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The Long-Term Effects of Advertising Expenditures: Examining the Evidence

The authors review the relevant literature on the economic useful life of marketing intangibles, specifically advertising, offering a critique of a prior article on the subject and recommending a direction to pursue in future research.

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From an accounting perspective, advertising traditionally has been treated as a current period expense. This is generally consistent with the primary conclusion reached in a 2012 article by John Wills and Mike Denning that advertising has a very short economic useful life—of one year or less.[1] However, evidence in academic literature increasingly supports the notion that advertising expenditure has long-term effects and should be perceived as an investment in building long-standing brand equity. As a consequence, this article points out the key limitations of Wills and Denning's article in exploring the longevity of the impact of advertising expenditures. These include articles that examine long-term effects in conjunction with short-term effects (that is, carryover effects that occur in years beyond the initial year of advertising spend) and the views and motivations of marketing practitioners that may conflict with the conclusions Wills and Denning reach. The article also highlights viable areas of future research, such as:

- frameworks to quantitatively evaluate the sales and profitability impact due to advertising expenditures, and
- methods for estimating useful lives for other classes of intangibles where valuation techniques may not be as developed.

[1] "The Economic Life of Advertising: A Survey of the Evidence," 21 *Transfer Pricing Report* 726, 11/15/12.

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Economic Useful Life

Any firm that obtains an intangible asset faces the decision of whether or not to amortize the asset—that is, allocate the cost of the intangible over its service or economic useful life. The outcome of this decision has a definite impact on the company's profitability, as amortizing the asset results in a gradual reduction in the asset's value and poses a necessary expense in the company's books. A key factor to consider in deciding whether to amortize an intangible asset is the asset's economic useful life.[2]

The economic useful life of an intangible asset is defined as a period during which the intangible asset (in the absence of added value or services contributed by an individual) has the ability to generate premium profits or income above a routine level of return. If the economic useful life of the intangible asset is indefinite, the asset is not amortized. On the other hand, if an intangible asset has a finite economic useful life, its capitalized cost is allocated to the period of time over which the asset is expected to contribute to the company's revenue-generating activities. Thus, from an accounting

[2] The accounting treatment for intangibles is based on regulatory guidance that may not align with the economic useful life of that intangible. For further information on the accounting treatment of intangibles, see International Accounting Standard 38 (technical summary available at http://www.ifrs.org/IFRSs/Documents/English%20IAS%20and%20IFRS%20PDFs%202012/IAS%2038.pdf). For transfer pricing treatment of intangibles, see the OECD's recent discussion draft revision of Chapter 6 of its transfer pricing guidelines, 22 *Transfer Pricing Report* 441, 8/8/13.

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perspective, the asset's economic useful life is of primary importance.

There are other contexts, such as tax settings, where determining the economic useful life is of similar importance. This article is written from a transfer pricing perspective, in which the valuation of intangible assets depends heavily on arriving at an estimate of their economic useful life. In these cases, gleaning insights from the academic literature as well as the marketing profession (for brand-related assets) will allow one to better arrive at an estimate for the useful life of such assets.

It may sometimes be difficult to determine whether the economic useful life of an intangible asset is definite or indefinite. For example, intangible assets, such as patents, licenses and trademarks, which are governed by contractual or legal provisions, typically are hard to evaluate. In these instances, it may be less than obvious whether the benefits of the underlying contracts are renewable beyond a set period of time, and the specific legal terms may need to be carefully evaluated to determine the longevity of the contract benefits with reasonable accuracy. The economic useful life of the intangible asset may be restricted by the binding legal, regulatory or contractual provisions.

At the same time, the useful life of the asset may be less than the asset's legal or contractual life. For instance, if a patented product is subject to obsolescence, the useful life of the patent may be significantly less than the product's legal life (which may be as long as 20 years). On the other hand, the economic useful life is perceived to be indefinite if there is no predictable limit to the duration over which the asset is expected to generate positive cash flows for the relevant entity.

Broadly speaking, intangible assets include patents, copyrights, trademarks, trade names, franchise licenses, government licenses, know-how and other items that lack physical substance but provide long-term benefits to the company. That said, the focus of this article is limited to discussion of the economic useful life of marketing intangibles, specifically advertising.

This article:

- provides the motivation behind the authors' focus on advertising within the realm of marketing intangibles and a survey of the relevant academic literature addressing the economic useful life of advertising;
- briefly summarizes Wills and Denning's article on the topic;
- critiques Wills and Denning's proposition that advertising has a relatively short-lived impact in terms of its useful life; and
- highlights some promising areas for future research on useful lives.

