Do Academic Business Researchers Communicate Across Disciplines?

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Businesses increasingly recognize the importance of cross-disciplinary integration. Colleges of business are incorporating cross-disciplinary integration in response to trends in industry, accreditation, and professional standards. This study examines the extent and trend of cross-disciplinary citation among the top journals in Accounting, Finance, Management, and Marketing. The results based on data from a sample of five years including 1986, 1991, 1996, 2000, and 2004 find that cross-disciplinary citations are infrequent in all disciplines with no discernible change in the trend over the sample period.

Key Words: Citation Analysis, Cross-discipline Communication, Journal Influence

Introduction

Colleges of business are developing cross-functional integration into the curriculum in response to trends in industry and accreditation and professional standards. The importance and success of cross-functional integration in industry is illustrated by several studies including Parker (2003), Burgstone (2000) and Krohmer et.al (2002). Employers view both functional expertise and the ability to understand the overall business as important skills in new hires (Schelfhaudt and Crittenden, 2005). Ammons and Mills (2005) review how their College of Business accounting program is making curricular changes which incorporate multiple disciplines in response to professional and accreditation standards. Curricular innovation in both MBA and undergraduate programs indicate that Colleges of Business are developing programs to reflect successful industry practices.

There are several challenges that face faculty and colleges as they attempt to integrate across disciplines and functional areas. Communication across disciplines may be limited when colleges hire and are organized around traditional functional areas. Another barrier to communication exists if journals in various disciplines do not communicate via citation and publication across functional areas.

As Colleges and Schools of Business consider integration, a key component would be measuring the extent to which cross-discipline scholarship and communication currently occurs in faculty research.

Measuring citations across publications in different disciplines does not capture the full extent of the occurrences of communication. Given the number of business research topics, such as corporate governance, customer value creation, financial performance measures, and managerial incentive alignment of interest, it seems plausible that researchers might reach across disciplines to cite research in other fields. However, this paper finds that cross-disciplinary citations are infrequent.

Scholarly publication in journals is an accepted measure of productivity in academe and provides one way to quantify both output and influence, especially if faculty members want to impact future research and their academic field (Tahai and Meyer 1999). Journal influence is important to colleges because journal publication by their faculty is one assessment of quality work and effect on the field. Business school ratings often include a measure of intellectual contributions made by publishing in top-tier journals (Shugan, 2003).

Previous research in various business disciplines uses citation analysis to evaluate journal prestige and significance, faculty productivity, and journal communication within a discipline. This study is the first to examine interdisciplinary communication in

research by analyzing citations among the top ranked Accounting, Management, Finance, and Marketing journals. This study includes two top-tier publications in each discipline. As recognized sources of information and influence, the top journals in each discipline play an important role in the development of issues and ideas. Determining which journals are the *top* publications in any field is difficult; however, based on interviews with colleagues and articles on journal prestige we selected two in each discipline that are among the top three or four journals in their respective fields. The journals are: *The Accounting Review, The Journal of Accounting Research, The Journal of Finance, The Journal of Financial Economics, The Academy of Management Journal, The Academy of Management Review, The Journal of Marketing, and The Journal of Marketing Research.*

Previous Literature Using Citation Analysis

Previous related studies use citation analysis to examine many issues including programs, productivity, and cross-citations within disciplines. These studies fall into several categories which are briefly reviewed below. A review of the literature indicates that citation analysis is used extensively to identify top-tier journals, publishing opportunities in various disciplines, and influence.

One category of citation-based research is designed to evaluate journal prestige or authors and their significance within a particular discipline. Zivney and Reichenstein (1994) use citations to define which journals are core to the field of finance. Additionally, they develop rankings of journals using citation analysis that includes a wide range of publications. Alexander and Mabry (1994) also examine the issues of author influence and journal quality in the field of finance, and identify the *Journal of Finance* and the *Journal of Financial Economics* as the two top publications in the field of finance. These two publications are used for the citation analysis in this study. Chan et al (2000) also rank finance journals. They find the *Journal of Finance* and the *Journal of Financial Economics* rank number one and two.

A study in the *Journal of Accounting Research* (1985) by Brown and Gardner provides a similar analysis for Accounting to determine the effect of various journals and articles on the field's research focus. Buehheit et al (2002) studies differences in publication rates among disciplines and identifies top-tier journals in accounting, finance, management and marketing. This study uses two of the three or four journals in each discipline Buehheit considers influential.

