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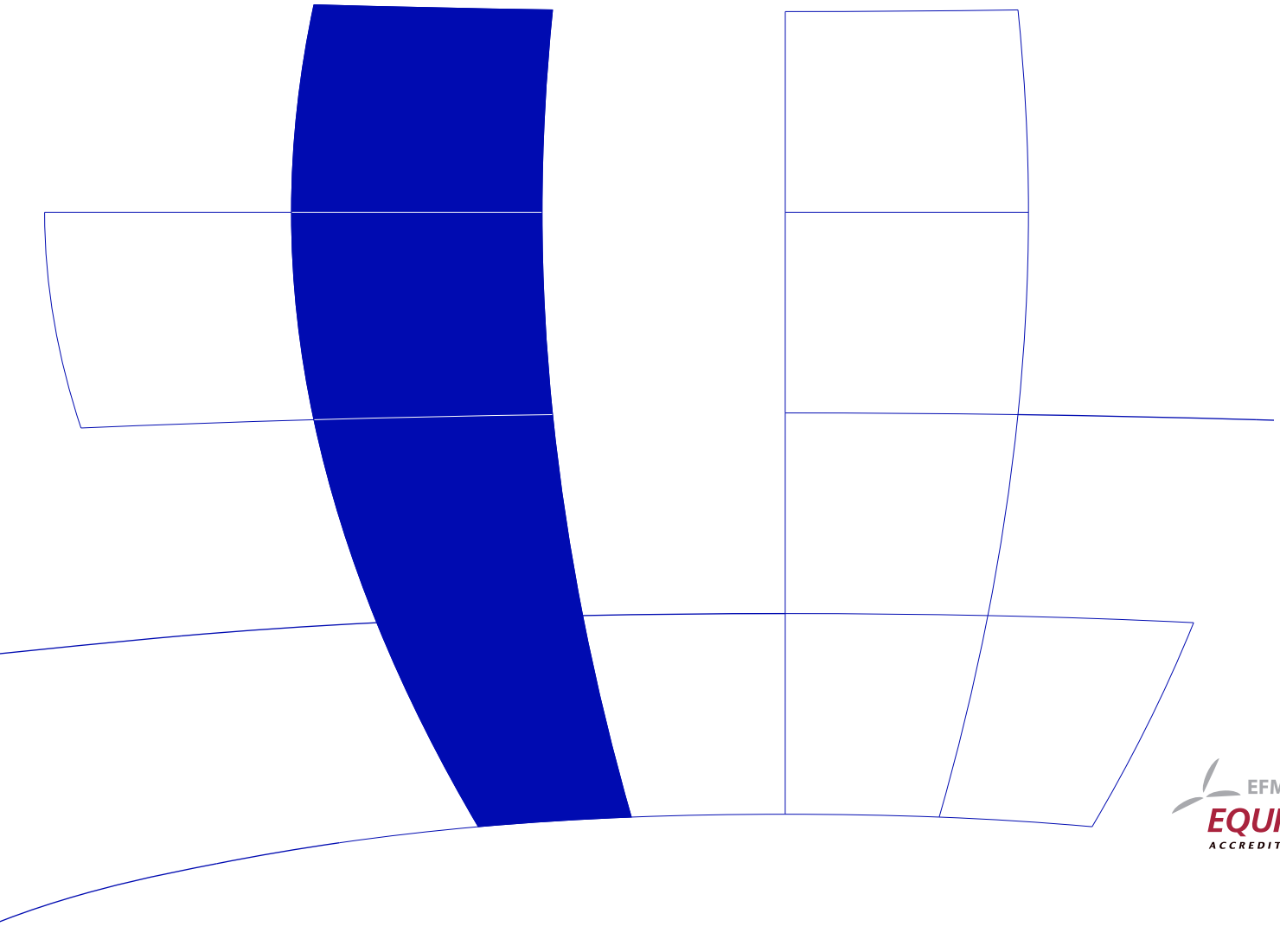

How Can we Derive Consensus Among Various Rankings of Marketing Journals?

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Abstract

The identification of high quality journals often serves as a basis for the assessment of research contributions. In this context rankings have become an increasingly popular vehicle to decide upon incentives for researchers, promotions, tenure or even library budgets. These rankings are typically based on the judgments of peers or domain experts or scientometric methods (e.g., citation frequencies, acceptance rates). Depending on which (combination) of these ranking approaches is followed, the outcome leads to more or less diverging results. This paper addresses the issue on how to construct suitable aggregate (subsets) of these rankings. We present an optimization based consensus ranking approach and apply the proposed method to a subset of marketing-related journals from the Harzing Journal Quality List. Our results show that even though journals are not uniformly ranked it is possible to derive a consensus ranking with considerably high agreement among the individual rankings. In addition, we explore regional differences in consensus rankings.