Advertising and Its Impact

While advertising is one of the most explicit elements of a firm's marketing expenditures, it is arguably one of the least understood. It is generally expected that resources invested in advertising eventually will generate a direct and favorable impact on a firm's bottom line. The influence of advertising is a widely pursued topic for researchers across various disciplines—for example, marketing professionals are focused on determining ways to use advertising to increase a firm's revenues and, thereby, its profitability. Economists, on the other hand, are involved in trying to resolve the effect of advertising on variables such as consumer demand, price competition, product differentiation and profits. Likewise, policymakers and consumers are interested in exploring the ramifications of advertising from a social standpoint.

Firms have been known to use advertising as a powerful tool not only to create market awareness of their products and services but also to differentiate their products from the competition and to strengthen the perception of the quality, reliability and durability of their brands among existing and potential buyers. There is widespread support among marketing professionals as well as academics of the ability of advertising to build and promote strong brands in the marketplace.

On the whole, however, the net impact of advertising—that is, whether its benefits outweigh its costs—remains heavily debated. One of the most critical factors in these debates revolves around the economic useful life of advertising. For instance, the consumer nondurable products market that includes branded consumer products is characterized by short-lived, low-cost goods necessitating constant messaging to consumers. The basic production technologies tend to be well-established, well-understood, and not well-protected by patents, thereby allowing for many competitors and substitutes in the marketplace. Due to these factors, advertising plays a large role in purchase decisions by consumers and the economic useful life of advertising is of great importance to marketers when targeting consumers.

To analyze the impact of advertising expenditures on financial performance, prior research has used data related to publicly traded firms over time and across industries and measured the variability in the asset values and subsequent market values of the firms on account of changes in advertising expenditures from year to year. To contribute toward generating asset value for any corporation, advertising expenditures must give rise to an anticipated benefit in the future, typically in the form of future cash flows generated from prospective sales. The degree to which advertising contributes to future sales and profitability is invariably tied to its economic useful life.

Survey of Academic Literature

For any meaningful discussion on the economic useful life of advertising, one must look to academic research on the impact of advertising. Numerous tools and approaches have been employed by researchers to evaluate the effects of advertising on a firm's sales, and ultimately, its profitability. While authors like Magid M. Abraham and Leonard M. Lodish,[3] R.C. Graham Jr. and K.D. Frankberger,[4] T. Sougiannis,[5] and L.W. Weiss[6] have focused on the influence of advertising expenditures on a firm's profitability, others, such as A.R. Abdel-Khalik,[7] M. Duffy,[8] P. Megna and D.C. Mueller,[9]

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[3] "Getting the Most Out of Advertising and Promotion," *Harvard Business Review*, May-June 1990.

[4] "The contribution of changes in advertising expenditures to earnings and market values," *Journal of Business Research*, 2000.

[5] "The Accounting Based Valuation of Corporate R&D," *Accounting Review*, 1994, 69(1), pp. 44-68.

[6] "Advertising, Profits, and Corporate Taxes," *Review of Economics and Statistics*, 1969.

[7] "Advertising Effectiveness and Accounting Policy," *The Accounting Review*, 1975.

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K.S. Palda,[10] Y. Peles,[11] and A. Yiannaka, K. Giannakas and K. C. Tran,[12] have evaluated the relationship between advertising expenditures and a firm's sales.

Although in the past, much of the research on the impact of advertising revolved around evaluating the correlation between advertising and the sales or profitability of the firm, more recent academic literature, particularly in the United States, predominantly relies on the use of diverse valuation methods. The widespread appeal of such valuation models lies in their ability to generate market values that represent all those factors with the potential to affect a firm's future profitability. As such, researchers argue that the asset value of discretionary spending, such as advertising, is embedded in the market value of the firm.

Accounting Treatment of Advertising Outlays

Substantial controversy surrounds the treatment of advertising expenditures in accounting literature. Articles such as those by K.W. Chauvin and M. Hirschey,[13] Hirschey (1985),[14] Hirschey and S. Spencer (1992),[15] and R. Morck and B. Yeung,[16] among others, suggest that advertising has an asset value. However, researchers such as D. Aaker and R. Jacobson,[17] G. Erickson and R. Jacobson,[18] and Souginannis (1994)[19] argue that the benefits of advertising are limited only to the period in which the expenditures are incurred.

The complexities involved in the accounting treatment of advertising expenditures include not only identifying the underlying costs related to the relevant activities (such as marketing), but also estimating the future benefits accruing from these outlays and the expected duration over which these benefits will last. As a consequence, there is often a preference for writing off all expenditures in the current period given the relative difficulty in estimating future profitability in relation to current profit levels. As such, some authors, such as B.H. Han and D. Manry,[20] advocate the view that the economic benefits of advertising expenditures are limited to the current period.