In the Management field, Johnson and Podsakoff (1994) use an "index of influence" developed by Salancik (1986) to review the influence of various journals in management over time. Podsakoff et al (2005) use citation analysis to further examine the influence of various management journals, and they conclude that the *Academy of Management Journal* and *Academy of Management Review* show an increase in influence over the study period.

Other studies use citation analysis to measure faculty productivity or the quality of programs in particular disciplines. Examples of these studies include Brown and Gardner's 1985 study published in *The Accounting Review* with a focus on evaluating accounting faculty and doctoral programs. A study of finance faculty by Borokhoich et at (1994) studies the relationship between publication and school or university affiliation and the role of faculty size on individual productivity and quality. Swanson (2004) examines top-tier journals in various disciplines to determine if there are differences among disciplines which make it more difficult to publish. Swanson's list of two, three or four journals in each discipline corresponds to the titles used in this study and finds significant differences in the number of doctoral faculty publishing in each discipline.

Communication within a discipline is the focus of other research studies. Blackburn (1990) examines the field of organizational behavior using citation analysis to determine the development and communication of interdisciplinary issues. Over the decade studied, he concludes cross-disciplinary studies did not increase. Chandy and Williams (1994) use citation analysis in their focus on the field of international business. By looking at other disciplines and at individual researchers they identify specific influences on international business.

This substantial literature using citation analysis in various disciplines to measure aspects of productivity, quality, programs, publications, and communications suggests that publications play an important role in reviewing the academic

environment. This indicates that, although there are other methods of communication, publications in prestigious journals provide important measures for faculty and programs. Cross-disciplinary publication in these outlets provides insight into the importance of this kind of research and its relevance in influencing scholarship. This study contributes to the business citation literature by examining the extent of cross-disciplinary citations among the fields of Accounting, Finance, Management, and Marketing.

Research Methods

The frequency of cross-journal citation for each of two top-tier journals in accounting, management, finance, and marketing for the years 1986, 1991, 1996, 2000, and 2004 was studied in order to identify any trend toward increasing or decreasing cross-disciplinary communication. We also calculate how frequently authors cite their own journal (the Self-Feeding Index), their top two journals (an Inside-Outside Index), and across disciplines (the Cross-Pollination Index).

Citation analysis is an alternative to survey research and opinion on the level of activity but several problems may exist when using citation analysis for data. Citations may not account for research in the developmental stages of the publication. Citations depend on the researcher's review of the literature, and some researchers may not include all relevant citations. Self-citation is another issue in this kind of research, and this occurs as researchers in a narrow specialty have several publications and cite themselves. The methodology of this study is designed to account for self-citation.

Several previous studies in business utilize citation analysis. Although it is an imperfect measure of communication, this method provides a way to measure influence. No previous studies focus on a broad measure of communication among Accounting, Finance, Management, and Marketing. Citation analysis provides a better understanding of who talks to whom and the influence on academe.

The data consist of references cited in the eight sample journals for the years 1986, 1991, 1996, 2000, and 2004. There is considerable controversy regarding which journals are the top publications in any field, and many disciplines have sub disciplines with their own 'A' journals. An example is the field of management where most management faculty agree that the *Academy of Management Journal* and the *Academy of Management Review* are top journals while strategy faculty might list the *Strategic Management Journal*. We chose two journals in each field that are unambiguous 'A' journals since, for our purposes, we need only journals *among* the top rather than *at* the top. The journals selected for this study were also cited previously in the literature review in which authors identified top-tier journals for their studies.

Table 1 lists the journals, along with the sponsoring university, the cost to submit an article for review, the acceptance rates and turnaround times, and data related to the number of articles and citations in each journal. The journals appear to have similar acceptance rates and turnaround. One key difference is the cost to submit. Management and marketing journals do not charge a fee, while accounting journals charge $125 or $250. The *Journal of Financial Economics* charges the highest fee at $500 while the *Journal of Finance* submission fee is $70.

To facilitate analysis of the citation counts we chose indices suggested by Coombs (1964) and used by Blackburn (1990). The Self-Citation Index (analogous to Coombs' self-feeding index) measures the extent to which papers in a journal cite other papers in the same journal. The SCI is calculated by dividing the number of citations to the same journal by the total number of citations, and a large SCI indicates a more specialized journal.