Keywords: journal rankings; consensus ranking; meta-ranking; marketing; optimization

1 Introduction

In the recent decades, academics in the field of business research and related sub-disciplines have been faced with an increasing number of journal rankings (an up-to-date compilation is provided by *Anne-Wil Harzing* via the Web site `http://www.harzing.com/jql.htm`). As the former *Marketing Science* editor *Steven Shugan* (2003) nicely pointed out in one of his editorial notes, this ranking hype was triggered to a large extent by some groups of journalists. Around the early 1980ies they started to publish MBA program and Business School rankings in the business trade press, such as *Business Week*, the *Wall Street Journal*, or *The Financial Times*. In order to measure faculty members' research productivity as part of their ranking efforts, they came up with journal rankings.

Unsurprisingly, the continuing dissemination of such rankings is paralleled by a sometimes very controversial discussion among academics on their specific merits and drawbacks to adequately reflect the research quality of individual scholars or academic units. It is beyond the scope of this article to repeat this discussion in detail (see Polonsky, 2008, for a recent summary). However, it is important to notice that the ranking hype gained momentum as academics joined the chorus by developing their own journal rankings and comparing them with the rankings issued by the trade press (Hult et al., 1997; Fry et al., 1985; Theoharakis and Hirst, 2002; Bakir et al., 2000; Baumgartner and Pieters, 2003; Schrader and Hennig-Thurau, 2009).

Because highly ranked journals tend to attract the best manuscripts, rankings can be self-fulfilling prophecies (Fleet et al., 2000; Shugan, 2003; Starbuck, 2005). Over the years, journal rankings also gained an increasingly important role in resource allocation processes (Stahl et al., 1988; Gomez-Mejia and Balkin, 1992). For example, with the rankings of their school in mind, deans at least implicitly have to consider the impact of their various resource decisions on these rankings. Because libraries tend to refocus their subscriptions to journals with high rankings, journal editors are more and more tempted to compete over rankings (Polonsky et al., 1999). This is in particular the case when university budgets are getting smaller. Finally, scholars are striving to publish their research in as highly ranked journals as possible (Fleet et al., 2000).

The majority of nowadays available journal rankings are based on stated preferences (i.e., judgements among academic peers; e.g., Hult et al., 1997; Fry et al., 1985; Theoharakis and Hirst, 2002), revealed preferences (i.e., citation rates as a surrogate measure of publication impact; e.g., Bakir et al., 2000; Baumgartner and Pieters, 2003), or a combination of the former two types of data sources (e.g., Dubois and Reeb, 2000; Zhou et al., 2001). While the various ranking approaches are typically rather consistent about the top tier journals in the investigated (sub-) discipline, they tend to diverge substantially as one proceeds further down the rank order of journals. Besides the kind of preference data used to rank journals, the spread for lower tier journals across individual rankings is also affected by the type of institution (e.g., academic rigour vs. practitioner orientation, type of methodological research orientation, etc.) or the geographical perspective among groups of academics (Pieters et al., 1999; Tellis et al., 1999; Theoharakis and Hirst, 2002; Polonsky and Whitelaw, 2005). In a comparative study of eleven rankings Mingers and Harzing (2007) found pairwise rank correlations between .32 and .79, which clearly suggest that there is some degree of concordance but by far no identity.

As a natural consequence of journal rankings importance to the academic community, some authors made attempts to merge compilations of rankings into meta-rankings for various sub-disciplines like international management (Dubois and Reeb, 2000), management information systems (Rainer and Miller, 2005), or innovation management and entrepreneurship (Franke and Schreier, 2008). The adopted approaches to aggregate rankings range from simple rank averaging (e.g., Dubois and Reeb, 2000) to more sophisticated statistical approaches like the maximum likelihood procedure proposed by Bancroft et al. (1999).

There are two major challenges in aggregating journal ranking data sets, which have not yet been adequately resolved by existing approaches: (1) The different measurement scales used by the rankings and (2) incomplete information (Mingers and Harzing, 2007; Franke and Schreier, 2008). The first issue refers to the fact that the available rankings make use of quite different scale levels including binary (yes/no), ordinal (e.g., by assigning grades A+, A, B, etc.), or numeric

scores (e.g., impact factors above 0) to construct their rankings. This makes the aggregation of rankings with conventional statistical methods cumbersome. Even more problematic appears to be the second issue, which is related to the typically large amount of "missing observations" in ranking data sets. They accrue because the various rankings cover only subsets of journals, which usually coincide only partially. Thus, the sparsity of the data set is generally increasing with broader rankings.