At the same time, there are other researchers (for example, M. Hirschey[21] and Hirschey and Weygandt[22]) who deem that the benefits of advertising investments accrue in current as well as future periods. Therefore, they view advertising costs as an intangible asset and recommend capitalizing and amortizing advertising expenditures over the asset's useful life. In support of this notion, J.B. White and M.P. Miles argue that "advertising is indeed a strategic investment in the organization's stock or intangible assets, future cash flows, and market value. As an investment in an invisible asset, advertising should be subjected to the same capital budgeting analysis as any other expenditure that produces multi-period cash flows."[23] In any case, Abdel-Khalik (1975)[24] addresses the decision to treat advertising as a period expense or capitalizing it over its useful life as significant due to its "potential impact upon the measurement of income, earnings per share, and possibly the balance sheet."

Economic Useful Life of Advertising

While there is broad support for the view that advertising should be recognized as contributing to the generation of intangible assets, no similar consensus exists on the useful life of advertising. This topic remains controversial across academic research in the accounting, economics and marketing fields. As far back as the 1970s, Peles (1970)[25] and Abdel-Khalik (1975)[26] observed variability in the amortization rates for the promotional costs of firms across industries, while, within the same industry, H. Falk and J.C. Miller found a lack of uniformity in the amortization of advertising expenditures for individual firms.[27] M.J. Picconi summarizes the lack of consensus in a 1977 article, stating, "Despite findings which clearly suggest that there may be long-lived advertising assets in some industries, it is troublesome that even among the most heavily advertised products, a systematic relationship between advertising/sales or market share cannot consistently be found."[28]

Marketing professionals understand the total effect of advertising on sales as the combination of two effects: a short-term effect, typically measured in the initial year of advertising, and a long-term, carryover effect, typically measured over the next two years. A carryover effect typically is defined as the amount of incremental sales, due to an increase in advertising, that were seen in the first year and are still seen in the second year (or third year). Much of the academic lit-

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[8] "The Influence of Advertising on the Pattern of Food Consumption in the UK," *International Journal of Advertising*, 1999.

[9] "Profit Rates and Intangible Capital," *Review of Economics and Statistics*, 1991.

[10] "The Measurement of Cumulative Advertising Effects," *Journal of Business*, 1965.

[11] "Amortization of Advertising Expenditures in the Financial Statements," *Journal of Accounting Research.*, 1970.

[12] "Medium, Message, and Advertising Effectiveness in the Greek Processed Meats Industry," *Applied Economics*, 2002.

[13] "Advertising, R&D Expenditures and the Market Value of the Firm," *Financial Management*, 1993.

[14] "Market Structure and Market Value," *Journal of Business*, Vol. 58, No. 1 (January 1985), pp. 89-98, University of Chicago PressStable, http://www.jstor.org/stable/2352911.

[15] "Size Effects in the Market Valuation of Fundamental Factors," *Financial Analyst Journal*, 1992.

[16] "Why Investors Value Multinationality," *Journal of Business*, 1991.

[17] "The Financial Information Content of Perceived Quality," *Journal of Marketing Research*, 1994.

[18] "Gaining Comparative Advantage Through Discretionary Expenditures: The Returns to R&D and Advertising," *Management Science*, 1992.

[19] See note 5, above.

[20] "The value-relevance of R&D and advertising expenditures: Evidence from Korea," *International Journal of Accounting*, 2004, 39(2), pp. 155-173.

[21] "Intangible Capital Aspects of Advertising and R&D Expenditures," *The Journal of Industrial Economics*, 1982.

[22] "Amortization Policy for Advertising and Research and Development Expenditures," *Journal of Accounting Research*, 1985.

[23] "The Financial Implications of Advertising as an Investment," *Journal of Advertising Research*, 1996.

[24] See note 7, above.

[25] See note 11, above.

[26] See note 7, above.

[27] "Amortization of Advertising Expenditures," *Journal of Accounting Research*, 1977.

[28] "A Reconsideration of the Recognition of Advertising Assets on Financial Statements," *Journal of Accounting Research*, 1977.

erature focuses on this short-term effect, with many articles examining the effects of increases in current advertising budgets. However, the academic research generally does not consider the sales or profitability impacts from advertising spending past the three-year mark.

