RANKING THE BALANCED SCORECARD GOALS OF HIGHER EDUCATION INSTITUTIONS USING THE CENTRALITY MEASURES

OBJECTIVES AND RESEARCH QUESTION

- Higher education institutions (HEI) often use different quality systems - Balanced scorecard (BSC) or Total quality management (TQM), for strategic planning of their growth and development.
- In BSC, a strategic map of goals that are placed into one of several BSC perspectives is created; connections between the goals respecting the influences between the goals of HEI are defined.
- The rule is that the goals from a particular perspective can influence any goal from the same or higher BSC perspective. The reasoning related to the identification of connections between the goals have to be made by experts.
- BSC goals are not equally important.
- Research question: How to rank and prioritize BSC goals?
- This paper deals with this issue:
  - ranking the BSC goals of HEI using the centrality measures: centrality degree, betweenness centrality, closeness centrality, and the PageRank centrality
  - comparing the results with ranking the BSC goals using multi-criteria decision-making methods the AHP and the ANP.

FROM SWOT TO BSC

BSC GOALS - HEIs

- M1 Educate students that could be competitive on the job market
- M2 Be university unit internationally recognised
- M3 Reach excellence and synergy of research and teaching,
- J1 Foster transparency and responsibility in management, leadership and strategic guidance
- P01 Revise the existing programs - align with labour market needs,
- P02 Improve the quality of teaching process,
- P03 Increase the visibility of HEIs

RANKING BSC GOALS USING AHP AND ANP

Two possible ways of how to apply AHP in order to rank BSC goals:
- create a one-level hierarchy of all BSC goals that can be further compared in pairs in one pairwise comparison table
- create a two-level hierarchy of all BSC goals - the first level in the hierarchy are perspectives, and the second level of the hierarchy are goals from related perspectives

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- Influences between the BSC goals do not affect the ranking.
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When the BSC goals are ranked using the centrality degree (prestige), the influences between the elements are included in the calculation of BSC goals priorities. However, only the priorities are calculated using only direct influences between goals, and that is a disadvantage of this method.

When closeness and betweenness centrality are used, most of the BSC goals achieve weight 0.0 because of the similar reasons that appeared in implementing the ANP – the density of the network is low, and there is no directed path between any two elements in the network.

When a PageRank centrality is used, we achieve the most favorable situation: influences between the elements are included into the calculation of final BSC goals’ priorities, the final priorities are comparable (there is no situation of the weight of 0.0).

The best way of ranking the BSC goals is Pagerank centrality (among methods that are analyzed in this paper).