In this paper, we present a method for deriving meta-rankings of journals by solving consensus optimization problems. The proposed methodology obtains consensus rankings from paired comparisons among a set of rankings. It can accommodate mixed types of measurement scales and is relatively robust for sparse data. The next section introduces the cornerstones of the proposed consensus ranking methodology. Following, we apply the method using a subset of marketing-related journals provided by the Harzing journal ranking repository. The presentation and discussion of our results show, that even though the investigated rankings of marketing-related journals are far away from being identical it is possible to derive a consensus ranking which shows a considerably high level of agreement with the individual rankings. In addition, we also explore differences in regionally disaggregated consensus rankings based on suitably chosen subsets of rankings included in the Harzing compilation. Finally, we conclude our paper with a discussion on the potential value of such consensus rankings.

2 Methodology

As a starting point, consider a total number of B journal rankings $\mathcal{H} = \{H_1, \ldots, H_B\}$ and n journals $\mathcal{J} = \{J_1, \ldots, J_n\}$. Notice that each journal in the set $\mathcal{J}$ is ranked in at least one of the B rankings, but is not necessarily evaluated in all available rankings. Thus, we allow for incomplete information across the set of journals $\mathcal{J}$. We are interested in finding a consensus ranking of all journals in $\mathcal{J}$ by suitably aggregating the rankings included in $\mathcal{H}$.

The quality of a journal is usually measured either on an ordinal or on a metric scale. In order to derive a consensus ranking, we compare journals in each of the rankings they are included by investigating whether a ranking evaluates a journal J_i as explicitly superior to another journal J_j, which implies $J_i > J_j$. For rankings based on a metric scale this involves suitable grouping.

These paired comparisons for a particular journal ranking H_b induce a *relation* (more precisely, an endorelation) R_b on the set of journals $\mathcal{J}$, representing either the strict preference as indicated above, its dual $J_i > J_j$, or a weak $J_i \leq J_j$ preference relation. The latter warrants that the existence of ties (i.e., equivalent preference) are taken into account. Using such an approach we do not necessarily need to interpret all available data as metric (like e.g., Mingers and Harzing, 2007) and thus can directly process the ordinal data commonly provided by the journal ranking publishing institutions.

2.1 Consensus Rankings

A consensus ranking denotes a suitable aggregation of the relation *profile* — the collection of relations $\mathcal{R} = \{R_1, \ldots, R_B\}$ — into a single relation R, that is an endorelation on $\mathcal{J}$ which is at least complete, reflexive and transitive (a *preference relation*). To determine R from a set $\mathcal{C}$ of possible consensus relations we follow Régnier (1965), who suggested solving (a non-weighted variant of) the problem

$$\sum_{b=1}^{B} w_b d(R, R_b) \Rightarrow \min_{R \in \mathcal{C}},$$

where d is a dissimilarity (distance) measure. According to this *optimization* approach consensus relations are the ones that "optimally represent the profile" in such a way that the average distance d to the individual rankings is minimized.

In the present application, we propose to use the Kemeny-Snell distance d_{KS} (Kemeny and Snell, 1962) as a distance measure between preference relations, because it satisfies a natural set of axioms, namely the basic axioms for a metric, a normalization, and a betweenness condition. When used for preference relations, d_{KS} coincides with the *symmetric difference distance* d_Δ.

The resulting optimization problem can be expressed as a binary programming problem, which usually can be solved reasonably efficiently even though it is a combinatorial optimization problem known to be $\mathcal{NP}$-complete (Wakabayashi, 1998).

2.2 Optimization Procedure

Let $r_{ij}(b)$ be the incidences of the preference relations R_b in the sense that $r_{ij}(b) = 1$ if $i \leq j$ in R_b, and let $c_{ij} = \sum_b (2w_b r_{ij}(b) - 1)$. Then the consensus preference relation R can be obtained by solving

$$\sum_{i \neq j} c_{ij} r_{ij} \Rightarrow \max$$

subject to the constraints that the incidences r_{ij} of R satisfy the following binarity, reflexivity and transitivity conditions (see Hornik and Meyer, 2007, for more details):

$$\begin{array}{rcll} r_{ij} & \in & \{0,1\} \quad i \neq j & \text{(binarity)} \\ r_{ii} & = & 1 & \text{(reflexivity)} \\ r_{ij} + r_{jk} - r_{ik} & \leq & 1 \qquad i \neq j \neq k & \text{(transitivity)} \end{array}$$

Finally, we note that for a given relation profile there is not necessarily a unique solution to the above binary optimization problem. However, using branch and cut approaches, one can identify all consensus solutions and use the commonalities in these to obtain a robustified understanding of the underlying preference structure.

