

Perspective: Ranking the Technology Innovation Management Journals

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Abstract

A citation analysis of the ten leading Technology and Innovation Management (TIM) specialty journals is conducted to gain insights into the relative ranking of the journals. The journals are ranked based on: number of citations, citations adjusted for publication frequency, citations corrected for age, citations corrected for self-citation, and an overall score. The top fifty journals in Management of Technology based on citation analysis are listed. Overall the top ten journals based on citation analysis are: *JOURNAL OF PRODUCT INNOVATION MANAGEMENT*, *RESEARCH POLICY*, *RESEARCH-TECHNOLOGY MANAGEMENT*, *HARVARD BUSINESS REVIEW*, *STRATEGIC MANAGEMENT JOURNAL*, *MANAGEMENT SCIENCE*, *ADMINISTRATIVE SCIENCE QUARTERLY*, *R&D MANAGEMENT*, *IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT*, and *ACADEMY OF MANAGEMENT REVIEW*. The top ten specialty journals in the Technology Innovation Management specialty are: *JOURNAL OF PRODUCT INNOVATION MANAGEMENT*, *RESEARCH POLICY*, *RESEARCH-TECHNOLOGY MANAGEMENT*, *R&D MANAGEMENT*, *IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT*, *TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE*, *INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT*, *TECHNOVATION*, *TECHNOLOGY ANALYSIS & STRATEGIC MANGEMENT*, and *JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT*. It is found that many of the TIM journals, although focused on TIM, have additional foci based on traditional management disciplines. Each of the ten leading TIM specialty journals is

considered from the perspective of traditional management disciplines, how the journals relate to each other and the related implications of these findings are considered.

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Introduction

This article conducts a citation analysis to determine the relative importance and ranking of different journals to the Technology and Innovation Management (TIM) field. Journal rankings are important, since they are critical to decisions such as where to submit research, tenure, promotion, salary increases, and relative ranking of individuals and departments (Bapna and Marsden, 2002; Cheng et al., 1999; Zinkhan and Leigh, 1999;

Doyle and Arthurs, 1995; Eom and Lee, 1993; Holsapple et al., 1993; Gomez-Mejia and Balkin, 1992; Kirkpatrick and Locke, 1992; Henderson et al., 1990; Stahl et al., 1988; Webster and Conrad, 1986). Journal ranking studies have been conducted in many different fields (Chua et al., 2002; Dubois, 2000; Cooper et al., 1993; Jobber and Simpson, 1988; Brown and Gardner, 1985). The typical methods used to rank journals are based on opinion surveys of researchers (Mylonopoulos and Thoharakis, 2001; Donohue and Fox, 2000; Coe and Weinstock, 1983) and by conducting a citation analysis of relevant journals (Holsapple et al., 1994; Brown and Gardener, 1985; Mabry and Sharplin, 1985). Both types of ranking study provide interesting and useful insights, however, citation based studies have the advantage that the methodology can be clearly stated and replicated. This offers advantages in terms of both reliability and validity.

The ranking of journals is important to Technology and Innovation Management research (Cheng et al., 1999; Liker, 1995; Kocoaglu, 1994). In fact, these rankings might be even more important than for many other fields, because TIM is an interdisciplinary field and journal ranking is not as apparent in traditional disciplines. To date two studies have been conducted which offer insight into specialty journals and non-specialty journals that greatly influence the Technology and Innovation Management field. Liker (1996) reported the results of an opinion-based ranking survey of the Technology and Innovation Management field. The survey was sent to journal editors and members of the TIM (Technology and Innovation Management) Division of the Academy of Management, the results of the survey are summarized in Table 1.

Cheng et al. (1999) conducted a citation analysis of TIM literature. This citation analysis was based on the content of the five TIM specialty journals identified by Liker's study as being the highest ranked. Over a five-year reference period, the reference section of every article, in these five journals, was reviewed to determine the frequency that any journal was cited. Consideration of the frequency that a journal is cited by the five highly ranked TIM specialty journals indicates the importance of both TIM specialty journals and other journals that may publish TIM research infrequently, but tend to print articles with high impact to the field (examples include: *Harvard Business Review*, *Management Science* and *Academy of Management*). Some inconsistencies were found between Cheng et al.'s and Liker's studies (see Table 1). Cheng et al. found that two of the five base journals used for the study obtained a very low ranking. This is problematic, since if the five base journals are in fact the top five TIM specialty journals, then a citation analysis should confirm this ranking. Due to this inconsistency and a desire to further explore the disciplinary connections that may exist within the TIM field, this study has been conducted.

Table 1 here

Our analysis found that methodological improvements in the selection of base journals, leads to consistent journal rankings. Consideration of the relations between different specialty journals and between specialty journals and traditional disciplines leads to additional insights which have important implication for selection of target journal for

research and for evaluation of journal rankings for evaluation of an individual researcher or department. Consequently, the method employed in this study is now considered. Next, the results are presented with a discussion of the implication of the findings. Finally conclusions are offered.

Method

We followed the common practices for journal rankings based on citation analyses, such methods are described in a number of articles including: Chua et al. (2002), Cheng et al. (1999), Goh et al. (1997), Vokurka (1996), and Garfield (1979). In addition, we provide a brief description of the methods utilized here. The first step was to select a set of base journals. As discussed earlier, base journals for citation analysis should be the most important journals in the field under consideration. It is important to note that the citation analysis provides information on how frequently a base journal cites: articles printed in the same base journal, articles printed in other base journals, and articles printed in non-base journals. However, the analysis provides no indication of the frequency that non-base journals cite the base journals. Consequently, this citation analysis allows us to only consider the impact on TIM, providing that the correct base journals are selected.

Obviously, base journal selection is critical. We initially chose the top eight TIM specialty journals from Cheng et al.'s study. This included four of the five journals that were used by Cheng et al. as the base journals for their study. Two TIM specialty journals, *International Journal of Technology Management* and *Technology Analysis and*

Strategic Management, that were not included in the base journal list ranked above some of the base journals. Therefore, a new citation analysis study was conducted considering ten TIM specialty journals as the base journals. The results indicate that these ten TIM specialty journals are the highest ranked, consequently, the results are reported and discussed later on in this study. But first the explanation of the method is considered further.

Table 2

Each issue of the ten base journals (see Table 2), were considered for the five years, 1997 through 2001. For each base journal the number of articles and citations, in each issue, were recorded. A record was made of which journals were cited in each article of the base journal. This information was summarized in a table indicating the number of times a journal was cited by a base journal in each of the five years. The total number of citations and number of articles for the base journal were also recorded. By combining this information from each of the base journals it is possible to rank the cited journals based on citation frequency. There are, however, a number of different ways of determining rank since factors such as the age of the journal, number of articles in a given time, journal self citation and other factors may influence the total number of citations that a journal receives (Chua et al., 2002; Cheng et al., 1999, Goh et al., 1997; Vokurka, 1996; Garfield, 1979). Consequently, we have followed the practice in previous citation analysis studies in using multiple methods to identify under what circumstances

rankings and to what extent rankings may differ. These different methods are described in Table 3. Once rankings were calculated using the five different methods, described in Table 3, a Wilcoxon rank sum test was conducted to determine which, if any, of the rankings were significantly different. Having described the method the results are now presented and discussed.

