



April 2007

Replication Research in Marketing Revisited: A Note on a Disturbing Trend

Heiner Evanschitzky

Marketing Center Muenster, Universitat Munster

Carsten Baumgarth

Universitat Siegen

Raymond Hubbard

Drake University

J. Scott Armstrong

University of Pennsylvania, armstrong@wharton.upenn.edu

Follow this and additional works at: http://repository.upenn.edu/marketing_papers

Recommended Citation

Evanschitzky, H., Baumgarth, C., Hubbard, R., & Armstrong, J. S. (2007). Replication Research in Marketing Revisited: A Note on a Disturbing Trend. Retrieved from http://repository.upenn.edu/marketing_papers/41

Postprint version. Published in *Journal of Business Research*, Volume 60, Issue 4, April 2007, pages 411-415.

Publisher URL: <http://dx.doi.org/10.1016/j.jbusres.2006.12.003>

This paper is posted at ScholarlyCommons. http://repository.upenn.edu/marketing_papers/41

For more information, please contact libraryrepository@pobox.upenn.edu.

Replication Research in Marketing Revisited: A Note on a Disturbing Trend

Abstract

Over the past decade, researchers have expressed concerns over what seemed to be a paucity of replications. In line with this, editorial policies of some leading marketing journals have been modified to encourage more replications. We conducted an extension of a 1994 study to see whether these efforts have had an effect. In fact, the replication rate has fallen to 1.2 percent, a decrease in the rate by 50%. As things now stand, practitioners should be skeptical about using the results published in marketing journals as hardly any of them have been successfully replicated. Teachers are advised to ignore the findings until they have been replicated, and researchers should put little stock in the outcomes of one-shot studies.

Comments

Postprint version. Published in *Journal of Business Research*, Volume 60, Issue 4, April 2007, pages 411-415.
Publisher URL: <http://dx.doi.org/10.1016/j.jbusres.2006.12.003>

Replication Research in Marketing Revisited: A Note on a Disturbing Trend

Heiner Evanschitzky*
Marketing Center Muenster (MCM)
Westfälische Wilhelms-Universität Münster
Am Stadtgraben 13-15, 48143 Muenster, Germany
Tel.: +49-251-83-22036
Fax: +49-251-83-22032
E-Mail: evanschitzky@ifhm.de

Carsten Baumgarth
Lehrstuhl für Marketing
Universität Siegen,
Hölderlinstr. 3, 57068 Siegen, Germany
baumgarth@lfm.fb5.uni-siegen.de

Raymond Hubbard
Thomas F. Sheehan Distinguished Professor of Marketing
College of Business and Public Administration
Drake University
Des Moines, IA 50311
Raymond.Hubbard@Drake.edu

J. Scott Armstrong
The Wharton School
University of Pennsylvania
Philadelphia, PA 19104
Armstrong@wharton.upenn.edu

July 2006

* Corresponding author

Replication Research in Marketing Revisited: A Note on a Disturbing Trend

Over the past decade, researchers have expressed concerns over what seemed to be a paucity of replications. In line with this, editorial policies of some leading marketing journals have been modified to encourage more replications. We conducted an extension of a 1994 study see whether these efforts have had an effect. In fact, the replication rate has fallen to 1.2 percent, a decrease in the rate by 50%. As things now stand, practitioners should be skeptical about using the results published in marketing journals as hardly any of them have been successfully replicated, teachers are advised to ignore the findings until they have been replicated, and researchers should put little stock in the outcomes of one-shot studies.

Since the appearance of Hubbard and Armstrong's (1994) article concerning the need to publish more replications in the managerial sciences, a number of developments have occurred which bode well for their increased presence in the literature. These include the publication of other papers in various marketing and management areas emphasizing the vital role of replication research (e.g., Hubbard and Vetter, 1996; Hunter, 2001; Madden, Easley, and Dunn, 1995; Singh, Ang, and Leong, 2003; Tsang and Kwan, 1999; Wells, 2001). Moreover, under Arch Woodside's instigation (Easley and Madden, 2000, p. 1), a special issue of the *Journal of Business Research* (2000) devoted to the topic of replication made it the first major business journal to focus attention on the importance of such work.