3 Data Set Characteristics

To apply the above described methodology for deriving consensus rankings among journal rankings related to the marketing discipline, we selected a total number of 12 renowned rankings. They are all available from published sources on the Web and are included in the 34^{th} edition of the Harzing Journal Quality List (JQL, `http://www.harzing.com`). We did not include all the JQL rankings because some of them have a relatively narrow disciplinary focus (we observed more than 90% missing values).

Table 1 provides a complete list of the used journal rankings along with their issuing institution, their corresponding abbreviation, and their geographic provenience. As for the latter, Table 1 uses the region codes EU for Europe, UK for the United Kingdom, and O for Others. The ranking Theo05 (Theoharakis and Hirst, 2002) was classified as O since the survey is based on a worldwide sample.

Confronted with the total number of 851 journals available in this dataset domain experts were asked to select those journals, which they considered as potential publication outlets for marketing academics' research output. They further assigned each of theses preselected journals to one of the follwoing two categories: (1) A *core* list of "real" marketing journals with an inherent focus on general or specific topics in marketing. (2) An *extended* list including journals from adjacend disciplines, but which also seek for marketing academics as their target audience. The latter list includes journals with a focus on disciplines like General Business Research (GBA), Information Science (IS), Applied Psychology (AP), or Operations Research (OR).

To obtain robust interpretable consensus solutions from the integer optimization problem presented in the last section, we removed journals not contained in a significant majority (three quarters) of the rankings. This selection procedure resulted in a final subset of 33 and 62 journals included in the core and extended list, respectively. Table 2 lists all journals under consideration

Abbreviation	Institution	Region
Wie01	WU Vienna University of Economics and Business	EU
Bjm04	Business and Management 2001 Research Assessment Exercise in the UK	UK
Hkb05	Hong Kong Baptist University School of Business	O
Theo05	ALBA Journal Ranking	O
EJL06	Erasmus Research Institute of Management	EU
UQ07	University of Queensland	O
ABDC08	Australian Business Deans Council	O
Ast08	Aston Business School	UK
Cnrs08	Comite National de la Recherche Scientifique	EU
Vhb08	Verband der Hochschullehrer fuer Betriebswirtschaft	EU
ABS09	Association of Business Schools	UK
Cra09	Cranfield University School of Management	UK

Table 1: Journal rankings, their abbreviations and region codes

including their abbreviations and indications whether they are member of the core list (marked by C) or not[1].

Journal Name	Abbrev	Journal Name	Abbrev
Advances in Consumer Research (C)	ACR	Journal of Interactive Marketing (C)	JIntMar
California Management Review	CMR	Journal of International Marketing (C)	JIM
Computers & Operations Research	COR	Journal of Macromarketing (C)	JMK
Decision Sciences	DS	Journal of Marketing (C)	JM
Decision Support Systems	DSS	Journal of Marketing Management (C)	JMM
European Journal of Information Systems	EJIS	Journal of Marketing Research (C)	JMR
European Journal of Marketing (C)	EJM	Journal of Personal Selling and Sales Mgmt (C)	JPSS
European Journal of Operational Research	EJOR	Journal of Product Innovation Management (C)	JPIM
European Management Journal	EMJ	Journal of Public Policy & Marketing (C)	JPPM
Harvard Business Review	HBR	Journal of Retailing and Consumer Services (C)	JRCS
Industrial Marketing Management (C)	IMM	Journal of Retailing (C)	JR
Interfaces	Int	Journal of Service Research (C)	JSR
Int. Business Review	IBR	Journal of Services Marketing (C)	JS
Int. Journal of Advertising (C)	IJA	Journal of Small Business Management	JSBM
Int. Journal of Electronic Commerce	IJEC	Journal of Strategic Marketing (C)	JSM
Int. Journal of Logistics Management	IJLM	Journal of the Academy of Marketing Science (C)	JAMS
Int. Journal of Market Research (C)	IJMR	Journal of the Operational Research Society	JORS
Int. Journal of Research in Marketing (C)	IJRM	Journal of World Business	JWB
Int. Journal of Retail & Distrib. Man. (C)	IJRDM	Marketing Letters (C)	ML
Int. Journal of Service Industry Man. (C)	IJSIM	Marketing Science (C)	MkS
Int. Marketing Review (C)	IMR	MIS Quarterly	MISQ
Journal of Advertising (C)	JA	Psychology and Marketing (C)	PM
Journal of Advertising Research (C)	JAR	R&D Management	RM
Journal of Applied Psychology	JAP	Research Policy	RP
Journal of Business Ethics	JBE	Service Industries Journal	SIJ
Journal of Business Research (C)	JBR	Sloan Management Review	SMR
Journal of Business Venturing	JBV	Small Business Economics	SBE
Journal of Consumer Marketing (C)	JCM	Strategic Management Journal	SMJ
Journal of Consumer Psychology (C)	JCP	Supply Chain Management: An Int. Journal	SCMAIJ
Journal of Consumer Research (C)	JCR	Thunderbird International Business Review	TIBR
Journal of Forecasting	JOF	Total Quality Mgmt & Business Excellence	TQMBE