The Core Journal Index (CJI), which is similar to Combs' Inside-Outside Index, measures the extent of citation within the core discipline. In our case, this means self-citation and citation to the other sample journals in the field. The CJI is calculated by dividing the total citations to the two in-field journals divided by the total number of citations. A higher index value indicates a greater degree of citation within the core discipline.

The Producer-Consumer Index (PCI) indicates the extent that a journal is a net producer or consumer of knowledge. The PCI is calculated by dividing the number of citations a journal produces (citations *to* a journal from papers in the remaining seven sample journals) by the number of citations a journal

consumes (citations by papers to other journals in the sample). A high PCI suggests more knowledge production than consumption.

We also calculate a version of Blackburn and Mitchell's (1981) Cross-Pollination Index (CPI). Our CPI measures the knowledge drawn from the various disciplines and is calculated by dividing the total number of citations made to, for example, the two marketing journals by the total number of citations made to the full set of sample journals. A large CPI relative to a particular set of journals indicates a greater use of those journals as sources of knowledge within business research.

Results

For each journal, we counted the references in each article in the sample years made to all of the other journals in the sample. Table 2 lists the summary data on the articles and citations. Another discipline-specific cultural difference is the number of references typically cited in the bibliography. For management articles in particular, the number of references is enormous compared with the other business areas. The mean citations per article range from a low of 23 for the *Journal of Accounting Research* to a high of 61 for the *Academy of Management Review*.

Table 3 reports the frequencies with which articles appearing in the journals listed in the left hand column cite articles in the journals along the top of the table. For example, articles published in the *Journal of Marketing* in 1996 cited articles published in the *Journal of Marketing Research* 155 times. There were a total of 394 references to the sample journals, and 1763 references to journals not included in the sample.

The degree of cross-disciplinary citation between top business journals is consistently low for each of the years included in this study. Table 3 reveals limited cross-citations between accounting and finance, with accounting citing finance more than finance cites accounting. Management has the broadest citation frequency, citing all the other journals in the five sample years. This may be a function of the interdisciplinary nature of the management field, but a contributing factor is the large number of citations made by management articles. In addition to self-citations, management journals most frequently cite finance journals, though in 1996 they most frequently cited marketing journals. Marketing journals appear to cite only management journals.

Table 4 reports the Self-Citation Index, the Core Journal Index, and the Producer-Consumer Index. Based on the SCI and CJI, the finance and accounting journals have the highest degree of self-citation and citation within their fields. In their study of finance journal citations, Arnold et al (2003) note the interdisciplinary nature of finance as evidenced by the large proportion of non-finance journals cited by top finance journals. However, these non-finance journals are economics journals such as *American Economic Review*, the *Journal of Political Economy*, and *Econometrica*. While Arnold, et.al. (2003) highlight the close ties between finance and economics, this study documents the large chasm between finance and the other disciplines within traditional Colleges of Business. The *Journal of Marketing Research* is comparable to the accounting and finance journals in its high degree of self-citation and citation within marketing. The management journals are much more likely to cite sources outside of management.

Table 5 lists the three journals with the highest PCI for each of the five years. A higher PCI indicates that the journal is a net producer of information. A high PCI is an indication that *they cite us more than we cite them*. This could indicate that these journals tend to publish articles that deal with topics of more interest to outside constituencies than the other journals. The highest net producers include *Journal of Accounting Research*, *Journal of Financial Economics*, and *Journal of Marketing Research*.

Table 6 is based on Blackburn (1990) and lists the journals by whether they fall above or below the medians for the SCI, CJI, and PCI. In 1986, 1991, and 1996 the JAR and JFE are above the median for all three indices. The JF is above the median for the SCI and CJI, while the JMR is above the median for the SCI and CJI in 1986 and 1991. The AMJ, AMR, and JM tend to be below the median for all three indices in these years. In 2000 JFE and JM are above the median in all three indices while only JF has that distinction in 2004. High ratings in these categories, such as JAR and JFE, are consistent with the

following characteristics: these journals often cite themselves, and when they cite other journals it is generally the other top journals in their field. Other journals in the study cite them to a larger degree than they cite other journals. In 1986, 1991, and 1996 the AMJ, AMR, and JM, in contrast, are more likely to cite other journals and when compared to other journals in this study, could be described as more interdisciplinary. The accounting journals in 2000 are more likely to cite other journals while AR and AMJ do so in 2004.

