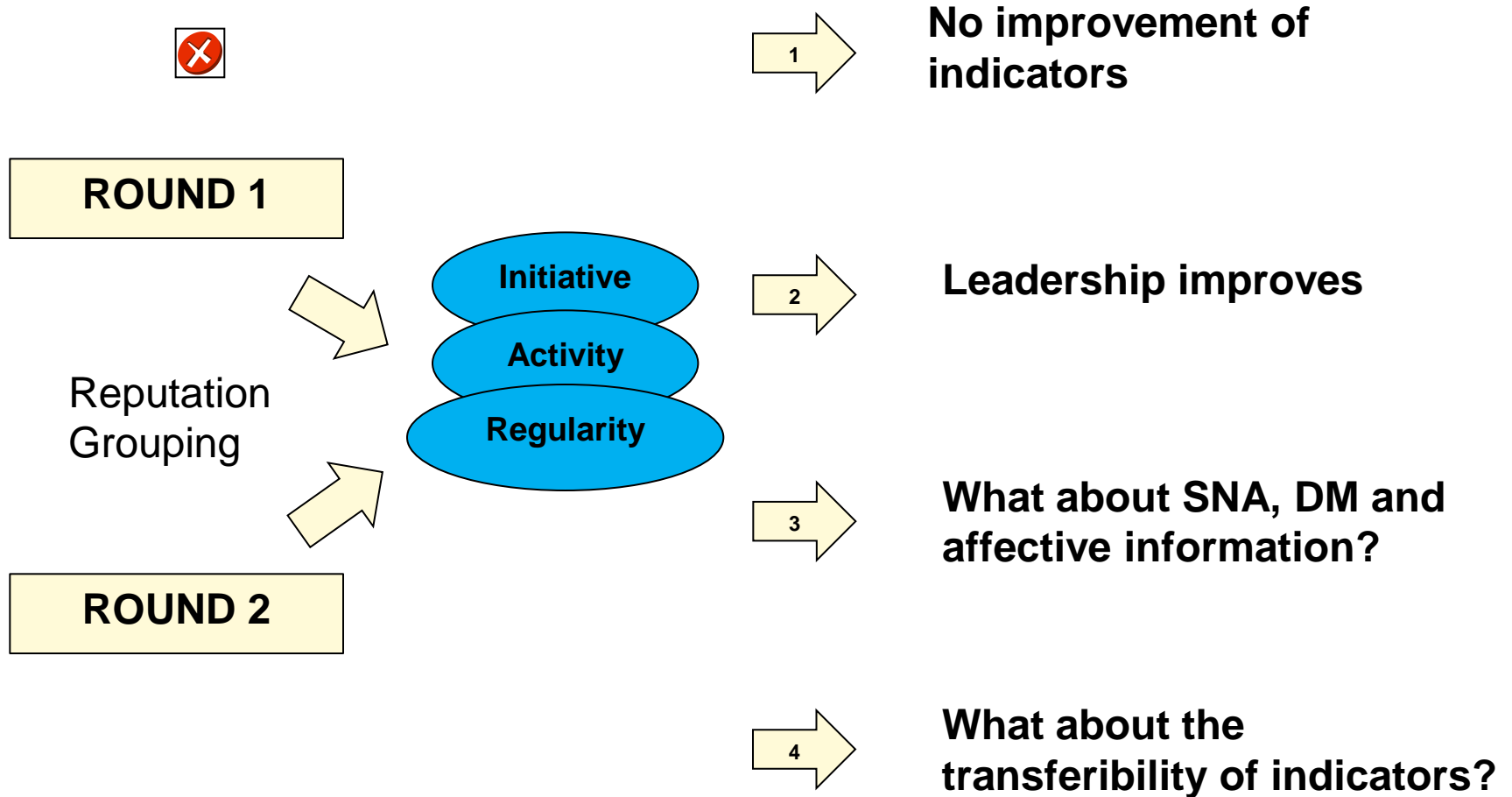
SPECIFIC CHALLENGES

- C<sub>1</sub> → Transferability of indicators
- C<sub>2</sub> → Enriched Reputation indicator
- C<sub>3</sub> → **SNA**: new relevant data for CLF
- C<sub>4</sub> → Identification of patterns in collaborative behaviours
- C<sub>5</sub> → Using reputation to group students may improve collaborative indicators