Studies also vary by the type and interval of sales and advertising data. If data frequency is less than yearly, short-term effects can be studied. Many researchers have focused on the short-term or immediate impact of advertising.[29] Research measuring the short-term effect of advertising on sales has led to a general consensus that 90 percent of the cumulative effect of advertising occurs within a period of between three and 15 months, with many researchers finding a period of less than one year. Another way to measure the effect of advertising is by looking at the half-life of advertising—that is, the length of time it takes for half of the impact of advertising to be realized. The half-life of advertising is found to be between seven and 12 weeks. Promotional activities almost always have a measurable impact on sales; however, the effect is short-term.[30] A few researchers have analyzed firm depreciation rates to approximate the firm's view of an economic useful life of advertising. A multiple-firm average of accounting depreciation rates of advertising is between 20 percent and 50 percent per year, thereby realizing the full cost or effect within a period of between two and five years.[31]

The ability of intangible assets to generate premium economic returns declines as they grow obsolete or expire. As a result, such assets' ability to generate premium returns declines over time when the brands become stagnant due to insufficient or ineffective advertising and promotional campaigns, or when competitors develop similar or superior campaigns that provide them with the opportunity to gain incremental market share. From a long-term standpoint, researchers must tease out the long-term advertising effects from all the other possible variables that may impact sales. Needless to say, measuring, or estimating, the long-term impact of advertising has been difficult.[32]

Abraham and others in 1995 analyzed long-term television advertising effects on sales and found a significant carryover effect from the initial year, which was subject to increased advertising, to the second year, and a smaller but still significant carryover effect to the third year. This implies that the economic useful life of advertising lasts at least three years. The 1995 article states that the average long-term effect of successful advertising is approximately double the initial impact (that is, the impact in the first year) when yearly data is used. The authors also find that if advertising does not increase sales in the initial year, then years two and three also show no increase in sales.

The findings in Abraham, et al. (1995) are supported by earlier work by Abraham and Lodish (1989) who find, on average, 76 percent of the difference in sales observed in the first year of increased advertising spend persists one year later.[33] Over a three-year period, the cumulative sales increase due to advertising spend is at least double (on the order of 2.04) the sales increase observed in the first year.

In 1984, Gert Assmus, J.U. Farley and D. Lehmann, in defining the long-term as two years after the short-term of one year, estimated advertising carryover from 128 models in 22 econometric studies to support a long-term effect equal to 1.88 times the short-term effect, thereby implying a useful life beyond the short-term.[34] M. Givon and D. Horsky's results in 1990 also implied a multiplier, of 2.44 times, consistent with Assmus et al.[35] In practical terms, these studies imply that roughly half of the impact of advertising on sales is seen in years 2 and 3.

While academic results vary based on data and time intervals, it is clear there is a short-term and long-term effect of advertising on sales. The long-term effect of advertising on sales is found to be approximately two times the magnitude of the short-term effect and is found principally in the second and third year after advertising spend is incurred.

Wills and Denning: Brief Summary

Wills and Denning in their 2012 article assess the published research on the effective duration of advertising outlays as a way of considering how long royalties should be paid for the use of an intangible asset (such as a brand or trademark). They conclude that advertising has at most a limited effectiveness, generally less than a year.

To ground the theoretical basis of their analysis, the authors note that trademarks simplify consumer decisions, in effect allowing for differentiation among otherwise identical goods, as well as encourage quality (which provides an incentive for advertising and branding). Thus, trademarks can provide value by providing information, some of which is simply brand awareness and some of which is specific to the product's quality.

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[29] See D.G. Clarke, ''Econometric Measurement of the Duration of Advertising Effect on Sales,'' *Journal of Marketing Research*, 1976; R. P. Leone, ''Generalizing What Is Known About Temporal Aggregation and Advertising Carryover,'' *Marketing Science*, 1995; R. S. Winer, ''Estimation of a Longitudinal Model to Decompose the Effects of an Advertising Stimulus on Family Consumption,'' *Management Science*, 1980; R., Ashley, C. W. J. Granger and R. Schmalensee, ''Advertising and Aggregate Consumption: An Analysis of Causality,'' *Econometrica*, 1980; R. Boyd and B.J. Seldon, ''The Fleeting Effect of Advertising: Empirical Evidence from a Case Study,'' *Economics Letters*, 1990; and B.J. Seldon and K. Doroodian, ''A Simultaneous Model of Cigarette Advertising: Effects of Demand and Industry Response to Public Policy,'' *The Review of Economics and Statistics*, 1989.

[30] See Magid M. Abraham and L. M. Lodish, ''Advertising Works: A Study of Advertising Effectiveness and the Resulting Strategic and Tactical Implications,'' *Information Resources, Inc.*, 1989.

[31] See Hirschey (1982), note 21, above, and Hirschey and Weygandt (1985), note 22, above.