Perhaps more importantly, changes have been made in the editorial policies of leading marketing and management science journals aimed at facilitating the publication of replications. These include Winer's (1998) revival of the "Research Notes and Communications" section of the *Journal of Marketing Research*, and Mick's (2001) introduction of a "Re-Inquiries" section in the *Journal of Consumer Research*. Further, in an extended editorial on the issue in the *Academy of Management Journal*, Eden (2002, p. 841) wrote that sound management practices would be greatly aided by "...a large number of high-quality replication studies."

In light of the above developments we conducted an extension of Hubbard and Armstrong (1994), referred to hereafter as H&A. Our goal was to answer the following question: What has happened to the publication rate for replications and extensions in marketing in the years following their study?

Definitions and Methodology

We used the same definitions of the central terms employed by H&A (1994, p. 236). Therefore, a *replication* is defined as "a duplication of a previously published empirical study that is

concerned with assessing whether similar findings can be obtained upon repeating the study.” Likewise, a *replication with extension* is “a duplication of a previously published empirical research project that serves to investigate the generalizability of earlier research findings.” Note that this latter goal of determining the range of conditions under which the findings do and do not hold up can also be addressed by studies in which the author(s) conducts a series of experiments within the *same* article. Unfortunately, such works lack independent assessment. Therefore, following H&A, our account incorporates only replications that were published as independent papers.

We estimated the frequency of replications appearing in the *Journal of Marketing (JM)*, *Journal of Marketing Research (JMR)*, and the *Journal of Consumer Research (JCR)* based on a census of all empirical articles published in them for the period 1990–2004. This involved a total of 1,389 such contributions. Next, two teams, each headed by one of the authors, independently classified all of these works to determine the publication incidence of replications and extensions. Classification results between the two teams were then compared. If a disagreement occurred, the two teams discussed the situation with an eye to resolving any differences. This process saw an 88% agreement rate between the two teams.

In a further attempt to verify that we properly quoted their work, we contacted all first authors of the replication studies in our analysis as well as of the other papers we cited. Of the 52 authors we were able to reach by email, 21 responded. They all indicated that we properly cited their work.

Frequency of Replications

Table 1 shows the present findings on the publication incidence of replication research in marketing, and compares them with those of H&A. Whereas H&A estimated that an average of 2.4% of empirical research papers published in *JM*, *JMR*, and *JCR* for 1974–1989 were replications with extensions—a figure they regarded as too low—the average for these same three journals for 1990–2004 has fallen to 1.2% (i.e., only 16 extensions out of 1,389 empirical articles). This downward trend applies to each of the journals: *JM* (3.4% to 1.2%), *JMR* (1.9% to 0.6%), and *JCR* (2.3% to 1.7%).

Insert Table 1 about here

Some research indicates that there are often differences in the results of original and replication studies (e.g., Hubbard and Vetter 1996; Reid, Soley and Wimmer 1981). In marketing, H&A found that only 15% of extensions confirmed initial outcomes, 25% provided partial support, and 60% conflicted with their predecessors. In comparison with the study by H&A, our follow-up showed that that of the 16 replications, 44% confirmed earlier results, 31% provided partial support, and 25% found no support at all for the results of the original study. While these findings are not as severe as with H&A, they nevertheless reinforce the importance of performing replications. There are no obvious explanations for these differences in outcomes between the two studies.

A comparatively brighter picture emerged when analyzing the incidence of replications featured in the *Journal of Business Research*, whose editorial policy is sympathetic toward such

work. Of the 861 empirical articles published in *JBR* between 1990 and 2004, 2.8% were replications with extensions, a figure marginally higher than H&A's 2.4% (Table 1).

