PROMETHEE

MULTI-CRITERIA DECISION AIDING IN THE PROCESS OF APPLYING FOR AACSB ACCREDITATION

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Agenda

- Accreditation

- AACSB International and its accreditation process

- Presentation of the decision-making problem connected with applying for AACSB accreditation – determination of the *Aspirant Group*

- Solving the problem concerned using methods based on the outranking approach from the PROMETHEE family and on Verbal Decision Analysis

- Conclusions

What is accreditation?

- Accreditation is both a status and a process.

- As a status, accreditation provides public notification that an institution or program meets standards of quality set forth by an accrediting body.

- As a process, accreditation reflects the fact that in achieving recognition by the accrediting body, the institution or program is committed to self-study and external review by one's peers in seeking not only to meet standards but to continuously seek ways in which to enhance the quality of education and training provided.

Source:

http://www.apa.org/support/education/accreditation/description.aspx#answer

Educational accreditation

- Educational accreditation is a type of quality assurance process under which services and operations of educational institutions or programs are evaluated by an external body to determine if applicable standards are met.

- Accreditation of higher education varies by jurisdiction and may be focused on either or both the institution or the individual programs of study.

- In most countries, the function of educational accreditation is conducted by a government organization, such as a Ministry of Higher Education or committees established by it.

- In the United States, however, higher education accreditation has long been established as a peer review process coordinated by accreditation commissions and member institutions.
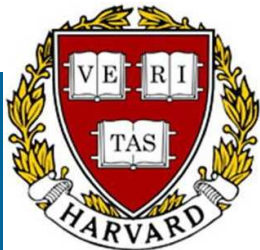
The most valued accreditations

- Three largest and most influential business school accreditation associations are:
  - **AACSB** - based in Tampa, Florida, with an Asia office in Singapore
  - **AMBA** - based in London
  - **EQUIS** - based in Brussels
- The triple accreditation of EQUIS, AMBA and AACSB, is often referred to as the **Triple Crown**. This **Triple Crown** status is an honor held by only few business schools worldwide. Of the 13,670 schools offering business degree programs worldwide, only **67 have Triple Accreditation** as of December 2014.
- The most popular accreditation worldwide is AACSB accreditation. Currently, there are **716 business schools in 48 countries** and territories that have earned it, for instance: Columbia University, Harvard University, MIT, Yale University and London Business School.

What is AACSB International?

- AACSB International – *The Association to Advance Collegiate School of Business* – is a global, nonprofit membership organization of educational institutions and collegiate schools of business, as well as corporate, nonprofit, and public sector organizations devoted to the advancement of management education.

- Established in 1916, AACSB International provides its members with a variety of products and services to assist them with the continuous improvement of their business programs and schools.

- These products and services include:
  - internationally recognized accreditation in business and accounting,
  - conferences, seminars, symposiums, and webinars,
  - publications that provide insight into the business education industry,
  - access to extensive global data and reports related to business schools,
  - networking through groups and events,
  - sponsorships, exhibiting, and business development opportunities.

What does AACSB do?

- Above all, AACSB provides internationally recognized, specialized accreditation for business and accounting programs at the bachelor's, master's, and doctoral level.

- AACSB Accreditation is known worldwide as the longest standing, most recognized form of specialized/professional accreditation an institution and its business programs can earn.

- Receiving AACSB Accreditation means that a given institution is able to achieve a rigorous set of quality standards defined and updated by AACSB International.

- The AACSB Accreditation Standards challenge post-secondary educators to pursue excellence and continuous improvement throughout their business programs.

What areas are critical for AACSB?

curricula and their development

research

teaching

student learning

qualifications and composition of the faculty members

international cooperation

organization of studies and administrative services

infrastructure and financial resources

Accreditation process

Earning AACSB accreditation requires following a lengthy (6-7 years) procedure consisting of seven major steps:

STEP 1: Membership in AACSB International

STEP 2: Preparing and submitting *Eligibility Application*

STEP 3: Assignment of an AACSB Mentor and the Mentor's on-campus visit(s)

STEP 4: Preparing and submitting *Standards Alignment Plan*

STEP 5: Implementation of the *Standards Alignment Plan*, preparing and submitting *Self-Evaluation Report*

STEP 6: Peer Review Team visit

STEP 7: Ratification

Decision-making problem

Identification of three Comparison Groups

They include:
a group of competing schools (*Competitive Group*),
a group of comparable schools (*Comparable Peer Group*),
a group of schools providing
a developmental goal for the applicant (*Aspirant Group*).