Table 6 indicates the degree of cross-pollination between disciplines. For example, of the total citations made by the *Journal of Finance* to the sample journals in 1991, the JF cites the JF and the JFE with 99 percent of the citations, the two accounting journals one percent of the citations, and the remaining four journals at zero percent of the citations. For a given year for a particular journal, the total percentage should add to 100, although the total may be slightly different due to rounding.

Table 7 illustrates the cross-pollination indices for each of the five years in the study. The results appear consistent regardless of the year. Finance journals do not rely much on the other disciplines in their research. The accounting journals refer to the finance journals on a limited basis. Management journals cite accounting journals to a very small degree, finance journals a little more often, and a small but increasing number of citations to the marketing journals. The marketing journals cite management journals occasionally but not finance or accounting. Table 7 is the strongest illustration of the lack of substantial citation across the four disciplines, and also indicates the lack of trend during the sample period. No movement away from or toward more interdisciplinary citations is apparent.

Discussion

If researchers are not communicating across disciplines, efforts to further the concept of cross-functional integration may advance more slowly. Corporations recognize the benefits of cross-functional integration in their organizations. Colleges of business are developing programs and classes to help students at the MBA and undergraduate levels better integrate their knowledge from the various functional disciplines. Yet, the increased emphasis on cross-functional integration in business and the classroom is not reflected in top-tier journals in Accounting, Finance, Management, and Marketing. Cross-functional integration is not yet reflected in the research agendas of those publishing in top-tier journals.

Schelthaudt and Crittenden (2005) indicate that faculty and colleges find it challenging to develop integration across disciplines because of organizational constraints such as the functional organization of most departments and a lack of teaching materials. The communication issues may explain the lack of materials. Without an integrated body of scholarship and research it may be difficult to develop and create courses across functional areas.

Another issue is whether or not the various disciplines could benefit from increased cross-communication. Gupta et al (2004) suggest the integration of finance and marketing concepts can better help companies analyze customer value. They suggest that financial analysts could also benefit by considering the marketing issues related to customer value. This is an example of a concept that could be further developed incorporating both finance and marketing literature and their theoretical framework.

Administrators evaluating faculty productivity for tenure, promotion, and pay can encourage cross-functional integration by supporting research agendas that include these kinds of publications. It may also be important to recognize publications in influential journals outside the functional area of a faculty member. Co-authored publications with colleagues in other disciplines could be given weight in promotion, tenure, and pay decisions. A body of literature with a cross-functional perspective could be useful to corporate practice and the curriculum. Administrators can enhance scholarship in this area by recognizing and rewarding it even if publications are outside a faculty member's functional area.

Conclusion

Kanter (1988) argues that disciplines benefit from a broad perspective and that many of the best ideas are interdisciplinary in origin. The importance of such multidisciplinary research is not currently reflected by researchers in the top Accounting, Finance, Management, or Marketing journals. The number of

cross-disciplinary citations in the top journals in these fields is quite low, and there does not appear to be a trend toward increased cross-discipline communication. The reasons for this may include the way academics are educated and rewarded, or perhaps that editors and reviewers may be unable or unwilling to evaluate cross-disciplinary research (Blackburn (1990)). Future research can shed light on some of these reasons, as well as the extent of cross-disciplinary work in other journals.

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References

Alexander, J. C., Jr, and R. H. Mabry, (1994). Relative significance of journals, authors, and articles cited in financial research, *The Journal of Finance* 49, 697- 712.

Ammons, Janice L. and Mills, Sherry K., (2005), Course-embedded assessments for evaluating cross-functional integration and improving the teaching-learning process, *Issues in Accounting Education*, 20, 1 – 19.

Blackburn, R. S., (1990). Organizational behavior: Whom do we talk to and who talks to us? *Journal of Management* 16, 279-305.

Borokhovich, K. A., R. J. Bricker, and B. J. Simkins, (1994) Journal communication and influence in financial research, *The Journal of Finance* 49, 713-725 .

Borokhovich, K. A., R.J. Bricker, and K.R. Brunarski, (1995). Finance research productivity and influence, *The Journal of Finance* 50, 1691-1717.

Brown, L. D., and J. C. Gardner, (1985). Applying citation analysis to evaluate the research contributions of accounting faculty and doctoral programs, *The Accounting Review* 60, 262-277.

Brown, L. D., and J. C. Gardner, (1985). Using citation analysis to assess the impact of journals and articles on contemporary accounting research, *Journal of Accounting Research* 23, 84-109.