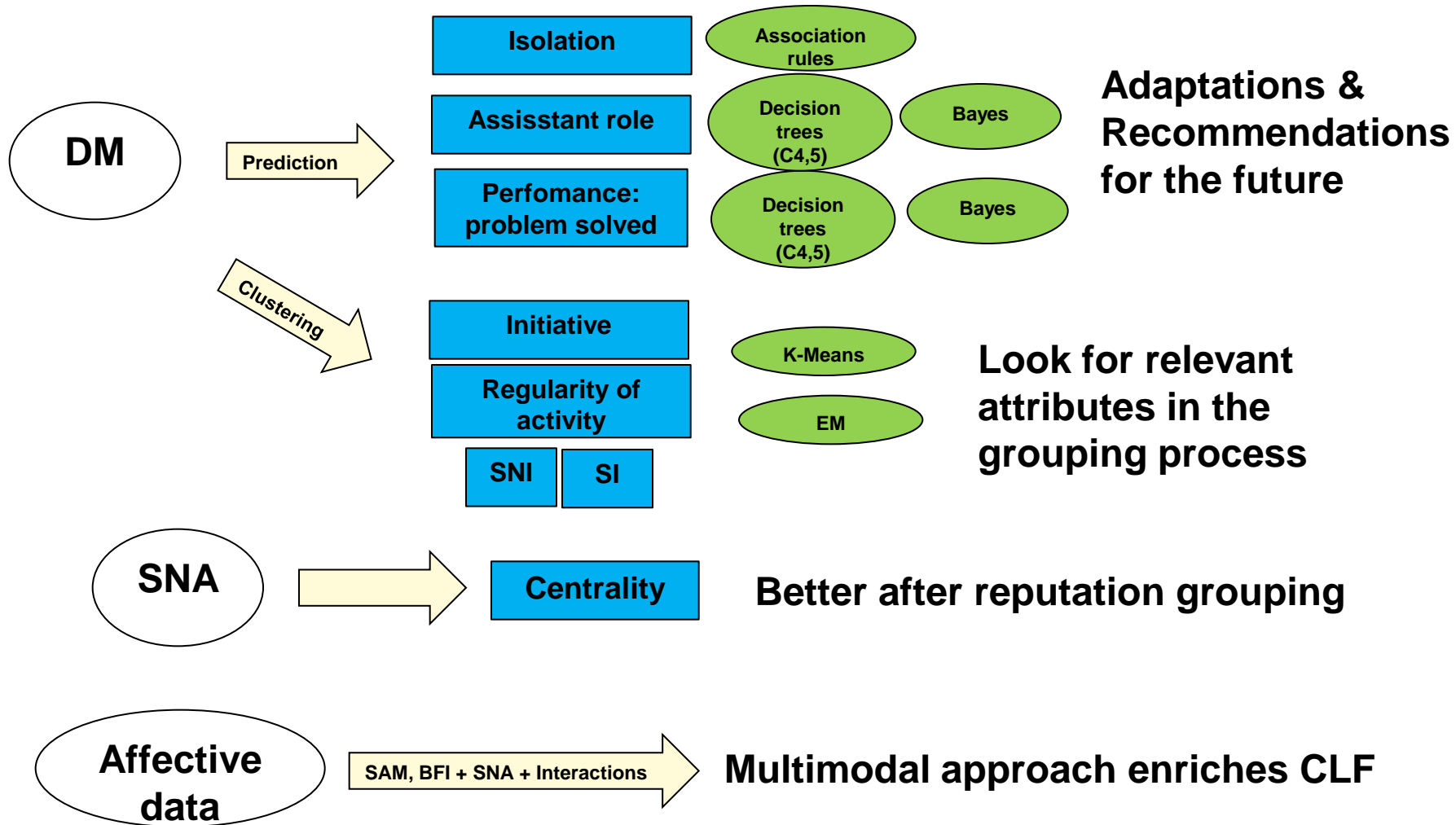
# 4. Implementing the approach



# 5. Discussion of results



# 6. Beyond the reputation



# 7. Open issues

## Conclusions

New roles: assistant & leader

Problems detected: isolation

Enriched reputation in CLF

Transferibility of indicators

No overlapping & negative connotations for indicators

The importance of the task in a structured environment

The grouping process in the CLF

SNA & DM relevant for the CLF

## Future work

Meta-cognitive tool for CLF in Moodle

SNA integrated in the CLF

DM integrated in the CLF

Solve the task

Assistant role

Isolation

New large-scale collaborative experience: meaningful task / large-number of users