The Comparison Groups are used to
determine a relevant context for judging how a school sees itself
as well as to provide a pool of potential Peer Review Team
members that may better understand the applicant and its
aspirations, avoiding simultaneously potential conflict of
interests from competitive schools.

Decision-making problem

PROSPECTIVE

PROBLEM

- we are looking for at least 3 educational institutions with AACSB accreditation, that matches as closely as possible the future vision of the school considered
- problem is formulated as a multi-criteria ordering problem

SIMILARITY (CRITERIA)

- institutional control, levels of education (degrees offered), general orientation
- mission, scholarly orientation
- number and structure of students and faculty members, level of internationalisation
- accreditations, places in rankings

THE SCHOOL IN THE FUTURE

- Polish public school, with 2 presigious accreditations
- education levels of degrees offered: UG, GR, doctoral
- general orientation: BPA-5 (intellectual contributions = teaching > service)
- scholarly orientation: BPB-1 (contributions to: knowledge > practice > education)
- students: 5100 (UG -2700, GR - 2300, PhD – 100), Poles - 85%
- full-time faculty (FT): 110, with at least PhD – 100%, number of FTE (FT+PT) faculty: 125, participating – 80%

Solving the problem – approach proposed

Querying the AACSB database (AACSB DataDirect) in order to find business schools of a similar profile
(public schools with AACSB business accreditation, BPA-5,
3 levels of education, from 80 to 140 full-time faculty members)

Establishing the ranking of the schools selected using MCDA methods
- applying PROMETHEE IIv, EXPROM IIv
and modified ELECTRE III,
- applying PROMETHEE IIv, EXPROM IIv , modified ELECTRE III and MARS

Deepening knowledge about the institutions in leading positions in the rankings to ensure they may be included to the *Aspirant Group*

Final decision regarding *Aspirant Group*

PROMETHEE

Preference model

No	Criterion	Max/min	Weight	q	p	v
1	Scholarly orientation	max	0,125	0	2	7
2	Mission	max	0,125	1	3	8
3	Undergraduate students	min	0,050	100	400	4000
4	Graduate students	min	0,050	100	400	4000
5	Doctoral students	min	0,050	10	40	400
6	Students with the citizenship of the country of the school	min	0,050	5	10	40
7	All students	min	0,050	250	1000	9000
8	Full-time faculty members	min	0,0625	3	10	40
9	Number of FTE faculty (FT+PT)	min	0,0625	3	10	40
10	FT with AT least PhD degree	min	0,0625	3	10	40
11	Participating faculty members	min	0,0625	3	10	40
12	Accreditations	min	0,125	0	1	3
13	Positions in the rankings	min	0,125	30	100	600

Results – part 1 (outranking methods)

No	MCDA methods			No
	PROMETHEE IIv	**EXPROM IIv**	**Modified ELECTRE III**	
1	Otago, University of, School of Business	Otago, University of, School of Business	Otago, University of, School of Business;	1,5
2	St. Gallen, University of, Department of Management	St. Gallen, University of, Department of Management	St. Gallen, University of, Department of Management	1,5
3	Aalto University, School of Business	Aalto University, School of Business	North Carolina at Chapel Hill, University of, Kenan-Flagler Business School	3
4	North Carolina at Chapel Hill, University of, Kenan-Flagler Business School	North Carolina at Chapel Hill, University of, Kenan-Flagler Business School	Aalto University, School of Business	4
5	Pittsburgh, University of, Joseph M. Katz Graduate School of Business	Pittsburgh, University of, Joseph M. Katz Graduate School of Business	Pittsburgh, University of, Joseph M. Katz Graduate School of Business; Waikato, University of, Waikato Management School	5,5
6	Waikato, University of, Waikato Management School	Waikato, University of, Waikato Management School		
7	Cincinnati, University of, Carl H. Lindner College of Business	Cincinnati, University of, Carl H. Lindner College of Business	Cincinnati, University of, Carl H. Lindner College of Business	7
8	Surrey, University of, School of Management	Minnesota, University of, Carlson School of Management	Minnesota, University of, Carlson School of Management	8
9	Minnesota, University of, Carlson School of Management	Surrey, University of, School of Management	Surrey, University of, School of Management	9
10	University of Edinburgh Business School	University of Edinburgh Business School	National Cheng Kung University; University of Edinburgh Business School	10,5
11	National Cheng Kung University	National Cheng Kung University		
12	Toulouse Business School - Groupe ESC Toulouse, Chambre de Commerce et d' Industrie de Toulouse	Toulouse Business School - Groupe ESC Toulouse, Chambre de Commerce et d' Industrie de Toulouse	Toulouse Business School - Groupe ESC Toulouse, Chambre de Commerce et d' Industrie de Toulouse	12
13	New Hampshire, University of, Peter T. Paul College of Business and Economics	New Hampshire, University of, Peter T. Paul College of Business and Economics	Alberta, University of, School of Business; New Hampshire, University of, Peter T. Paul College of Business and Economics	13,5
14	Alberta, University of, School of Business	Alberta, University of, School of Business		