Table 3

Results

Table 4 (about here): Ranking of Journals based on various measures of citation analysis of base journals for the Technology Innovation Management Literature,

In Table 4, journals are listed with their rank for each of the different citation scoring methods used. If a journal ranked in the top fifty it is reported in Table 4. The results reported in this ranking have some important differences with Cheng et al.'s (1999) earlier study. The rankings of *Harvard Business Review*, *Management Science*, *Journal of Product Innovation Management*, *Research Policy* and *Administrative Science Quarterly* are similar between the two studies. However, in our more comprehensive study, *Research-Technology Management* (a TIM specialty journal) and *Strategic Management Journal* place among these top journals. A further important difference is that *R&D Management* moves up in rank (to either 8th or 9th place) placing it equal to or ahead of *IEEE Transactions on Engineering Management*.

Further interesting differences between Cheng et al.'s study and this more comprehensive follow-on study is that a number of TIM specialty journals have a much higher rank. *Technological Forecasting and Social Change* had an overall rank of 22, whereas in this study its overall ranking is 16 (alternative scoring methods rank it at either 12 or 16). *International Journal of Technology Management* did not appear on the earlier study, since it had a rank of over 50. In this study, the *International Journal of Technology Management* has an overall rank of 17 (alternative scoring methods rank it as 11, 14, or 17). *Technovation* had an overall ranking of 46, but now has an overall ranking of 19 (alternative scoring methods rank it at either 18 or 19). *Technology Analysis & Strategic Management* did not appear on the earlier study, since it had a rank of over 50. In this study, *Technology Analysis & Strategic Management* has an overall rank of 20 (alternative scoring methods rank it as 21 or 22). Finally, the *Journal of Engineering and Technology Management* had an overall ranking of 43; however, in this study its overall ranking is 27 (alternative scoring methods rank it at 29, 39, or 41).

Two reasonable questions that must be addressed are: *are there significant differences between the different ranking methods* and *why are there such substantial differences between Cheng et al.'s study and this study*. Wilcoxon signed rank tests (see Table 5) for all the combinations of ranking methods indicate that there is no statistically significant difference between the top one hundred journal rankings, except in the case of the *total citation* score rank and the *self-citation adjusted* score rank. The only significant difference in rankings being between the *total citation* and *self-citation* score implies that

older journals that publish more frequently tend to have a large number of citations referring to other articles in the journal. This tendency for self-citation ranks to be larger numbers than other techniques has the greatest effect on the ranking of *Journal of Engineering and Technology Management* (lowers rank by 32), while having little or no effect on *Research Policy*, *International Journal of Technology Management*, and *Technovation*. A large change in ranking indicates two factors: (1) How critical the journal is to the subject under study, and (2) The perceived or actual expectation of the journal editor(s) to have their journal cite itself. This is considered further in the discussion of individual journals.

Table 5(about here): Summary of Wilcoxon Signed Rank Tests for all combination of Citation Ranking Methods

The differences in rankings between our results and Cheng et al.'s study appears to be associated with the inherent bias in the use of Academy of Management members as a group to select the top specialty TIM journals. If Cheng and his colleagues had selected the top TIM journals as base or tracking journals, one should expect that in the ratings these would appear as the top TIM specialty journals – two of the five journals did not. Recognizing this as a potential source of error, we extended their initial work by considering the top eight TIM specialty journals identified by their study. We found that by eliminating one of the five journals Cheng et al. selected (*Journal of High Technology Management Research*) as an original base journal (but found in their study to have a very low incidence of citation) and adding four additional TIM specialty journals identified as important, the eight base journals were all ranked within the top 40 journals

of Cheng et al.'s study. However, two TIM specialty journals were ranked higher as more frequently cited than some of the other base journals. Consequently, we redid the citation analysis based on the top ten TIM journals. Having completed this iteration, the ranking study is three iterations beyond the Liker study of Academy of Management members and has results that are consistent with the base journals.

Additional insights into the role of the top ranked TIM journals can be obtained by considering the frequency in which the journals self-cite and cite each other. This information is reflected in Table 6 and discussed further in relation to each of the top ten TIM specialty journals.

Further insights can be obtained by considering which journals are most frequently cited by a base journal. By examining which 25 journals are the most frequently cited by each base journal (see Tables 7 to 16), we find that there is great variation across the ten different base journals. By examining these differences one can obtain insights into the disciplinary focus that the different TIM specialty journals appear to have. This disciplinary focus can result in over and/or under emphasis of the contribution that different disciplines make to the TIM field. These roles are important to understand for not only the selection of base journals, but also the determination of the degree of likely fit between a researcher and a journal and the relative importance or ranking of a journal in relationship to tenure and promotion. Comments are now offered regarding differences in citation foci and relevance based on the journals that the base journal cites most frequently.

Table 6: Frequency of citation between the top ten TIM specialty journals

Table 7: Number of citations and rank of the 25 most cited journals mentioned in the Journal of Product Innovation Management between 1997 and 2001.

The *Journal of Product Innovation Management* (see Table 7) draws much more heavily from the marketing literature than the other TIM base journals. Other TIM base journals cite articles from the *Journal of Marketing* and *Journal of Marketing Research*. However, the *Journal of Product Innovation Management* cites heavily not only from these two marketing journals but also from a wide range of other marketing journals, including: *European Journal of Marketing*, *Industrial Marketing Management*, *Marketing Science*, *Academy of Marketing Science Journal*, and the *Journal of Consumer Research*. This is the only one of the ten TIM specialty journals that draws strongly from the marketing literature. Consequently, it is unsurprising that *JPIM* cites itself frequently (see Table 6) and drops from first to seventh rank if self-citation is removed. Interestingly, *JPIM* cites *Research Policy* more frequently than *Research Policy* cites *JPIM*. This difference maybe because *Research Policy* deals with the front-end of the innovation process, while *JPIM* addresses the entire innovation process. Consequently, only some of the articles in *JPIM* are relevant to *Research Policy*, but most of the articles in *Research Policy* are relevant to *JPIM*. If a researcher considers topics in TIM that are traditionally linked to marketing, such as New Product Development, the *Journal of Product Innovation Management* is clearly the best and most prestigious target journal. However for some other disciplines this journal may be a less likely vehicle for publishing.