To determine whether the lack of published replications applies only to U.S. based journals, we examined also the leading German marketing journal, *Marketing ZFP (MZFP)*, over the period 1990–2004. We found that the paucity of replication research witnessed in American journals is mirrored in Germany, where a mere 0.6% of *MZFP*'s empirical articles dealt with this work (Table 1).

Finally, across all five journals for the period 1990–2004, only 41 of 2,409 empirical articles, or 1.7%, qualified as replications with extensions (Table 1). While it is difficult to say what is optimum, this rate appears to be rather low. Consider an analogy to medicine. What if less than 2% of the studies attempted to verify claims about medical treatments through replication?

Practical Solutions to the Lack of Replications

To encourage the growth of replications in marketing's empirical literature, the data and methods used in the original studies should be made available on the Internet concurrent with a paper's publication. Traditionally, supporting information of this nature has been difficult to obtain (see Hubbard and Little, 1997). This procedure may require some effort by the authors, but it is time well spent. Gleditsch, Metelits and Strand (2003), in their analysis of 416 papers published in the *Journal of Peace Research*, found that papers *offering data in any form* were cited twice as often as comparable papers without such an offer. (Their study controlled for many variables, such as type of article, co-authorship, age of paper, length of paper, and characteristics of author.)

It requires active participation by a journal's editor to ensure that the data and methods are archived. The *Journal of Money, Credit and Banking (JMCB)* has long had a policy that authors

must deposit the data and code used for papers they publish. However, McCullough, McGeary and Harrison (forthcoming) found that of 150 empirical articles, sufficient information for replication was provided for only 10% of them. A key barrier was that in many cases the necessary data and methods were not archived. For example, the rate of archiving was only 3% for *JMCB* papers published from 2001 through 2004.

A similar editorial policy is applied by the *Journal of Conflict Resolution*. That journal created a dedicated website on which all necessary materials have to be made available for replication purposes. Since the first issues of 2002, the authors must sign that they have met this policy as condition of publication (Russett, 2003).

Fortunately for editors, compliance with archiving is now simpler than it has been previously. Authors can be required to supply footnotes showing how to find the data and methods on the Internet. This highlights the availability of the information and also enables the editor to download the materials on the journal's website. This procedure is currently mandated by journals such as the *American Journal of Political Science*.

Editors might, upon publication, identify important articles that should be replicated/extended, and invite designated researchers to do so. These replications would be accorded special publication status.

Unsolicited *proposals* could be reviewed as a basis for replication studies. In addition, competent replications that are submitted through traditional channels might be guaranteed some manner of publication. This might be a short printed version along with the author's reply, with details on the Internet, to be followed by open peer review. Important replications would receive more print space.

Replications are needed especially for important papers. For example, Ioannidis (2005) found that replications were conducted on about 75% of highly cited papers in medicine (in a sample from 1990 through 2003). Additional emphasis on this kind of scholarship can also be provided by appointing a replications editor. This has been done, for instance, at the *Journal of Applied Econometrics*.

We acknowledge, of course, that the above suggestions for increasing the amount of replication research in journals is unlikely to be effective if editors, reviewers, and researchers devalue this kind of work. Many seem to believe that this is a mundane form of research, one that is synonymous with “merely checking” others’ results, and therefore denigrate its worth. However, the discovery of empirical regularities is made possible *only* by replication with extension research.

Conclusions

Given the favorable reaction over the past decade to calls for more replications, our expectation was that a greater frequency of them would be published in *JM*, *JMR*, and *JCR* for the period 1990–2004 than were found for 1974–1989. However, the percentage of replications was published over the latter period dropped by 50%

We endorse a number of strategies to promote replication research. These include:

- using footnotes to direct readers to data and methods (in enough detail to permit direct replication) on the Internet,
- inviting replications of important papers,
- evaluating research proposals for replications with an eye to their subsequent publication,
- appointing replications editors, and
- publishing all competent replications.