Evaluation scale for the selected criteria

No	Criterion	Evaluation scale
2	**Mission**	**A1.** Consistent with the objectives (covering among other things such categories as ethics, social responsibility, sustainable development, internationalization, globalization, innovation, practice, research etc.)
		A2. Too wide, too ambitious, covering undesired elements
		A3. Too narrow, insufficiently ambitious, covering too few desired elements
12	**Accreditations**	**B1.** In line with the objectives (2 prestigious accreditations: AACSB business accreditation and 1 more)
		B2. Above expectations (more than 2 highly valued accreditations, accreditations inadequate to the profile of the school)
		B3. Below expectations (less than 2 accreditations or 2 but insufficiently prestigious)
13	**Positions in rankings**	**C1.** In line with the objectives (among the best 30 business schools in Europe according to the well-recognized ranking)
		C2. Above expectations (for instance leading positions in well-recognized worldwide rankings)
		C3. Below expectations (below 30th place in Europe or not mentioned in highly regarded rankings)

MARS (1)

- The MARS procedure consists of:

  ➢ Determination of the evaluation scale for each criterion considered in the decision-making problem

  ➢ Pair-wise comparison of the hypothetical alternatives, each with the best evaluations for all the criteria but one, and the ideal reference vector (with the best evaluations for all the criteria), using 7 semantic categories: 'no', 'very weak', 'weak', 'moderate', 'strong', 'very strong' and 'extreme' or a succession of them

  ➢ The comparisons are performed using M-MACBETH software, which automatically verifies their consistency and offers suggestions to resolve possible inconsistencies

PROMETHEE

MARS (2)

- The MARS procedure - continuation:

  ➤ Solution of the linear program corresponding to the comparisons performed to obtain the scores from the 0-100 scale for the elements compared, i.e. to form the Joint Cardinal Scale (JCS)

  ➤ Ordering the alternatives with respect to the ideal alternative

    ➤ Let us substitute the evaluations in each vector describing the alternative considered in the decision-making problem by the corresponding scores from the 0-100 JCS. For each alternative the distance from the ideal alternative is defined by the formula:

$$L_i = \sum_{k=1}^{n}(100 - p_{ik})$$

where p_{ik} is the score from the 0-100 JCS substituting the assessment of alternative a_i according to criterion f_k