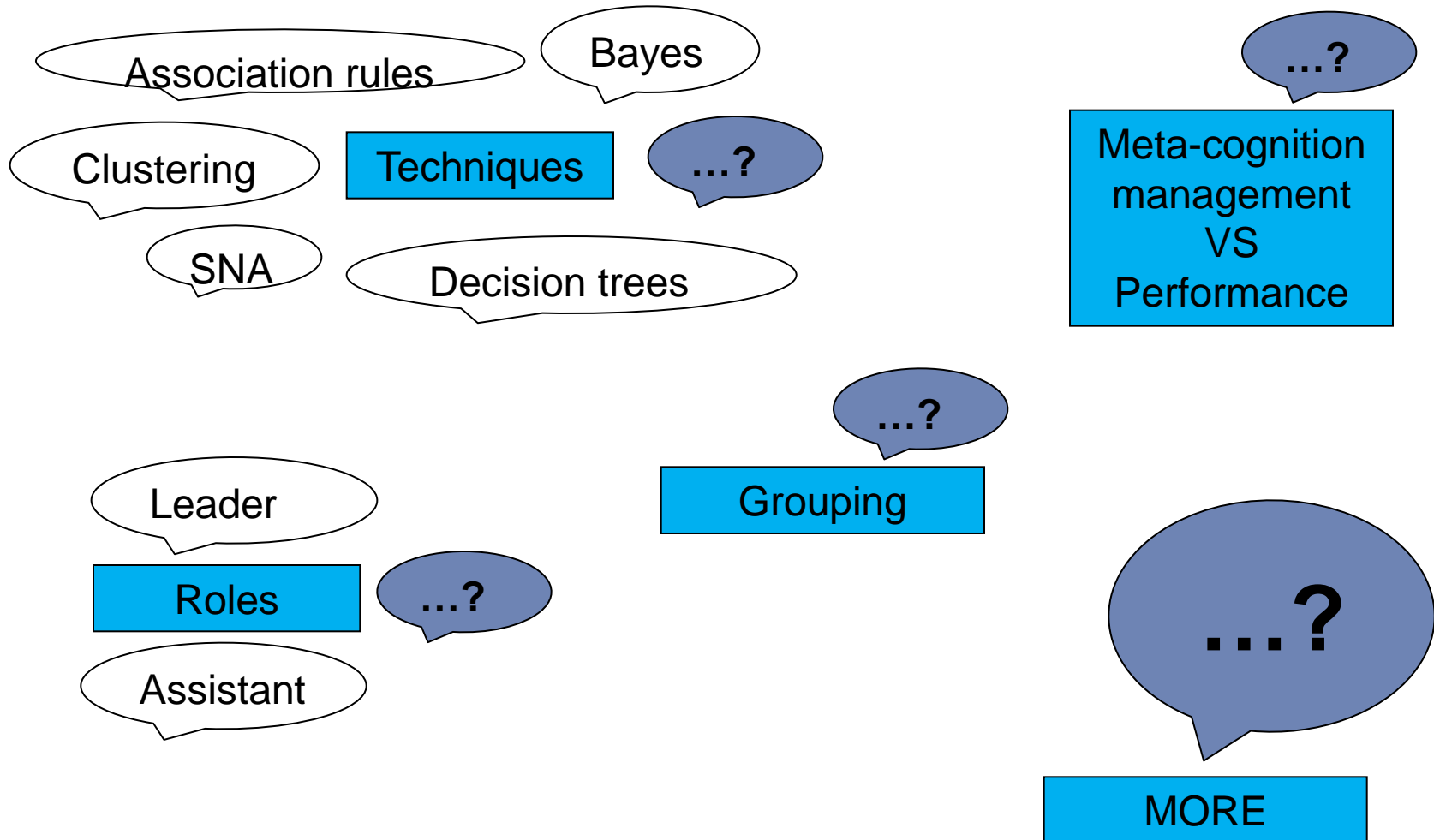
Add new collaborative indicators

Compute/Learn  $a$ ,  $b$ ,  $c$  Reputation weights

“Leadership” as collaborative indicator



# 8. Learning Cafe



## Thanks for your attention

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