Scientific findings rest upon replication. As things stand now, few results in marketing have been successfully replicated. Given this, we suggest that practitioners should be skeptical about making decisions based on the findings of the predominantly single-shot studies reported in the leading marketing journals. Teachers, also, should be wary of putting much faith in such results in classroom lectures. Finally, many researchers fail to appreciate that, in the absence of replication research, our discipline rests on weak foundations.

APPENDIX

Replications studies in *JM*, *JMR*, *JCR*, *JBR*, *MZFP* from 1990-2004

- Ahearne Michael Gruen Thomas Saxton M. Kim. When the Product is Complex, Does the Advertisement's Conclusion Matter? *Journal of Business Research* 2000; 48 (April): 55-62.
- Ailawadi Kusum L. Farris Paul W. Parry Mark E. Share and growth are not good predictors of the advertising and promotion/sales ratio. *Journal of Marketing* 1994; 58 (January): 86-97.
- Akaah Ishmael P. Riordan Edward A. Judgments of Marketing Professionals about Ethical Issues in Marketing Research: A Replication and Extension. *Journal of Marketing Research* 1989, 26 (February): 112-120.
- Basuroy Suman Chatterjee Subimal Ravid S. Abraham. How Critical Are Critical Reviews? The Box Office Effects of Film Critics, Star Power, and Budgets. *Journal of Marketing* 2003, 67 (October): 103-117.
- Beatty Sharon E. Talpade Salil. Adolescent influence in family decision making: A replication with extension. *Journal of Consumer Research* 1994; 21 (September): 332-341.
- Bello Daniel C. Holbrook Morris B. Does an absence of brand equity generalize across product classes? *Journal of Business Research* 1995; 34 (October): 125-131.
- Biswas Abhijit Wilson Elizabeth J. Licata Jane W. Reference pricing studies in marketing: A synthesis of research results. *Journal of Business Research* 1993; 27 (July): 239-256.
- Boles James S. Johnson Julie T. Barksdale Jr. Hiram C. How Salespeople Build Quality Relationships: A Replication and Extension. *Journal of Business Research* 2000; 48 (April): 75-81.
- Brady Michael K. Cronin J. Joseph Brand Richard R. Performance-only measurement of service quality: a replication and extension. *Journal of Business Research* 2002; 55 (January): 17-31.

- Castrogiovanni Gary J. Bruton Garry D. Business Turnaround Processes Following Acquisitions: Reconsidering the Role of Retrenchment. *Journal of Business Research* 2000; 48 (April): 25-34.
- Childers Terry L. Rao Akshay R. The influence of familial and peer-based reference groups on consumer decisions. *Journal of Consumer Research* 1992; 19 (September): 198-211.
- Cronin J. Joseph Taylor Steven A. Measuring service quality: A reexamination and extension. *Journal of Marketing* 1992; 56 (July): 55-68.
- Dahl Drew. Successor origin, initiating force, and managerial tenure in banking. *Journal of Business Research* 1994; 29 (January): 47-55.
- Glazer Rashi Kahn Barbara E. Moore William L. The influence of external constraints on brand choice: The lone-alternative effect. *Journal of Consumer Research* 1991; 18 (June): 119-126.
- Goldsmith Ronald E. Desborde Rene. A validity study of a measure of opinion leadership. *Journal of Business Research* 1991; 22 (January): 11-19.
- Grayson Kent Ambler Tim. The dark side of long-term relationships in marketing services. *Journal of Marketing Research* 1999; 36 (May): 132-141.
- Heath Timothy B. Chatterjee Subimal France Karen R. Mental accounting and changes in price. *Journal of Consumer Research* 1995; 22 (June): 90-97.
- Holbrook Morris B. Schindler Robert M. Market segmentation based on age and attitude toward the past: Concepts, methods, and findings concerning nostalgic influences on customer tastes. *Journal of Business Research* 1996; 37 (September): 27-39.
- Holbrook Morris B. Gardner Meryl P. How Motivation Moderates the Effects of Emotions on the Duration of Consumption. *Journal of Business Research* 1998; 42 (July): 241-252.