Buchheit, Steve; Collins, Denton; Reitenga, Austin, (2002). A cross-discipline comparison of top-tier academic journal publication rates: 1997–1999, *Journal of Accounting Education*, 20 , 123-130.

Burgstone, Jon, (2000). Cross-functional design efforts go online *Appliance Manufacturer*, 48, p88.

Cabell, D. E., Editor, *Cabell's Directory of Publishing Opportunities In Accounting*, Ninth Edition 2004-2005, Cabell Publishing Company.

Cabell, D. E., Editor, *Cabell's Directory of Publishing Opportunities In Finance*, Ninth Edition 2004-2005, Cabell Publishing Company.

Cabell, D. E., Editor, *Cabell's Directory of Publishing Opportunities In Marketing*, Ninth Edition 2004-2005, Cabell Publishing Company.

Cabell, D. E., Editor, *Cabell's Directory of Publishing Opportunities In Management*, Ninth Edition 2004-2005, Cabell Publishing Company.

Chan, Kam C.; Fok, Robert C.W.; Pan, Ming-Shiun; Fok, Robert C.W.; Pan, Ming-Shiun, (2000). Citation-based finance journal rankings: an update, *Financial Practice & Education*,10, 132-141.

Chandy, P. R, and T. G. Williams, (1994). The impact of journals and authors on international business research: a citational analysis of JIBS articles, *Journal of International Business Studies* 25, 715-728.

Combs, C. *Theory of data.* New York: Wiley, 1964.

Crittenden, Victoria L.; Peter Dickson. (2005) Cross-Functional cases in management education,. *Journal of Business Research,* 58,944-945

Gupta, Sunil; Lehmann, Donald R.; Stuart, Jennifer Ames, (2004) Valuing customers, *Journal of Marketing Research*, 41, 7-18.

Johnson, J. L., and P. M. Podsakoff, (1994). Journal influence in the field of management: An analysis using Salancik's index in a dependency network, *Academy of Management Journal* 37, 1392-1407.

Kanter, R. M., (1988). When a thousand flowers bloom: Structural, collective , and social conditions for innovation in organizations. B. Staw & L. Cummings (Eds), In: *Research in Organizational Behavior*: 10, 169-211. Greenwich, CT: Jai Press.

Krohmer, Harley; Homburg, Christian; Workman, John P., (2005). Should marketing be cross-functional? Conceptual development and international empirical evidence, *Journal of Business Research*, 55, 451- 466.

Parker, Glenn, (2003). Leading a Team of Strangers, *T+D*, 57, 21-23.

Podsakoff, Philip M.; MacKenzie, Scott B.; Bachrach, Daniel G.; Podsakoff, Nathan P., (2005). The influence of management journals in the 1980s and 1990s, *Strategic Management Journal*, 26, 473-488.

Salancik, G.R., (1986). An index of subgroup influence in dependency networks, *Administrative Science Quarterly* 31, 194-211.

Schelthaudt, Kristin; Crittenden, Victoria L., (2005). Specialist or generalist: Views from academia and industry, *Journal of Business Research*, 58, 946-955

Shugan, Steven M., (2003). Editorial: Journal rankings: Save the outlets for your research. *Marketing Science*, 22,437-441

Swanson, Edward P., (2004). Publishing in the Majors: A Comparison of Accounting, Finance, Management and Marketing, *Contemporary Accounting Research*, 21, 223-252.

Tahai, *Alireza; Meyer, Michael J., (1999).* A revealed preference study of management journals' direct influences, *Strategic Management Journal, 20, p279-296.*

Zivney, T.L., and W. Reichenstein, (1994). The pecking order in finance journals, *Financial Practice and Education* 4, 77-87.