Research Policy (see Table 8), the journal with the next highest overall ranking, offers a clear difference in disciplinary base. *Research Policy* cites itself most frequently – 69% of cites (see Table 6). As is the case with the other TIM journals, the highly cited journals represent a variety of disciplines. However, *Research Policy* includes more Economics journals in its list of 25 most frequently cited journals than any of the other TIM base journals, these include: *American Economic Review*, *Industrial and Corporate Change*, *Economic Journal*, *Journal of Political Economy*, *Cambridge Journal of Economics*, *Rand Journal of Economics*, *Journal of Economic Literature*, *Quarterly Journal of Economics*, *Journal of Industrial Economics*, *Econometrica*, and *Review of Economics and Statistics*. If a researcher approaches TIM from an economics perspective, *Research Policy* is clearly the best and most prestigious target journal. However for some other disciplines such as Organizational Behavior or Management Information Systems, this journal may be less suitable for publishing.

Table 8 (about here): Number of citations and rank of the 25 most cited journals mentioned in the Research Policy between 1997 and 2001.

Table 9 (about here): Number of citations and rank of the 25 most cited journals mentioned in the Research Technology Management between 1997 and 2001.

Research-Technology Management (see Table 9) is the most practice-oriented of the TIM base journals. It draws heavily from other TIM journals and practitioner-oriented sources. Many TIM journals cite *RTM*, however, *RTM* tends to cite other TIM journals less frequently. It appears that the other base journals, with their more academic orientation desire to ground their theory in practice. However, *RTM* is less likely to ground its

practice orientation in theory. *Research-Technology Management* is highly focused on practice-oriented sources it not only lists publications such as *Harvard Business Review*, *Sloan Management Review* and *California Management Review*, but also frequently cites from other practice-oriented sources like the *Wall Street Journal*, *Fortune* and *Chemtech*. If the intent is to reach out to the TIM practitioner community, *Research-Technology Management* is likely to be the preferred vehicle. However, if the author has a theoretical or academic focus this journal might be considered unattractive.

R&D Management (see Table 10) draws from both economics and behavioral disciplines. *R&D Management* cites from *Research Policy* and *Research Technology Management* quite heavily, 16 and 21% of citations respectively (see Table 6). *R&D Management* does not draw as heavily from economics journals as *Research Policy*, however. It is also different from *Research Policy* in that there is a stronger emphasis on the financial part of economics, demonstrated by journals such as *Journal of Finance* and *Journal of Financial Economics* being among the most cited journals. Organizational Behavior-oriented journals cited frequently include: *Administrative Science Quarterly*, *Academy of Management Journal*, *Academy of Management Review* and *Organization Science*. In the Marketing, Operations and Management Information Systems disciplines it is less likely that this journal is an outlet for research.

Table 10 (about here): Number of citations and rank of the 25 most cited journals mentioned in the R&D Management between 1997 and 2001.

Table 11 (about here): Number of citations and rank of the 25 most cited journals mentioned in IEEE Transactions on Engineering Management between 1997 and 2001.

IEEE Transactions on Engineering Management (see Table 11) is the TIM specialty journal that is most oriented towards Operations and Management Information Systems. It does however rely heavily on *JPIM* and *Research Policy*, 19 and 12% of cites respectively (see Table 6). The top 25 cited journals not only include *Management Science*, but also: *Information Management*, *Communications of the ACM*, *Operations Research*, *Decision Sciences*, *Information Systems Research*, *European Journal of Operational Research*, and the *Journal of Management Information Systems*. Like *R&D Management*, organizational behavior-oriented journals cited frequently include: *Administrative Science Quarterly*, *Academy of Management Journal*, *Academy of Management Review* and *Organization Science*. Consequently, *IEEE Transaction on Engineering Management* is likely to be the vehicle of choice for researchers with a disciplinary approach grounded in Management Science, Operations Management, Decision Sciences and Management Information Systems. Along with *R&D Management* this journal appears to be an attractive outlet for TIM researchers from an Organizational Behavior discipline-base. This journal appears to be less of a fit in disciplines such as Economics.

Technological Forecasting and Social Change (see Table 12) frequently cites journals in Economics and Science and Technology. *TFSC* self-cites very heavily – 68% (see Table 6). This is due to its unique mission in forecasting. This unique mission, in forecasting technology and its impact on society, also results in a heavy emphasis on Science and

Technology journals. Consequently, technical journals, such as *Mitigation and Adaptation Strategies for Global Change*, are cited to offer context. If a researcher is not involved with forecasting and understanding technological impacts, this is an unlikely outlet for research.

Table 12 (about here): Number of citations and rank of the 25 most cited journals mentioned in Technological Forecasting and Social Change between 1997 and 2001.

Table 13 (about here): Number of citations and rank of the 25 most cited journals mentioned in Technovation between 1997 and 2001.

Technovation (see Table 13) and *International Journal of Technology Management* (see Table 14) have less of a disciplinary focus than many of the other TIM journals.

Table 14 (about here): Number of citations and rank of the 25 most cited journals mentioned in International Journal of Technology Management between 1997 and 2001.

Table 15 (about here): Number of citations and rank of the 25 most cited journals mentioned in Technology Analysis & Strategic Management between 1997 and 2001.

Technology Analysis & Strategic Management (see Table 15) is heavily influenced by the Organizational Behavior and Strategy fields, frequently cited journals include: *Strategic Management Journal*, *Administrative Science Quarterly*, *Organization Science*, *Organization Studies*, *Academy of Management Review*, *Journal of Management Studies*, *Industrial and Corporate Change*, and *Social Studies in Science*. Based on the top

journals cited this is a less likely vehicle for publication in Management Information Systems, Marketing, and Operations.

Journal of Engineering and Technology Management (see Table 16) frequently cites journals that are based in the field of organizational behavior, including: *Administrative Science Quarterly*, *Academy of Management Journal*, *Academy of Management Review*, *Organization Science*, *Human Relations*, *Journal of Applied Psychology*, *Research in Organizational Behavior*, *Journal of Personality and Social Psychology*, and *Journal of Management Studies*. This journal has a wider range of Organizational Behavior related journals, among its most highly cited list, than any of the other TIM specialty journals. Consequently, those researchers who approach TIM from an Organizational Behavior perspective should see the *Journal of Engineering and Technology Management* as a highly attractive publishing vehicle in the TIM field.

Having considered each of the ten TIM base specialty journals and implying their disciplinary approach based on the most frequently cited journals, implications and conclusions are now offered.

Table 16 (about here): Number of citations and rank of the 25 most cited journals mentioned in *Journal of Engineering and Technology Management* between 1997 and 2001.

Implications and Conclusions

Technology Innovation Management (TIM) is an interdisciplinary field. Consequently, the determination of top base journals and associated rankings are more complex than for traditional disciplines. The differences between the opinions of Academy of Management researchers interested in TIM differ greatly when a citation analysis is based on their top journal choices. In fact, we have found that it is necessary to take several iterations of base journals, before stable results are obtained (i.e. the top ranked TIM specialty journals selected as base journals are reflected in the citation analysis as the top ranked TIM specialty journals). If one considers a combination of the overall ranking on TIM journals and their disciplinary focus the choice of TIM journals by the respondents in the Liker's survey is unsurprising.