Homer Pamela M. The mediating role of attitude toward the ad: Some additional evidence. *Journal of Marketing Research* 1990; 27 (February): 78-86.

Jobber David Saunders John. A note on the applicability of the Bruvold-Comer model of mail survey response rates to commercial populations. *Journal of Business Research* 1993; 26 (March): 223-236.

Keller Kevin L. Memory and evaluation effects in competitive advertising environments. *Journal of Consumer Research* 1991; 17 (March): 463-476.

Kent Robert J. Allen Chris T. Competitive interference effects in consumer memory for advertising. *Journal of Marketing* 1994; 58 (July): 97-105.

Kumar Anand, Krishnan Shanker. Memory interference in advertising: A replication and extension. *Journal of Consumer Research* 2004; 30 (March): 602-611.

Lee Dong Hwan Olshavsky Richard W. Consumers' Use of Alternative Information Sources in Inference Generation: A Replication Study. *Journal of Business Research* 1997; 39 (July): 257-269.

Lim Jeen-Su Kim John. Impact of consumers' confidence in judgements about missing information on product evaluations. *Journal of Business Research* 1992; 25 (November): 215-229.

Luce Mary F. Jia Jianmin Fischer Gregory W. How much do you like it? Within-alternative conflict and subjective confidence in consumer judgments. *Journal of Consumer Research* 2003; 30 (December): 464-472.

Macdonald Emma K. Sharp Byron M. Brand Awareness Effects on Consumer Decision Making for a Common, Repeat Purchase Product: A Replication. *Journal of Business Research* 2000; 48 (April): 5-15.

- Machleit Karen A. Powell Mantel Susan. Emotional response and shopping satisfaction
Moderating effects of shopper attributions. *Journal of Business Research* 2001; 54
(November): 97-106.
- Marr M. Wayne Trimble John L. Eurobond financing bargains and the clientele hypothesis.
Journal of Business Research 1993; 27 (July): 201-214.
- Merrilees Bill Miller Dale. Direct Selling in the West and East: The Relative Roles of Product
and Relationship (Guanxi) Drivers. *Journal of Business Research* 1999; 45 (July): 267-273.
- Murray Jeff B. The politics of consumption: A re-inquiry on Thompson and Haytko's (1997)
'Speaking of fashion'. *Journal of Consumer Research* 2002; 29 (December): 427-440.
- Novak Thomas P. MacEvoy Bruce. On comparing alternative segmentation schemes. *Journal of
Consumer Research* 1990; 17 (June): 105-109.
- Palich Leslie E. Carini Gary R. Seaman Samuel L. The Impact of Internationalization on the
Diversification-Performance Relationship: A Replication and Extension of Prior Research.
Journal of Business Research 2000; 48 (April): 43-54.
- Pracejus John W. Olsen G. Douglas. The role of brand/cause fit in the effectiveness of cause-
related marketing campaign. *Journal of Business Research* 2004; 57 (June): 635-640.
- Sattler Henrik Völckner Franziska Zatloukal Grit. Erfolgsfaktoren von Markentransfers.
Marketing ZFP 2003; 25 (3rd Quarter): 147-168.
- Shimp Terence A. Moody Margaret P. In Search of a Theoretical Explanation for the Credit Card
Effect. *Journal of Business Research* 2000, 48 (April): 17-23.
- Slater Stanley F. Narver John C. The Positive Effect of a Market Orientation on Business
Profitability: A Balanced Replication. *Journal of Business Research* 2000; 48 (April): 69-73.

Tansik, David A. Balance in service systems design. *Journal of Business Research* 1990; 20 (January): 55-61.

Weinzimmer Laurence G. A Replication and Extension of Organizational Growth Determinants. *Journal of Business Research* 2000; 48 (April): 35-41.