Table 2: Journals used in our study (C indicates membership in the "core" list).

As an illustration of the rather diverse set of measurment scales underlying the journal rankings used in our study, Table 3 shows and excerpt of the raw data which is subject to our proposed consensus ranking method.

[1]Because a substantial part of its published articles are related to the marketing discipline, the *Journal of Business Research* was assigned to the core list.

	Bjm04	Hkb05	Theo05	EJL06	UQ07	ABDC08	Ast08
Decision Sciences	7	B+	30.42	P	2	A+	4
Strategic Management Journal	6	A	39.93	STAR	1	A+	4
Decision Support Systems	5	B+	25.23	P	1	A+	3
European Journal of Information Systems	5	B	22.13	P	1	A+	4
California Management Review	6	B	17.59	P	2	A+	4
Harvard Business Review	7	B	33.5	P	2	A+	4
Journal of Business Ethics	3	B		P	3	A	3
Sloan Management Review	7	B	22.41	P	2	A	4
Computers & Operations Research	5.5	B		S	4	A	3
European Journal of Operational Research	6	B	5.23	P		A	4

Table 3: Example of ranking data for ten journals with the lowest number of missing observations.

4 Results

This section presents the results obtained by our proposed method. All computations to derive consensus rankings were carried out in the R system (version 2.11.1) for statistical computing (R Development Core Team, 2010) using functions and methods of the **relations** package (Hornik and Meyer, 2010). The R package **Rcplex** (Bravo and Theußl, 2009), which provides an interface to the commercial optimizer CPLEX (IBM ILOG, 2009), was used for solving all optimization problems.

To illustrate the effect of adding journals from adjacent disciplines to the marketing journals in the core list on the resulting consensus ranking, we ran our analyses separately for the core and the extended journal lists. Following, we compare these two consensus rankings and discuss their commonalities and differences. Likewise, we compare the consensus rankings for regionally disaggregated journal rankings.

4.1 Core versus Extended List

The resulting consensus preference relation is a numeric vector of preference scores for the investigated journals. Consensus relations are typically only partially ordered sets of scores, which can be nicely represented by using Hasse diagrams. Figure 1 portrays such diagrams for an excerpt of the consensus relations for both journal lists. For reasons of clarity we had to prune the consensus relations by selecting only the top 20 and 37 journals from the core and extended list, respectively[2].

The Hasse diagram for the core journal list on the left in Figure 1 clearly illustrates that as a consensus across the 12 rankings in the above sense, marketing journals are arranged in several tiers. Each of then is signalling the same degree of preference among the journals placed on the respective level. For example, and indeed not much surprisingly, the top-tier marketing journals are the *Journal of Consumer Research* (JCR), the *Journal of Marketing* (JM), the *Journal of Marketing Research* (JMR), and *Marketing Science* (MkS). Also the second tier of the consensus preference structure contains high-quality journals like the *International Journal of Research in Marketing* (IJRM), the *Journal of the Academy of Marketing Science* (JAMS), the *Journal of Product Innovation Management* (JPIM), and the *Journal of Retailing* (JR). In this respect our findings are consistent with the notions of many other authors that there seems to be high agreement among academics on the top journals in their discipline (Polonsky and Whitelaw, 2005; Theoharakis and Hirst, 2002).