TIM's interdisciplinary nature complicates the ranking process, since a journal may have a higher rank than another but not be relevant to certain TIM researchers – due to differences in management discipline. Consequently, we have not removed journal self-citations from the overall adjusted citation scores. Furthermore, we have considered the disciplinary focus of TIM specialty journals based on the twenty-five journals that each of the ten TIM base journals cited most often. Changes in Editor-in-Chief, Area Editors and Editorial Board may of course change the focus of a journal. When the time comes that these changes have had an effect on one or more of the TIM base journals it will be worth revisiting this subject.

Until such a time, it is suggested that the journal rankings presented in Table 2 may be used with confidence in ranking journals in the TIM specialty area. However, such use is

moderated by the analysis offered on Tables 7 through 16. The disciplinary implications of the differences in disciplinary foci are summarized in Table 17 below. These differences in disciplinary implications are best used during evaluation of a researcher's record to offer an explanation why a TIM researcher has not published in a specific journal, since the selection of a target journal for research is best decided by considering the fit between journal mission and research topic – not by traditional disciplinary fit.

Table 17 (about here): Summary of Ranking of top ten TIM Journals (listed in rank order) with the effect of disciplinary focus noted

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Table 1: Summary Comparison of Results for Studies of Journal Rankings of TIM Journals

General Management Journals	Liker (1996)	Cheng et al. (1999)	This Study
Management Science	1	1	2
Administrative Science Quarterly	2	2	3
Organization Science	3	7.5	7
Academy of Management Journal	4	3	5
Strategic Management Journal	5.5	4	1
Academy of Management Review	5.5	5	4
Decision Science	7	7.5	28
Journal of Management	8	7.5	16
Journal of International Business	9	7.5	15
Practice Oriented			
Sloan Management Review	1	2	3
Harvard Business Review	2.5	1	1
California Management Review	2.5	3	2
Academy of Management Executive	4	5	5
Organization Dynamics	5	4	6
Columbia Journal of World Business	6	6	Not Ranked
TIM Specialty			
IEEE Transactions on Engineering Management	1	3	5
Journal of Engineering and Technology Management	2	8	10
Research Policy	3	3	2
Journal of High Technology Management Review	4	4	Not Ranked
Journal of Product Innovation Management	5	1	1
Research Technology Management	6.5	7	3
International Journal of Technology Management	6.5	9.5	7

Technological Analysis and Strategic Management	8	9.5	9
Technological Forecasting and Social Change	9	5	6
Technology Review	10	6	Not Ranked
R&D Management	Not Ranked	Not Ranked	4
Technovation	Not Ranked	Not Ranked	8
Information Systems Area			
MIS Quarterly	1.5	1	Not Ranked
Information Systems Review	1.5	3	4
Communications of the ACM	3	2	1
Behavior and Information Technology	4	Not Ranked	Not Ranked

Table 2: List of Base Journals and Their First Year of Publication.

Journal Name	Origin Year
IEEE Transactions on Engineering Management	1954
Research-Technology Management	1958
Technological Forecasting and Social Change	1969
R & D Management	1970
Research Policy	1971
Technovation	1981
Journal of Engineering and Technology Management	1984
Journal of Product Innovation Management	1984
International Journal of Technology Management	1986
Technological Analysis and Strategic Management	1989

Table 3: Summary of Methods Used to Rank Journals Based on Citations

Method	Formula	Notes
Total Citation Score Favors journals that are older, more frequently published, and have more articles	$T_i = \sum_i \sum_j$ (number of references to each journal in each article in each issue)	i represents each of the ten base journals. j represents each of the five base years (1997,...,2001).
Frequency Adjusted Score Addresses bias associated with more frequent publication, more articles per issue, and/or more citations per article	$F_i = \sum_i \sum_j$ [(number of references to each journal in each article in each issue)/(total number of references in each article in each issue)]	i represents each of the ten base journals. j represents each of the five base years (1997,...,2001).
Age Adjusted Score Adjusts for bias resulting from differences in age of journals, i.e. attempts to eliminate the advantage that older journals have.	$A_i = T_i / (j - \text{Maximum (origin year, 1975)})$	T is the total citation score for journal i. i represents each of the ten base journals. j represents the base year 2001.
Self-Citation Adjusted Score Eliminates bias associated with articles citing the same journal, possibly in an effort to please the	$S_i = T_i - \sum_j$ [(number of citations referencing journal i in journal i)]	T is the total citation score for journal i. i represents each of the ten base journals. j represents each of the five

editor(s). Can be misleading if the journal is critical and integral to the subject of the article.		base years (1997,....,2001).
Overall Adjusted Score Takes into account frequency of publishing and the age of the base journal.	$O_i = F_i / (j - \text{Maximum (origin year, 1975)})$	F is the frequency adjusted score for journal i. i represents each of the ten base journals. j represents the base year 2001.

Table 4: Ranking of Journals based on various measures of citation analysis of base journals for the TIM Literature.

Top 50 ranking of Journals	Overall-Adjusted Score Rank (with Self-Citations)	Total Citation Score Rank	Frequency-Adjusted Score Rank	Age-Adjusted Score Rank	Self Citation-Adjusted Score Rank
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	1	2	1	2	7
RESEARCH POLICY	2	1	3	1	3
RESEARCH-TECHNOLOGY MANAGEMENT	3	6	2	7	6
HARVARD BUSINESS REVIEW	4	3	4	3	1
STRATEGIC MANAGEMENT JOURNAL	5	4	5	4	2
MANAGEMENT SCIENCE	6	5	6	5	4
ADMINISTRATIVE SCIENCE QUARTERLY	7	7	7	6	5
R&D MANAGEMENT	8	9	8	8	11
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	9	8	9	9	14
ACADEMY OF MANAGEMENT REVIEW	10	10	11	10	8
ACADEMY OF MANAGEMENT JOURNAL	11	11	10	14	9
JOURNAL OF MARKETING	12	16	13	15	13
CALIFORNIA MANAGEMENT REVIEW	13	13	14	13	10
SLOAN MANAGEMENT REVIEW	14	15	15	12	12
ORGANIZATION SCIENCE	15	17	16	17	15
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	16	12	12	16	25
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	17	14	17	11	18
JOURNAL OF MARKETING RESEARCH	18	20	18	19	17
TECHNOVATION	19	18	19	18	20
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	20	22	21	21	30
AMERICAN ECONOMIC REVIEW	21	19	20	20	16
LONG RANGE PLANNING	22	21	22	22	19
MISSISSIPPI QUARTERLY	23	25	23	23	23
JOURNAL OF MANAGEMENT STUDIES	24	28	26	25	27
INDUSTRIAL MARKETING MANAGEMENT	25	30	24	27	29
BUSINESS WEEK	26	31	27	28	31
JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT	27	41	29	39	59
FORTUNE	28	40	28	37	40
INDUSTRIAL AND CORPORATE CHANGE	29	23	30	24	21
WALL STREET JOURNAL	30	45	32	36	44
RESEARCH IN ORGANIZATIONAL BEHAVIOR	31	43	35	38	42
JOURNAL OF INTERNATIONAL BUSINESS STUDIES	32	27	31	29	26
JOURNAL OF MANAGEMENT SCIENCE	33	38	37	34	38
HUMAN RELATIONS	34	28	25	35	27
JOURNAL OF POLITICAL ECONOMY	35	47	33	47	46
JOURNAL OF POLITICAL ECONOMY	36	26	34	30	24
INTERNATIONAL JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT	37	36	41	32	36
SCIENCE AND PUBLIC POLICY	38	35	45	31	35
JOURNAL OF APPLIED PSYCHOLOGY	39	54	40	52	53
ECONOMIC JOURNAL	40	24	36	26	22
JOURNAL OF ECONOMIC LITERATURE	41	32	43	33	32
ORGANIZATION STUDIES	42	56	52	41	55
JOURNAL OF BUSINESS VENTURING	43	49	39	49	48
COMMUNICATION	44	42	44	40	41
ECONOMETRICA	45	32	38	42	32
DECISION SCIENCES	46	53	47	53	52
CAMBRIDGE JOURNAL OF ECONOMICS	47	44	51	45	43
COMMUNICATIONS OF THE ACM	48	47	48	46	46
QUARTERLY JOURNAL OF ECONOMICS	49	34	42	43	34
JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION	50	46	50	50	45