Woodside Arch G. Sullivan Daniel P. Trappey III Randolph J. Assessing Relationships among Strategic Types, Distinctive Marketing Competencies, and Organizational Performance. *Journal of Business Research* 1999; 45 (June): 135-146.

Table 1.

Replications with Extensions in Marketing: 1974–1989 versus 1990–2004

Journals	1974–1989^a			1990–2004^b		
	Number of Empirical Studies	Replications with Extensions	%	Number of Empirical Studies	Replications with Extensions	%
<i>JM</i>	207	7	3.4	331	4	1.2
<i>JMR</i>	366	7	1.9	524	3	0.6
<i>JCR</i>	262	6	2.3	534	9	1.7
Subtotal	835	20	2.4	1,389	16	1.2
<i>JBR</i>				861	24	2.8
<i>MZFP</i>				159	1	0.6
Total				2,409	41	1.7

^a Based on Hubbard and Armstrong (1994).^b See the Appendix for a list of these studies.

REFERENCES

- Easley Richard W. Madden Charles S. Replications and Extensions in Marketing and Management Research. *Journal of Business Research* 2000; 48 (April): 1-3.
- Easley Richard W. Madden Charles S. Dunn Mark G. Conducting Marketing Science: The Role of Replication in the Research Process. *Journal of Business Research* 2000; 48 (April): 83-92.
- Eden Dov. Replication, meta-analysis, scientific progress, and AMJ's publication policy. *Academy of Management Journal* 2002; 45 (October): 841-846.
- Gleditsch Nils Petter Metelits Claire Strand Harvard. Posting your data: Will you be scooped or will you be famous? *International Studies Perspectives* 2003; 4 (March): 89-97.
- Hubbard Raymond Armstrong J. Scott. Replications and extensions in marketing: Rarely published but quite contrary. *International Journal of Research in Marketing* 1994; 11 (June): 233-248.
- Hubbard Raymond Little E. L. Share and Share Alike? A Review of Empirical Evidence Concerning Information Sharing Among Researchers. *Management Research News* 1997, 20 (1): 41-49.
- Hubbard Raymond Vetter Daniel E. An empirical comparison of published replication research in accounting, economics, finance, management, and marketing. *Journal of Business Research* 1996; 35 (February): 153-164.
- Hunter John E. The desperate need for replications. *Journal of Consumer Research* 2001; 28 (June): 149-158.

Ioannidis John P. A. Contradicted and initially stronger effects in highly cited clinical research. *Journal of the American Medical Association* 2005; 294 (July): 218-228.

Madden Charles S. Easley Richard W. Dunn Mark G. How journal editors view replication research. *Journal of Advertising* 1995; 24 (Winter): 77-87.

Mick David G. From the editor. *Journal of Consumer Research* 2001; 28 (June): unpagged.

McCullough Bruce D. McGeary Kerry A. Harrison Teresa D. Lessons from the JMCB archive. *Journal of Money, Credit, and Banking* forthcoming.

Reid Leonard N. Soley Lawrence C. Wimmer Roger D. Replication in advertising research: 1977, 1978, 1979, *Journal of Advertising* 1981; 10 (Spring), 3-13.

Russett Bruce. The *Journal of Conflict Resolution's* policy on replication. *International Studies Perspectives* 2003; 4 (March): 88-89.

Singh Kulwant Ang Siah H. Leong Siew M. Increasing replication for knowledge accumulation in strategy research. *Journal of Management* 2003; 29 (August): 553-549.

Tsang Eric W. K. Kwan Kai M. Replication and theory development in organizational science: A critical realist perspective. *Academy of Management Review* 1999; 24 (October): 759-780.

Wells William D. The perils of $N = 1$. *Journal of Consumer Research* 2001; 28 (December): 494-498.

Winer Russel S. From the editor. *Journal of Marketing Research* 1998; 35 (February): iii-v.