Interestingly, our detected consensus preference structure suggests the *Journal of Service Research* (JSR) to separate the above mentioned top-level marketing journals from lower-level publication outlets. As we proceed further down the ladder, more specialized and niche marketing journals are "joining the crowd". Quite obviously, the derived consensus preference structure tends to distinguish between two broad types of marketing journals: one with a relatively broad scope and a wide range of covered topics placed in the top levels and another type with a more focused positioning in the lower levels of the ranking list. However, there are also exceptions. For example, specialized journals like JPIM and JR are ranked quite high, whereas *Marketing Letters* (ML) and the *Journal of Business Research* (JBR) are found on a lower level in spite of their

[2]The complete information is available from the authors on request.

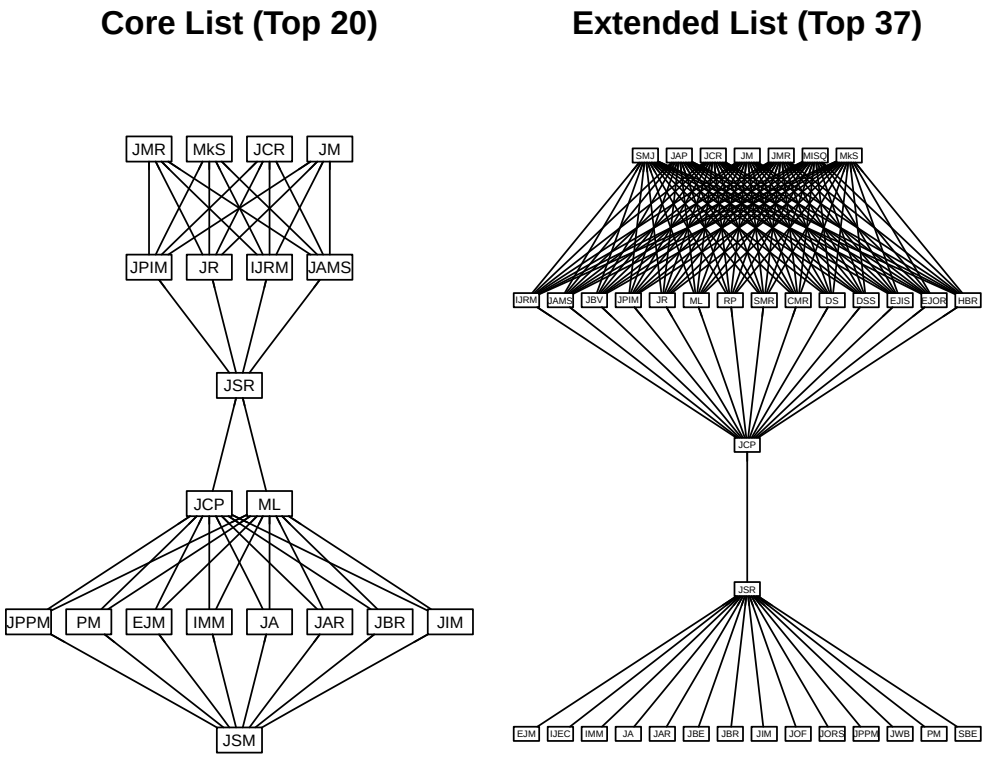

Figure 1: Consensus journal ranking for the *core* and the *extended* journal list.

relatively broad scope. It is also of interest to notice that almost all of the journals ranked below the *Journal of Strategic Marketing* (JSM) form a linear order. As expected, this indicates lower degrees of agreement among the investigated rankings for the lower preferred journals.

If we add journals from adjacent disciplines by using the extended list, we observe a unique structure over all consensus relations for the top 37 journals (see the Hasse diagram on the right in Figure 1). Compared to the core list of journals *MIS Quarterly* (MISQ), the *Strategic Management Journal* (SMJ), and the *Journal of Applied Psychology* (JAP) join the top level of marketing-related journals. The inclusion of JAP in this top-quality group of journals might be somehow surprising, but this journal is extremely highly ranked in the journal rankings issues by UK and Australian institutions. The second tier remains occupied by the marketing journals IJRM, JAMS, JPIM, and JR from the core list. Here, some journals with a relatively broad disciplinary scope but with a focus on quantitative research methodology and information science join the group, namely *Decision Sciences* (DS), *Decision Support Systems* (DSS), *European Journal of Information Systems* (EJIS), and *European Journal of Operational Research* (EJOR). But also the most prestigious practitioners oriented transfer journals in the management discipline — the *California Management Review* (CMR), the *Harvard Business Review* (HBR), and *Sloan Management Review* (SMR) — are considered as highly estimated publication outlets for marketing academics. The second tier list is completed by the *Journal of Business Venturing* (JBV), *Research Policy* (RP), and *Marketing Letters* (ML).