Table 1
Comparative Data on Top Business Journals

Journal	Editorial Location 2005	Cost to Submit*	Acceptance Rate**	Turnaround Time**	Regular Issues Per Year	Articles Per Year***	Citations Per Article***
Accounting Review (AR)	University of Arizona	$125	11-20%	2-3 months	4	35	32
Journal of Accounting Research (JAR)	University of Chicago	$250	Not available	Not available	5	30	23
Journal of Finance (JF)	University of Pennsylvania	$70	3.40%	47 days	4	83	30
Journal of Financial Economics (JFE)	University of Rochester	$500	11.30%	36 days	4	51	32
Academy of Management Journal (AMJ)	University of Iowa	$0	10%	60 days	4	53	55
Academy of Management Review (AMR)	Tulane University	$0	6-10%	10 weeks	4	50	61
Journal of Marketing (JM)	University of Maryland	$0	10%	2-3 months	4	32	58
Journal of Marketing Research (JMR)	New York University	$0	11-20%	1-2 months	4	41	33

* For the JFE, resubmissions are required to pay another fee unless explicitly waived by the editor. Fees are refunded for accepted papers

** Acceptance rates and turnaround times were obtained from the Cabell's Directory of Publishing Opportunities with exception of information for the JF which is based on data from a report on the JF web site for 2003 submissions, and information for the JFE which is based on data from 2004 on the JFE web site.

*** These are averages obtained from our sample data

Table 2
Number of Articles and Citations Examined by Year and by Journal

Journal	1986		1991		1996		2000		2004		Total	
	Art.	Cite	Art.	Cite	Art.	Cite	Art.	Cite	Art	Cite	Art.	Cite
AR	43	1062	45	1326	25	852	19	687	45	1705	177	5632
JAR	37	560	24	419	26	600	31	758	33	1063	151	3400
JF	70	1307	81	2331	69	2197	100	3550	97	3279	417	12664
JFE	46	1321	27	750	46	1446	55	1627	82	3139	256	8283
AMJ	51	1745	45	2030	64	3997	57	3747	50	3099	267	14618
AMR	50	2650	28	1912	34	3384	70	4311	68	2869	250	15126
JM	29	1557	21	1134	31	2157	33	1666	44	2600	158	9114
JMR	39	1168	45	1289	38	1434	42	1605	42	1385	206	6881

Journal	Mean Citations per Article
AR	31.8
JAR	22.5
JF	30.4
JFE	32.4
AMJ	54.7
AMR	60.5
JM	57.7
JMR	33.4

Table 3

Citation Tabulation Between Sample Journals

This table counts the number of citations between journals for the five years 1986, 1991, 1996, 2000,and 2001 for top journals in accounting, finance, management, and marketing. Journal abbreviations are: AR = Accounting Review, JAR = Journal of Accounting Research, JF = Journal of Finance, JFE = Journal of Financial Economics, AMJ = Academy of Management Journal, AMR = Academy of Management Review, JM = Journal of Marketing, JMR = Journal of Marketing Research.

Panel A: 1986

	Journal Referred to									
	AR	JAR	JF	JFE	AMJ	AMR	JM	JMR	Total	Others
Referring Journal										
AR	156	102	21	21	4	1	0	0	305	757
JAR	41	132	14	23	0	0	0	0	210	350
JF	3	10	245	223	0	0	0	0	481	826
JFE	1	15	211	390	0	0	0	0	617	704
AMJ	1	2	3	3	90	51	2	3	155	1590
AMR	1	0	3	5	116	153	6	3	287	2363
JM	0	0	0	0	18	9	116	79	222	1335
JMR	0	0	0	0	6	1	48	207	262	906
Totals	203	261	497	665	234	215	172	292	2539	8831

Panel B: 1991

	Journal Referred to									
	AR	JAR	JF	JFE	AMJ	AMR	JM	JMR	Total	Others
Referring Journal										
AR	125	153	41	29	1	0	1	0	350	976
JAR	28	87	14	9	0	0	0	0	138	281
JF	4	8	399	443	0	0	0	0	854	1477
JFE	5	6	67	151	0	0	0	0	229	521
AMJ	2	1	11	11	135	95	1	0	256	1774
AMR	1	2	0	0	72	108	3	1	187	1725
JM	0	0	0	0	3	5	115	77	200	934
JMR	0	0	0	0	1	2	57	192	252	1037
Totals	165	257	532	643	212	210	177	270	2466	8725

Panel C: 1996

	Journal Referred to									
	AR	JAR	JF	JFE	AMJ	AMR	JM	JMR	Total	Others
Referring Journal										
AR	116	111	22	17	2	1	0	0	269	583
JAR	57	85	21	14	0	0	0	0	177	423
JF	6	10	424	300	0	0	0	0	740	1457
JFE	4	10	232	308	0	0	0	0	554	892
AMJ	3	3	14	23	273	116	10	6	448	3549
AMR	0	0	3	0	112	172	15	5	307	3077
JM	1	2	0	0	12	19	205	155	394	1763
JMR	0	0	0	0	7	4	67	192	270	1164
Totals	187	221	716	662	406	312	297	358	3159	12908