Table 5: Summary of Wilcoxon on Signed Rank Tests for all combination of Citation Ranking Methods

	TOTAL - OVERALL	FREQ - OVERALL	AGES - OVERALL	SELF - OVERALL	FREQ - TOTAL	AGES - TOTAL	SELF - TOTAL	AGES - FREQ	SELF - FREQ	SELF - AGES
Z score	-0.474	-0.591	-0.383	-0.368	-0.300	-0.870	-2.331	-0.474	-0.126	-0.465
Significance (2-tailed)	0.636	0.554	0.701	0.713	0.764	0.385	0.020	0.636	0.900	0.642

Table 6: Cross-citation and self-citation of the 10 base journals

(The diagonal matrix represents the self-citations of each journal during the base period 1997-2001, and each non-diagonal cell indicates the number of times the journal in the column cited the journal in the row. Proportions for the columns are in brackets.)

	JOURNAL OF PRODUCT INNOVATION MANAGEMENT	RESEARCH POLICY	RESEARCH-TECHNOLOGY MANAGEMENT	R&D MANAGEMENT	IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	TECHNOVATION	TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	985 (0.73)	11 (0.01)	57 (0.14)	120 (0.14)	120 (0.19)	9 (0.02)	71 (0.07)	97 (0.11)	22 (0.04)	67 (0.24)
RESEARCH POLICY	65 (0.05)	974 (0.69)	16 (0.04)	141 (0.16)	75 (0.12)	81 (0.15)	215 (0.21)	242 (0.27)	243 (0.48)	49 (0.17)
RESEARCH-TECHNOLOGY MANAGEMENT	90 (0.07)	24 (0.02)	287 (0.72)	178 (0.21)	59 (0.09)	8 (0.02)	161 (0.16)	55 (0.06)	0	32 (0.11)
R&D MANAGEMENT	52 (0.04)	120 (0.09)	23 (0.06)	226 (0.26)	50 (0.08)	15 (0.03)	124 (0.12)	78 (0.09)	45 (0.09)	19 (0.07)
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	120 (0.09)	66 (0.05)	11 (0.03)	71 (0.08)	287 (0.45)	3 (0.01)	81 (0.08)	54 (0.06)	0	47 (0.17)
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	6 (0.00)	46 (0.03)	0	7 (0.01)	4 (0.01)	360 (0.68)	64 (0.06)	39 (0.04)	20 (0.04)	1 (0.00)
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	11 (0.01)	45 (0.03)	5 (0.01)	46 (0.05)	13 (0.02)	10 (0.02)	209 (0.21)	99 (0.11)	41 (0.08)	12 (0.04)
TECHNOVATION	0	82 (0.06)	0	42 (0.05)	14 (0.02)	25 (0.05)	52 (0.05)	188 (0.21)	25 (0.05)	10 (0.04)
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	0	39 (0.03)	0	19 (0.02)	3 (0.00)	9 (0.02)	41 (0.04)	39 (0.04)	106 (0.21)	2 (0.01)
JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT	23 (0.02)	0	0	17 (0.02)	10 (0.02)	6 (0.01)	0	16 (0.02)	0	46 (0.16)

Table 7: Number of citations and rank of the 25 most cited journals mentioned in the Journal of Product Innovation Management between 1997 and 2001.

JOURNAL OF PRODUCT INNOVATION MANAGEMENT							
*Publication started in 1984							
Cited Journal	Number of Citations					Total	Rank
	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997		
Number of Articles published	24	23	32	30	28	137	
All Journal Citations	1144	1326	1647	1307	1032	6456	
All Other Citations	363	453	641	439	324	2220	
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	170	175	260	205	175	985	1
JOURNAL OF MARKETING	63	76	67	54	47	307	2
JOURNAL OF MARKETING RESEARCH	54	56	51	36	44	241	3
MANAGEMENT SCIENCE	43	40	66	31	24	204	4
HARVARD BUSINESS REVIEW	23	35	44	39	37	178	5
STRATEGIC MANAGEMENT JOURNAL	24	41	23	22	16	126	6
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	10	21	46	23	20	120	7
ADMINISTRATIVE SCIENCE QUARTERLY	26	14	17	26	15	98	8
ACADEMY OF MANAGEMENT REVIEW	18	30	17	23	9	97	9
INDUSTRIAL MARKETING MANAGEMENT	17	18	22	18	20	95	10
RESEARCH-TECHNOLOGY MANAGEMENT	9	16	22	32	11	90	11
ACADEMY OF MANAGEMENT JOURNAL	21	16	27	16	7	87	12
CALIFORNIA MANAGEMENT REVIEW	14	29	11	20	11	85	13
SLOAN MANAGEMENT REVIEW	9	15	14	18	16	72	14
RESEARCH POLICY	7	13	23	11	11	65	15
R&D MANAGEMENT	6	16	15	8	7	52	16
MARKETING SCIENCE	9	4	23	10	5	51	17
ACADEMY OF MARKETING SCIENCE JOURNAL	11	6	5	11	11	44	18
ORGANIZATION SCIENCE		9	7	13	7	36	19
JOURNAL OF CONSUMER RESEARCH	15		6	5	8	34	20
WALL STREET JOURNAL				3	29	32	21
JOURNAL OF INTERNATIONAL BUSINESS STUDIES	2	20	3	6		31	22
EUROPEAN JOURNAL OF MARKETING	6	12	5	6		29	23
BUSINESS WEEK	6	3	7	7	4	27	24
JOURNAL OF MANAGEMENT STUDIES	2	8	7	10		27	24

Table 8: Number of citations and rank of the 25 most cited journals mentioned in the Research Policy between 1997 and 2001.