The move of ML (which is evaluated comparatively high in UK- and EU-based journal rankings) from a lower to the second tier and the inversion of the JCP and JSR ranks in the consensus ranking for the extented list is one of the most noticable differences in the preference structures emerging from our optimization approach. In fact, the consensus preference scores for these three journals

underlying the Hasse visualization are virtually in the same range and show larger distances to the higher ranked group of journals (top tier) and those evaluated placed on lower levels. Again, as we already noticed for the consensus ranking for the core journal list, the journal group ML, JCP, and JSR are responsible for dividing the universe of marketing-related journals into these two broader sub-sets.

4.2 Regional Differences in Consensus Rankings

A number of prior studies on the evaluation of journals stressed the diverging geographical perspectives taken by groups of academics and their effect on journal rankings. In the context of marketing journals, Theoharakis and Hirst (2002) examine the perceptual differences of journal evaluations between different regional segments of marketing academics based on a worldwide online survey. Among others, they showed that there is not necessarily consistency in perceived journal quality in the four regions North America, Europe, Asia, and Australia/New Zealand. Moreover, Mingers and Harzing (2007) explained that for a variety of reasons (Easton and Easton, 2003) British academics tend to publish less in the most highly ranked international journals.

In our study we also expect differences in consensus rankings derived from continental Europe and UK rankings. Thus, we divided the available data set based on three different regions: United Kingdom, Europe without UK, and the rest of the world ("UK", "EU" and "O" for short) each containing four rankings. Table 1 lists the rankings and their respective regional codes. For each of the three regions we calculated its (sub) consensus ranking. Table 4 shows the ranks (the lower the preference score of a journal, the higher its rank) of the journals for the EU, UK and O subsets compared to the overall consensus in the core list (All). If we compare the patterns of the regionally consensus rankings with each other and the overall consensus we see that there is generally high agreement about the top journals: JCR, JM, JMR, and MkS are in all regional consensus rankings the highest ranked journals. This observation is again consistent with previous findings and also our own observation from comparing core list and extendet list rankings.

However, the top group in the UK ranking comprises another two journals, namely JAMS and JPIM. Such a high rank of JPIM is surprising because it is ranked far lower in the O consensus ranking. Thus, the top tier journal list is defined broader in the UK as compared to other geographical regions. Another interesting observation from the UK consensus ranking is the unique position of ML, which is ranked immediately after the group of top-journals. This is remarkable, since ML apparently is — in consensus — considered in the UK of higher quality than the elsewhere quite highly ranked IJRM and JR. The position of IJRM across the different solutions is also interesting. It is ranked much higher in the EU and O than in the UK consensus. One possible explanation for this observation might be that IJRM is positioned as the top publication outlet of it's sponsoring *European Marketing Academy* (EMAC).

In view of the insights gained so far an obious question arises on how dissimilar the individual rankings and the derived consensus rankings are compared to each other. In an attempt to investigate into this in more detail, Figure 4.2 portrays the pairwise distances of the respective core journal list's rankings d_Δ using a multidimensional scaling technique based on stress minimization by means of majorization (smacof, see de Leeuw and Mair, 2009).

Notice that the overall consensus ranking is located in the center of the plot. In general, the more displaced a ranking is from the corresponding consensus the lower the level of agreement. Three interesting patterns emerge here: First, the European consensus (EU) is more dissimilar to the overall consensus (All) than the UK und other countries (O) consensus rankings. Note that in O we have included two Australian rankings being closer to UK- than EU-based rankings. Second, the UK consensus is much closer to rankings issued by Business Schools (Ast08, ABS09, Cra09) rather than the ranking provided by the *Research Assessment Exercise* (Bjm04), which regularly takes place for evaluating the research output of universities in the UK. Third, although we did not include Australian rankings when calculating the UK consensus they are apparently very close to the UK consensus indicating high agreement in those two regions. In continental Europe rankings Cnrs08, EJL06, Wie01, and Vhb08 diverge rather strongly. Nevertheless, the closest ranking to the EU consensus is the Vhb08 ranking which is the result of a highly sophisticated selection process.