Panel D: 2000

Referring Journal	AR	JAR	JF	JFE	AMJ	AMR	JM	JMR	Total	Others
AR	81	58	11	5	3	1	5	2	166	521
JAR	59	89	52	39	0	0	0	0	239	519
JF	4	9	756	508	0	0	0	0	1277	2273
JFE	5	9	298	295	0	0	0	0	607	1020
AMJ	0	1	14	14	332	204	17	8	590	3157
AMR	0	0	20	12	174	261	20	7	494	3817
JM	0	0	1	0	21	25	338	140	525	1141
JMR	1	2	4	2	13	12	305	196	535	1070
Totals	150	168	1156	875	543	503	685	353	4433	13518

Panel E: 2004

	Journal Referred to									
Referring Journal	AR	JAR	JF	JFE	AMJ	AMR	JM	JMR	Total	Others
AR	234	238	79	56	4	2	0	3	616	1089
JAR	94	168	79	73	0	0	0	0	414	649
JF	7	19	660	415	0	0	0	0	1101	2178
JFE	10	13	565	470	0	0	0	0	1058	2081
AMJ	2	4	13	9	289	167	29	10	523	2576
AMR	5	0	15	10	91	135	5	3	264	2605
JM	2	4	4	9	41	24	640	262	986	1614
JMR	0	2	4	0	3	0	297	223	529	856
Totals	354	448	1419	1042	428	328	971	501	5491	13648

Table 4

Summary of Self-Citation, Core Journal, and Producer-Consumer Indices for Top Business Journals

The Self-Citation Index is calculated as the number of citations a journal made to itself divided by the total number of citations for the journal for the year. The Core Journal Index is calculated as the number of citations to the two journals in the discipline divided by the total number of citations for the journal for the year. For example, the Core Journal Index for the JF for 1986 is calculated as the total citations by the JF to the JF and JFE divided by the total number of citations by JF for the year. The Producer-Consumer Index is calculated by dividing the number of citations a journal produces (citations *to* a journal from papers in the remaining 7 sample journals) by the number of citations a journal consumes (citations by papers in the journal to other journals in the sample). Journal abbreviations are: AR = Accounting Review, JAR = Journal of Accounting Research, JF = Journal of Finance, JFE = Journal of Financial Economics, AMJ = Academy of Management Journal, AMR = Academy of Management Review, JM = Journal of Marketing, JMR = Journal of Marketing Research.

	Self-citation Index				
	1986	1991	1996	2000	2004
AR	14.7%	9.4%	13.6%	11.8%	13.7%
JAR	23.6%	20.8%	14.2%	11.7%	15.8%
JF	18.7%	17.1%	19.3%	21.3%	20.1%
JFE	29.5%	20.1%	21.3%	18.1%	15.0%
AMJ	5.2%	6.7%	6.8%	8.9%	9.3%
AMR	5.8%	5.6%	5.1%	6.1%	4.7%
JM	7.5%	10.1%	9.5%	20.3%	24.6%
JMR	17.7%	14.9%	13.4%	12.2%	16.1%
Mean	15.3%	13.1%	12.9%	13.8%	14.9%
Median	16.2%	12.5%	13.5%	12.0%	15.4%

	Core Journal Index				
	1986	1991	1996	2000	2004
AR	24.3%	21.0%	26.6%	20.2%	27.7%
JAR	30.9%	27.4%	23.7%	19.5%	24.6%
JF	35.8%	36.1%	33.0%	35.6%	32.8%
JFE	45.5%	29.1%	37.3%	36.4%	33.0%
AMJ	8.1%	11.3%	9.7%	14.3%	14.7%
AMR	10.2%	9.4%	8.4%	10.1%	7.9%
JM	12.5%	16.9%	16.7%	28.7%	34.7%
JMR	21.8%	19.3%	18.1%	31.2%	37.5%
Mean	23.6%	21.3%	21.7%	24.5%	26.6%
Median	23.1%	20.1%	20.9%	24.5%	30.2%