  ➤ The final complete ranking of the alternatives is constructed according to the distance values L_i in ascending order
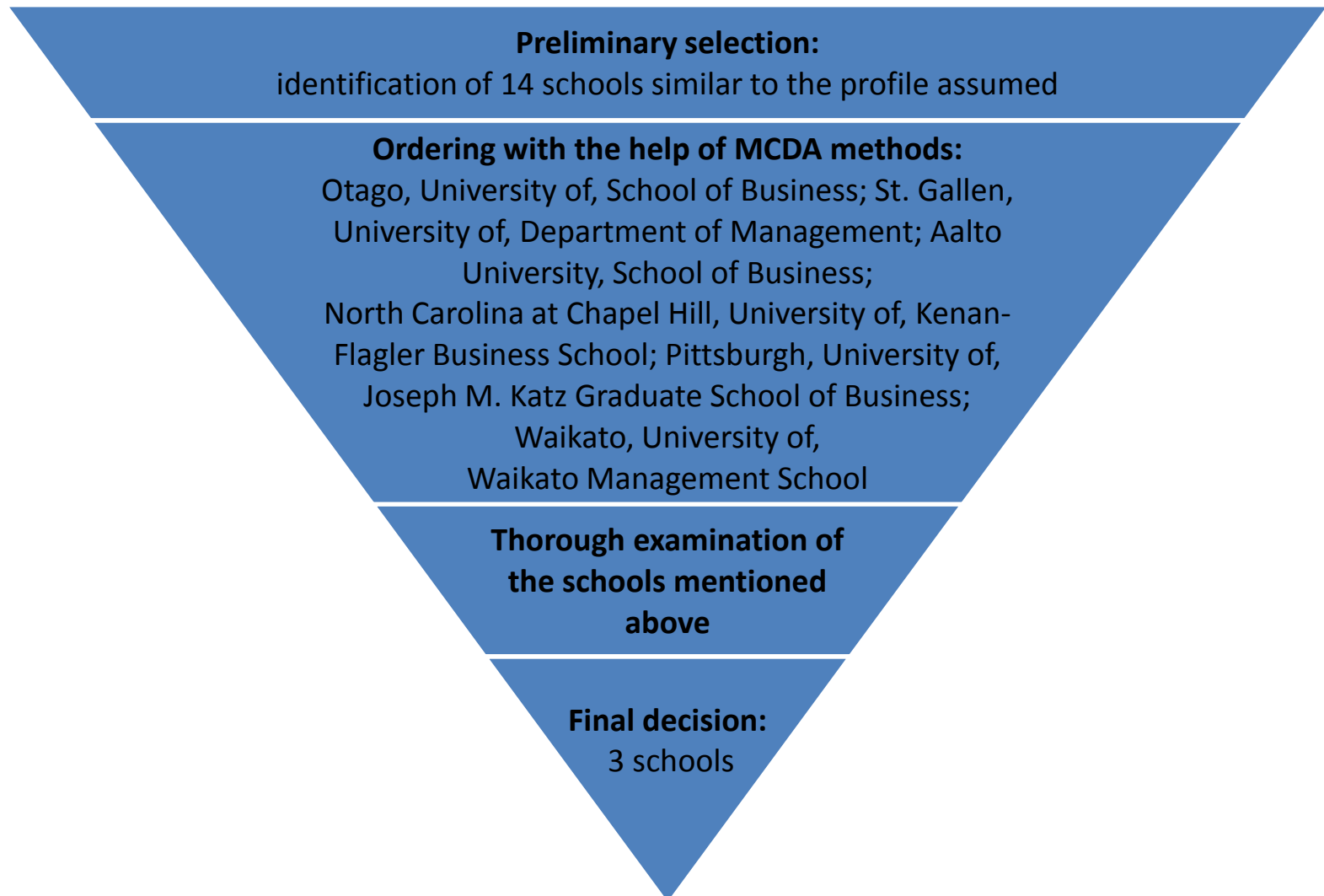
Results – part 2
(outranking methods + MARS)

No	Business school	Score (the distance from the ideal alternative)
1	St. Gallen, University of, Department of Management	0
2	Waikato, University of, Waikato Management School	68
3	Otago, University of, School of Business	100
4	Aalto University, School of Business	104
5	Pittsburgh, University of, Joseph M. Katz Graduate School of Business	132
6	North Carolina at Chapel Hill, University of, Kenan-Flagler Business School	156
7,5	Cincinnati, University of, Carl H. Lindner College of Business; National Cheng Kung University	172
9	Minnesota, University of, Carlson School of Management	180

Conclusions

PROSPECTIVE

Preliminary selection:
identification of 14 schools similar to the profile assumed

Ordering with the help of MCDA methods:
Otago, University of, School of Business; St. Gallen, University of, Department of Management; Aalto University, School of Business; North Carolina at Chapel Hill, University of, Kenan-Flagler Business School; Pittsburgh, University of, Joseph M. Katz Graduate School of Business; Waikato, University of, Waikato Management School

Thorough examination of the schools mentioned above

Final decision:
3 schools

Thank you very much for your attention

Sources

1. AACSB International: http://www.aacsb.edu/

2. Americal Psychological Association:
   http://www.apa.org/support/education/accreditation/description.aspx#answer

3. Górecka D., Roszkowska E., Wachowicz T. (2014) 'MARS – a hybrid of ZAPROS and MACBETH for verbal evaluation of the negotiation template. In: Proceedings of the Joint International Conference of the INFORMS GDN Section and the EURO working Group on DSS, P. Zaraté, G. Camilleri, D. Kamissoko, F. Amblard (eds.), Toulouse University, Toulouse, pp. 24-31.