	All	EU	UK	O
Journal of Consumer Research	2.5	2.5	3.5	2.5
Journal of Marketing	2.5	2.5	3.5	2.5
Journal of Marketing Research	2.5	2.5	3.5	2.5
Marketing Science	2.5	2.5	3.5	2.5
International Journal of Research in Marketing	6.5	**5.0**	**12.0**	6.0
Journal of the Academy of Marketing Science	6.5	7.5	**3.5**	6.0
Journal of Product Innovation Management	6.5	7.5	**3.5**	**11.5**
Journal of Retailing	6.5	7.5	**12.0**	6.0
Journal of Service Research	9.0	11.5	12.0	19.0
Journal of Consumer Psychology	10.5	10.0	17.0	11.5
Marketing Letters	10.5	7.5	**7.0**	11.5
European Journal of Marketing	15.5	21.5	12.0	16.5
Industrial Marketing Management	15.5	21.5	12.0	11.5
Journal of Advertising	15.5	21.5	12.0	11.5
Journal of Advertising Research	15.5	21.5	20.0	11.5
Journal of Business Research	15.5	21.5	12.0	11.5
Journal of International Marketing	15.5	21.5	12.0	11.5
Journal of Public Policy & Marketing	15.5	21.5	20.0	18.0
Psychology and Marketing	15.5	11.5	20.0	16.5
Journal of Strategic Marketing	20.0	21.5	20.0	22.0

Table 4: Comparison of consensus rankings (preference scores) based on the regional provenience of the rankings.

5 Conclusions

Journal rankings have become an important tool to assess the research quality of individual researchers, academic units, or even entire universities. In fact the latter is the case with the Research Assessment Exercise regularly performed in the UK. There is a widespread consent among academics that focusing on one single journal ranking is risky and inappropriate to adequately reflect the aggregate perspective of the academic community on the quality of their research publication outlets.

Prior attempts to merge compilations of single rankings into suitable meta-rankings struggle with the different measurement scales used by the rankings and the issue of incomplete information. In this paper, we presented an optimization based approach on how consensus rankings can be derived from several individual rankings. The approach is capable to account for different scale levels (numeric, ordinal) and partial intersections of the journal sets included in the aggregation task.

We applied the proposed consensus ranking method for various subsets of marketing-related journals included in the Harzing JQL and visualized the derived solutions via modified Hasse diagrams. Even though the single rankings are rather divergent in the lower rank orders of the journals, our results show that it is possible to derive consensus rankings with considerably high agreements among the used set of single rankings. Notwithstanding, it has to be noted that conclusions have to be drawn carefully from such an analysis, because the results depend on the journal rankings used as input data. However, our application study using marketing-related journals demonstrates the efficiency and the versatility of the presented approach. Compared to the rather complicated and extensive efforts of previous attempts to adequately aggregate single rankings into meta-rankings of a discipline, our approach is ubiquitous applicable for a wide range of similar ranking aggregation tasks. Instead of requiring sometimes incomprehensible interventions by the analyst, the proposed procedure relies on a formal solution of the underlying optimization problem and thus warrants an optimum level of agreement of the derived meta-ranking among the set of single rankings. Thus, our findings should encourage researches and, in particular, research assessment institutions to adopt a route, which allows them to objectivy

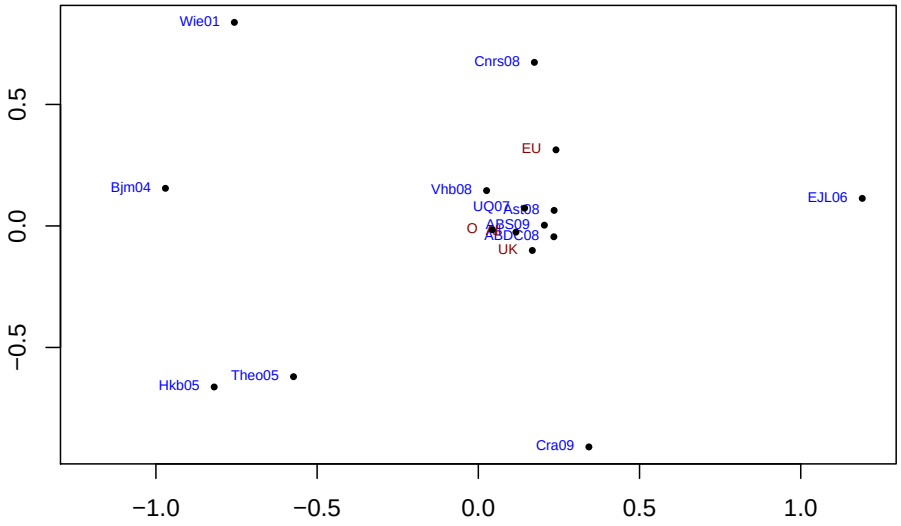

Figure 2: Symmetric difference distance-based representation of the rankings and consensus ranking by multidimensional scaling.

their ranking efforts. We believe that this could contribute to avoid much of a sometimes very emotional and controversial discussion among academics on single domain-specific rankings.

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