	Producer-Consumer Index				
	1986	1991	1996	2000	2004
AR	0.32	0.18	0.46	0.81	0.31
JAR	1.65	3.33	1.48	0.53	1.14
JF	1.07	0.29	0.92	0.77	1.72
JFE	1.21	7.38	1.44	1.86	0.97
AMJ	2.22	0.64	0.76	0.82	0.59
AMR	0.46	1.29	1.04	1.04	1.50
JM	0.53	0.73	0.49	1.86	0.96
JMR	1.55	1.30	2.13	0.46	0.91
Mean	1.13	1.89	1.09	1.02	1.01
Median	1.14	1.01	0.98	0.81	0.96

Table 5

Journals With Highest PCI by year

	1986	1991	1996	2000	2004
Rank	Journal				
1	AMJ	JFE	JMR	JFE*	JF
2	JAR	JAR	JAR	JM*	AMR
3	JMR	JMR	JFE	AMR	JAR

* Journals have same value for PCI

Table 6

Classification of Top Business Journals by Relationship to Median Values of the Self-Citation, Core Journal, and Producer-Consumer Indices for 1986, 1991, and 1996, 2000 and 2004

This table classifies the journals by whether they fall above or below the medians for the Self-Citation Index (SCI), Core Journal Index (CJI), and Producer-Consumer Index (PCI). For example, a classification of LHL means that the journal was lower than the median for the SCI, higher than the median for the CJI, and lower than the median for the PCI. The reference medians are from Table 4 and refer only to the eight journals in the sample. Journal abbreviations are: AR = Accounting Review, JAR = Journal of Accounting Research, JF = Journal of Finance, JFE = Journal of Financial Economics, AMJ = Academy of Management Journal, AMR = Academy of Management Review, JM = Journal of Marketing, JMR = Journal of Marketing Research.

	Categories							
Year	HHH	HHL	HLH	HLL	LHH	LHL	LLH	LLL
1986	JAR	JF	JMR			AR	AMJ	AMR
	JFE							JM
1991	JAR	JF	JMR				AMR	AR
	JFE							AMJ
								JM
1996	JAR	AR					AMR	AMJ
	JFE	JF					JMR	JM
2000	JFE	JF					AMJ	AR
	JM	JMR					AMR	JAR
2004	JF	JM	JAR		JFE		AMR	AR
		JMR						AMJ

Table 7
Cross-Pollination Indices for Selected Top Business Journals

The Cross-Pollination Index is calculated by dividing the total number of citations made by a journal to the two journals in the discipline by the total number of citations made to the full set of sample journals. For example, of the total citations made by the Journal of Finance to the sample journals in 1991, the JF cites the JF and the JFE with 99 percent of the citations, the two accounting journals 1 percent of the citations, and the remaining 4 journals at 0 percent of the citations. For a given year for a particular journal, the total percentage should add to 100. The total may be slightly different due to rounding.

	Accounting					Finance				
Journal	1986	1991	1996	2000	2004	1986	1991	1996	2000	2004
Accounting										
Accounting Review	0.85	0.79	0.84	0.84	0.77	0.14	0.20	0.14	0.10	0.22
Journal of Accounting Research	0.82	0.83	0.80	0.62	0.63	0.18	0.17	0.20	0.38	0.37
Finance										
Journal of Finance	0.03	0.01	0.02	0.01	0.02	0.97	0.99	0.98	0.99	0.98
Journal of Financial Economics	0.03	0.05	0.03	0.02	0.02	0.97	0.95	0.97	0.98	0.98
Management										
Academy of Management Journal	0.02	0.01	0.01	0.00	0.01	0.04	0.09	0.08	0.05	0.04
Academy of Management Review	0.00	0.02	0.00	0.00	0.02	0.03	0.00	0.01	0.06	0.09
Marketing										
Journal of Marketing	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01
Journal of Marketing Research	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01

Journal										
Accounting	Management					Marketing				
Accounting Review	1986	1991	1996	2000	2004	1986	1991	1996	2000	2004
Journal of Accounting Research										
	0.02	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.04	0.00
Finance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Journal of Finance										
Journal of Financial Economics										
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Management	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Academy of Management Journal										
Academy of Management Review										
	0.91	0.90	0.87	0.91	0.87	0.03	0.00	0.04	0.04	0.07
Marketing	0.94	0.96	0.93	0.88	0.86	0.03	0.02	0.07	0.05	0.03
Journal of Marketing										
Journal of Marketing Research										
	0.12	0.04	0.08	0.09	0.07	0.88	0.96	0.91	0.91	0.91
	0.03	0.01	0.04	0.05	0.01	0.97	0.99	0.96	0.94	0.98