RESEARCH POLICY							
*Publication started in 1971							
Number of Citations							
Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	99	67	46	84	40	336	
All Journal Citations	3529	3228	2167	3491	1514	13929	
All Other Citations	2234	1918	1265	2237	837	8491	
RESEARCH POLICY	275	213	160	201	125	974	1
STRATEGIC MANAGEMENT JOURNAL	52	33	26	65	25	201	2
AMERICAN ECONOMIC REVIEW	45	52	32	39	20	188	3
INDUSTRIAL AND CORPORATE CHANGE	62	36	8	23	7	136	4
ECONOMIC JOURNAL	36	39	13	35	9	132	5
ADMINISTRATIVE SCIENCE QUARTERLY	36	30	9	32	24	131	6
R&D MANAGEMENT	16	19	41	30	14	120	7
SCIENTOMETRICS	7	26	20	28	21	102	8
JOURNAL OF POLITICAL ECONOMY	19	30	13	21	6	89	9
MANAGEMENT SCIENCE	25	16	8	28	12	89	9
TECHNOVATION	15	31	5	20	11	82	11
JOURNAL OF INTERNATIONAL BUSINESS STUDIES	19		33	23	4	79	12
CAMBRIDGE JOURNAL OF ECONOMICS	11	5	32	19	6	73	13
HARVARD BUSINESS REVIEW	17	17	10	11	18	73	13
RAND JOURNAL OF ECONOMICS	17	29	6	9	9	70	15
JOURNAL OF ECONOMIC LITERATURE	15	17	15	17	5	69	16
QUARTERLY JOURNAL OF ECONOMICS	13	16	17	16	5	67	17
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	8	12	14	24	8	66	18
JOURNAL OF INDUSTRIAL ECONOMICS	12	18	15	7	10	62	19
REVIEW OF ECONOMICS AND STATISTICS	22	13	13	11	3	62	19
CALIFORNIA MANAGEMENT REVIEW	18	18	5	10	9	60	21
COMMUNICATION		39	9	9	3	60	21
SCIENCE AND PUBLIC POLICY	9	23	5	17	4	58	23
JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATIONN	14	14	5	14	5	52	24
ECONOMETRICA	16	13	5	10	7	51	25

Table 9: Number of citations and rank of the 25 most cited journals mentioned in the Research Technology Management between 1997 and 2001.

RESEARCH-TECHNOLOGY MANAGEMENT							
*Publication started in 1958							
Cited Journal	Number of Citations					Total	Rank
	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997		
Number of Articles published	77	79	81	83	85	405	
All Journal Citations	254	410	434	302	344	1744	
All Other Citations	156	213	273	187	137	966	
RESEARCH-TECHNOLOGY MANAGEMENT	34	56	40	42	115	287	1
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	6	21	8	13	9	57	2
HARVARD BUSINESS REVIEW	12	17	9	5	7	50	3
R&D MANAGEMENT	2	8	9		4	23	4
RESEARCH POLICY	3	4	9			16	5
SLOAN MANAGEMENT REVIEW	3	3	4	6		16	5
WALL STREET JOURNAL			2	2	10	14	7
CALIFORNIA MANAGEMENT REVIEW	3	5	2	3		13	8
FORTUNE		2	6	2	3	13	8
STRATEGIC MANAGEMENT JOURNAL		8	3	2		13	8
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	4	2			5	11	11
MANAGEMENT SCIENCE		5	4	2		11	11
CHEMTECH		4	4		2	10	13
SCIENCE	4	6				10	13
CHEMICAL & ENGINEERING NEWS		3			6	9	15
INDUSTRY WEEK		5	2		2	9	15
AMERICAN STATISTICIAN			8			8	17
BUSINESS WEEK			3	2	3	8	17
COMMUNICATION				2	5	7	19
ACADEMY OF MANAGEMENT REVIEW		6				6	20
PEOPLES DAILY					6	6	20
INDUSTRIAL MARKETING MANAGEMENT		3	2			5	22
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT			5			5	22
PLANNING REVIEW				3	2	5	22
ADMINISTRATIVE SCIENCE QUARTERLY	2		2			4	25
JOURNAL OF EDUCATIONAL PSYCHOLOGY		4				4	25
JOURNAL OF MARKETING		2		2		4	25
ORGANIZATION SCIENCE	4					4	25

Table 10: Number of citations and rank of the 25 most cited journals mentioned in the R&D Management between 1997 and 2001.

R & D MANAGEMENT							
*Publication started in 1970							
	Number of Citations						
Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	37	32	31	27	32	159	
All Journal Citations	1226	1048	1137	666	705	4782	
All Other Citations	574	520	570	331	275	2270	
R&D MANAGEMENT	48	59	36	42	41	226	1
RESEARCH-TECHNOLOGY MANAGEMENT	51	41	22	22	42	178	2
RESEARCH POLICY	34	35	21	30	21	141	3
HARVARD BUSINESS REVIEW	37	18	38	12	31	136	4
STRATEGIC MANAGEMENT JOURNAL	22	32	40	26	6	126	5
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	30	25	20	13	32	120	6
MANAGEMENT SCIENCE	21	10	20	12	11	74	7
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	25	14	10	11	11	71	8
ADMINISTRATIVE SCIENCE QUARTERLY	18	11	20	9	8	66	9
ACADEMY OF MANAGEMENT JOURNAL	8	13	24	8	2	55	10
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	9	14	14	2	7	46	11
ACADEMY OF MANAGEMENT REVIEW	4	8	15	7	8	42	12
TECHNOVATION	12	11	6	2	11	42	12
ORGANIZATION SCIENCE	6	13	11	7		37	14
CALIFORNIA MANAGEMENT REVIEW	8	5	12	3	8	36	15
JOURNAL OF FINANCIAL ECONOMICS	25		7	2		34	16
SLOAN MANAGEMENT REVIEW		7	7	8	9	31	17
AMERICAN ECONOMIC REVIEW	8	2	8	5	4	27	18
JOURNAL OF FINANCE	18		6			24	19
JOURNAL OF INTERNATIONAL BUSINESS STUDIES	4	9	8		2	23	20
LONG RANGE PLANNING	3		16		2	21	21
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	4		7	2	6	19	22
ECONOMETRICA	16	2				18	23
JOURNAL OF MARKETING	8	7	3			18	23
JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT	4	8	3	2		17	25
JOURNAL OF POLITICAL ECONOMY	11	4		2		17	25

Table 11: Number of citations and rank of the 25 most cited journals mentioned in IEEE Transactions on Engineering Management between 1997 and 2001.

IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT

*Publication started in 1955

Number of Citations

Cited Journal	Number of Citations					Total	Rank
	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997		
Number of Articles published	39	37	37	40	36	189	
All Journal Citations	1709	1991	1439	1219	1268	7626	
All Other Citations	967	1008	781	787	566	4109	
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	49	76	73	33	56	287	1
MANAGEMENT SCIENCE	46	81	54	30	59	270	2
HARVARD BUSINESS REVIEW	43	38	24	15	39	159	3
ADMINISTRATIVE SCIENCE QUARTERLY	29	28	28	21	24	130	4
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	20	61	22		17	120	5
ACADEMY OF MANAGEMENT JOURNAL	24	34	18	16	25	117	6
MISSISSIPPI QUARTERLY	18	34	16		39	107	7
STRATEGIC MANAGEMENT JOURNAL	15	41	4	8	12	80	8
ACADEMY OF MANAGEMENT REVIEW	19	30	5	10	15	79	9
SLOAN MANAGEMENT REVIEW	21	22	11	10	13	77	10
RESEARCH POLICY	8	34	6	14	13	75	11
ORGANIZATION SCIENCE	15	21	15	6	8	65	12
INFORMATION MANAGEMENT	13	14	15	10	8	60	13
RESEARCH-TECHNOLOGY MANAGEMENT	16	6	12	9	16	59	14
CALIFORNIA MANAGEMENT REVIEW	9	20	8	8	6	51	15
COMMUNICATIONS OF THE ACM	8	24	12		7	51	15
OPERATIONS RESEARCH	8		21	5	17	51	15
JOURNAL OF MARKETING RESEARCH	24	16	10			50	18
R&D MANAGEMENT	12	10	15	6	7	50	18
DECISION SCIENCES	13	17	7		12	49	20
INFORMATION SYSTEMS RESEARCH	7	19	9	3	9	47	21
JOURNAL OF MARKETING	15	10	7		7	39	22
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH	8	6	6	8	9	37	23
JOURNAL OF MANAGEMENT INFORMATION SYSTEMS	3	14	3	5	8	33	24
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH	5	4	4	9	5	27	25

Table 12: Number of citations and rank of the 25 most cited journals mentioned in Technological Forecasting and Social Change between 1997 and 2001.

TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE							
*Publication started in 1969							
Number of Citations							
Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	51	63	91	81	81	367	
All Journal Citations	1342	1627	1093	1275	1193	6530	
All Other Citations	830	1137	686	884	761	4298	
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	78	47	104	54	77	360	1
RESEARCH POLICY	29	5	5	27	15	81	2
SCIENCE	4	49	10	5		68	3
AMERICAN ECONOMIC REVIEW	20	2	3	9	9	43	4
ADMINISTRATIVE SCIENCE QUARTERLY	13	12	6	3	7	41	5
HARVARD BUSINESS REVIEW	6	10	2	11	12	41	5
QUARTERLY JOURNAL OF ECONOMICS	22		5	8	4	39	7
MANAGEMENT SCIENCE	5	3	11	7	11	37	8
FUTURES	8		9	10	7	34	9
STRATEGIC MANAGEMENT JOURNAL	8	6	9		9	32	10
ENERGY POLICY	10	14		3	2	29	11
NATURE	5	22	2			29	11
REVIEW OF ECONOMICS AND STATISTICS	5	4	6	7	7	29	11
TECHNOVATION	7	3	3	3	9	25	14
JOURNAL OF POLITICAL ECONOMY	8			10	6	24	15
LONG RANGE PLANNING		6		7	11	24	15
ECONOMETRICA	5	3	3	3	8	22	17
JOURNAL OF MARKETING	4	4	3	6	3	20	18
SCIENTIFIC AMERICAN		10	3	6		19	19
JOURNAL OF MARKETING RESEARCH	9	4		3		16	20
ENERGY JOURNAL		3	10		2	15	21
FUTURIBLES		15				15	21
MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE		15				15	21
R&D MANAGEMENT	4		5		6	15	21
SLOAN MANAGEMENT REVIEW	3	3		3	6	15	21

Table 13: Number of citations and rank of the 25 most cited journals mentioned in Technovation between 1997 and 2001.

TECHNOVATION							
*Publication started in 1981							
Number of Citations							
Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	70	63	49	57	62	301	
All Journal Citations	2344	1677	1689	1684	1369	8763	
All Other Citations	1447	1045	1086	1085	750	5413	
RESEARCH POLICY	70	53	42	27	50	242	1
STRATEGIC MANAGEMENT JOURNAL	53	69	35	33	21	211	2
HARVARD BUSINESS REVIEW	55	33	36	41	39	204	3
TECHNOVATION	59	25	33	37	34	188	4
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	24	17	26	22	10	99	5
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	15	46	15	16	5	97	6
R&D MANAGEMENT	14	14	8	15	27	78	7
INTERNATIONAL JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT	25	9	6	5	28	73	8
MANAGEMENT SCIENCE	29	13	4	23	3	72	9
ACADEMY OF MANAGEMENT REVIEW	28	6	16	10	3	63	10
ADMINISTRATIVE SCIENCE QUARTERLY	22	10	16	11	4	63	10
CALIFORNIA MANAGEMENT REVIEW	23	14	4	10	10	61	12
SLOAN MANAGEMENT REVIEW	16	10	13	7	13	59	13
RESEARCH-TECHNOLOGY MANAGEMENT	20	4		12	19	55	14
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	15	4		14	21	54	15
LONG RANGE PLANNING	10	9	13	7	6	45	16
JOURNAL OF BUSINESS VENTURING	4	18		12	8	42	17
JOURNAL OF MARKETING	10	9	7	6	8	40	18
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	5	5	15	6	8	39	19
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	9	3	16	5	6	39	19
ACADEMY OF MANAGEMENT JOURNAL	10	7	9	7	4	37	21
ORGANIZATION SCIENCE	14	7	12	3		36	22
SCIENCE AND PUBLIC POLICY	7		9	6	6	28	23
AMERICAN ECONOMIC REVIEW	10	8			7	25	24
JOURNAL OF MANAGEMENT	13	6		4		23	25

Table 14: Number of citations and rank of the 25 most cited journals mentioned in International Journal of Technology Management between 1997 and 2001.

INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT

*Publication started in 1986

Number of Citations

Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	97	103	108	116	138	562	
All Journal Citations	2748	3252	3010	2816	2507	14333	
All Other Citations	1830	2095	1772	1951	1353	9001	
HARVARD BUSINESS REVIEW	35	93	82	56	140	406	1
STRATEGIC MANAGEMENT JOURNAL	27	48	75	44	59	253	2
RESEARCH POLICY	55	38	54	32	36	215	3
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	39	41	46	10	73	209	4
RESEARCH TECHNOLOGY MANAGEMENT		5	34	32	90	161	5
SLOAN MANAGEMENT REVIEW	19	34	36	26	46	161	5
CALIFORNIA MANAGEMENT REVIEW	19	30	30	20	35	134	7
MANAGEMENT SCIENCE	22	38	22	11	40	133	8
ADMINISTRATIVE SCIENCE QUARTERLY	18	26	44	22	20	130	9
R&D MANAGEMENT	7	13	36	17	51	124	10
ACADEMY OF MANAGEMENT REVIEW	7	26	32	22	16	103	11
LONG RANGE PLANNING		18	16	17	52	103	11
ORGANIZATION SCIENCE	15	45	16	10	5	91	13
ACADEMY OF MANAGEMENT JOURNAL	4	20	34	15	9	82	14
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	7	15	16	13	30	81	15
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	11	10	27	10	13	71	16
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	14	3	7	3	37	64	17
TECHNOVATION		4	21	5	22	52	18
AMERICAN ECONOMIC REVIEW	10	17	19		5	51	19
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH	8	20	7	9	7	51	19
WALL STREET JOURNAL	5		16	14	13	48	21
BUSINESS WEEK		7	7	22	11	47	22
PEOPLES DAILY	45					45	23
JOURNAL OF MARKETING	10	6	16	10		42	24
TECHNOLOGICAL ANALYSIS AND STRATEGIC MANAGEMENT	15	11	6		9	41	25

Table 15: Number of citations and rank of the 25 most cited journals mentioned in Technology Analysis & Strategic Management between 1997 and 2001.

TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT							
*Publication started in 1989							
	Number of Citations						
Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	49	53	34	40	49	225	
All Journal Citations	1020	1205	1196	1482	900	5803	
All Other Citations	751	773	721	900	522	3667	
RESEARCH POLICY	48	40	44	80	31	243	1
STRATEGIC MANAGEMENT JOURNAL	17	21	30	46	27	141	2
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	14	25	25	20	22	106	3
HARVARD BUSINESS REVIEW	15	6	23	21	25	90	4
ADMINISTRATIVE SCIENCE QUARTERLY	10	17	17	21	9	74	5
ORGANIZATION SCIENCE	2	13	17	11	5	48	6
R&D MANAGEMENT	5	14	13	8	5	45	7
ORGANIZATION STUDIES		17	15	9	2	43	8
ACADEMY OF MANAGEMENT REVIEW		6	5	17	14	42	9
JOURNAL OF MANAGEMENT STUDIES		14	11	14	3	42	9
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	6	8	9	11	7	41	11
CALIFORNIA MANAGEMENT REVIEW	5	2	15	9	8	39	12
SLOAN MANAGEMENT REVIEW	2	5	11	13	8	39	12
MANAGEMENT SCIENCE	9	4	3	16	5	37	14
ACADEMY OF MANAGEMENT JOURNAL		7	3	21	3	34	15
INDUSTRIAL AND CORPORATE CHANGE	6	7	4	3	7	27	16
TECHNOVATION	6	3	6	7	3	25	17
CAMBRIDGE JOURNAL OF ECONOMICS	4	5	2	8	4	23	18
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	5	2	2	6	7	22	19
SCIENCE AND PUBLIC POLICY	6		6	6	4	22	19
AMERICAN ECONOMIC REVIEW	11	2		5	2	20	21
JOURNAL OF MARKETING	3			16	1	20	21
TECHNOLOGY FORECAST AND SOCIAL CHANGE	12			4	4	20	21
JOURNAL OF ECONOMIC LITERATURE	2	2	4	5	4	17	24
LONG RANGE PLANNING			8	4	5	17	24
SOCIAL STUDIES IN SCIENCE	5	8	2		2	17	24

Table 16: Number of citations and rank of the 25 most cited journals mentioned in Technology Analysis & Strategic Management between 1997 and 2001.

JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT							
*Publication started in 1981							
Number of citations							
Cited Journal	Year 2001	Year 2000	Year 1999	Year 1998	Year 1997	Total	Rank
Number of Articles published	16	18	20	18	17	89	
All Journal Citations	813	946	638	758	716	3871	
All Other Citations	358	319	273	386	327	1663	
STRATEGIC MANAGEMENT JOURNAL	43	63	31	23	4	164	1
ADMINISTRATIVE SCIENCE QUARTERLY	19	39	19	28	27	132	2
ACADEMY OF MANAGEMENT JOURNAL	23	31	23	20	12	109	3
ACADEMY OF MANAGEMENT REVIEW	26	28	16	15	10	95	4
ORGANIZATION SCIENCE	32	39	2	9	4	86	5
MANAGEMENT SCIENCE	13	27	16	11	16	83	6
HARVARD BUSINESS REVIEW	15	29	17	6	7	74	7
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	9	22	2	7	27	67	8
RESEARCH POLICY	10	14	5	8	12	49	9
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	7	16	14	3	7	47	10
HUMAN RELATIONS	29	4	4		9	46	11
JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT	5	18	9	3	11	46	11
CALIFORNIA MANAGEMENT REVIEW	4	18	9	6	6	43	13
JOURNAL OF APPLIED PSYCHOLOGY	3	8	11		11	33	14
JOURNAL OF MANAGEMENT	9	12	4	6	1	32	15
RESEARCH-TECHNOLOGY MANAGEMENT	5	11	11		5	32	15
RESEARCH IN ORGANIZATIONAL BEHAVIOR	10	6	3	3	9	31	17
MISSISSIPPI QUARTERLY		10	12	5	3	30	18
SLOAN MANAGEMENT REVIEW	5	12	4	5	4	30	18
FORTUNE	3	6		3	10	22	20
JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY		5		2	14	21	21
JOURNAL OF MANAGEMENT STUDIES	4	6	6	3		19	22
R&D MANAGEMENT	2	5	5	3	4	19	22
AMERICAN ECONOMIC REVIEW	8	5	2	3		18	24
DECISION SCIENCES	3		10	2	3	18	24
JOURNAL OF MARKETING		8	6	4		18	24

Table 17: Summary of ranking of top ten TIM journals (listed in rank order) with the effect of disciplinary focus noted.

Top Ten TIM Journals (Listed in Rank Order)	Economics and Finance	Management Information Systems	Marketing	Operations	Organizational Behavior
JOURNAL OF PRODUCT INNOVATION MANAGEMENT			Critical		
RESEARCH POLICY	Critical				
RESEARCH-TECHNOLOGY MANAGEMENT	Practice related	Practice related	Practice related	Practice related	Practice related
R&D MANAGEMENT	Important				Important
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT		Important		Important	Important
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	Forecasting and impact related only	Forecasting and impact related only	Forecasting and impact related only	Forecasting and impact related only	Forecasting and impact related only
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT					
TECHNOVATION					
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT					More likely
JOURNAL OF ENGINEERING AND TECHNOLOGY MANAGEMENT					More likely