[32] M.M. Abraham, L.M. Lodish, J. Livelsberger, B. Lubetkin, B. Richardson, and M.E. Stevens, ''A Summary of Fifty-Five In-Market Experimental Estimates of the Long-Term Effect of TV Advertising,'' *Marketing Science*, 1995.

[33] See note 30, above.

[34] ''How Advertising Affects Sales: Meta Analysis of Econometric Results,''*Journal of Marketing Research*, 1984.

[35] ''Untangling the Effects of Purchase Reinforcement and Advertising Carryover'', *Marketing Science*, 1990.

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On the empirical side, the article reproduces evidence from the Clarke (1976)[36] and Leone (1995)[37] studies, which are based on surveys in the 1960s and 1970s and attempt to link advertising to data on subsequent sales. Using a model of geometric decay, they find that 90 percent of the cumulative impact of advertising occurs within a year or two; Clarke called this measure a ''90 percent duration interval.'' However, there is a wide range of actual results, and as seen in the article, the use of annual data makes it difficult to estimate an effect that lasts less than one year (as seen in the article's Table 1, analyses relying on less frequently reported data are associated with longer 90 percent duration intervals). While noting these shortcomings, they suggest that the evidence strongly points to advertising having an effect measured in months, not years.

Subsequent work that builds on this finding is shown to reinforce this conclusion. Wills and Denning refer to work by Kenneth A. Arrow, George Stigler, Elisabeth Landes and Andrew Rosenfield, who highlight econometric problems in prior research that result in an upward bias in the estimated effect of advertising (in some cases, the estimates did not have a directional bias but were not at all reliable).[38] They find that correcting for these shortcomings yields estimates of the effect of advertising that are not greater than one year, and thus the evidence does not support a long-lasting effect. Wills and Denning do note, however, that the Arrow et al. review was supported by the advertising industry, possibly concerned that advertising expenditures might be required to be capitalized for tax purposes. The finding of a ''short'' useful life supported the intention of the review. Insights from marketing practitioners are addressed later in this article.

Wills and Denning then briefly discuss contrary findings by Hirschey (1982)[39] and Weygandt (1985, jointly),[40] which concluded that advertising had a persistent effect on firms' market capitalization (in contrast to analyzing sales figures as in previous work). Arrow et al. are cited as rebutting this work on methodological grounds, and further support for the view that advertising's effects are short-lived is brought from 1994 congressional testimony giving the view of the U.S. Treasury Department.[41] Moving closer to the present, the advent of new media and advertising platforms might be expected to reduce the previously advanced estimates, and the authors cite work by Steve Kerho in 2010 that corroborates this hypothesis by comparing effects across media such as television, radio, print, and the Internet.[42]

The authors note in closing the possible drawbacks in the existing literature and provide references to additional articles that suggest unresolved issues to be investigated further. They conclude with a quotation from Ernst R. Berndt that reiterates the consensus view that the effects of advertising last less than a year.[43]

Wills and Denning: Critique

Wills and Denning discuss previous studies related to the useful life of advertising and conclude generally that this useful life is of a short-term nature, equal to a year or less. This article respectfully points out some shortcomings of their analysis, notably the failure in ignoring channels by which advertising contributes to attracting customers on a long-term basis.

Approach

Although Wills and Denning base their analysis on seminal works in the field, such as Clarke (1976),[44] their cited studies do not address the potential for a significant carryover effect. A carryover effect typically is defined as the amount of incremental sales, due to an increase in advertising, that are seen in the first year and are still seen in subsequent years. More specifically, Wills and Denning overlook literature that explores channels by which customers are affected by advertising on a long-term basis.

A strand of marketing literature exists whereby researchers have outlined the total effect of advertising on sales as the combination of two effects: a short-term effect, typically measured in the initial year of advertising; and a long-term, carryover, effect, typically measured over the next two years.[45]

Wills and Denning, in focusing on the short term, ignore carryover effects highlighted in the studies by Abraham et al.,[46] Abraham and Lodish,[47] Assmus et al.[48] and Givon and Horsky.[49] These studies, in accounting for carryover effects, support an economic useful life at least as long as three years. Nor is there any mention of Dominique Hanssens, who in 2011 best described the relationship between advertising and sales and profit in the long term and short term with the following statement: ''Advertising's short-term impact is double to triple over the longer term. Studies conducted by Information Resources, Inc. . . . in 1995 and 2007 demonstrate that on average, the advertising-to-sales impact over three years is double the impact of year one, and the advertising-to-profit impact is triple the impact of year one.''[50] These studies focused their

[36] D.G. Clarke, ''Econometric Measurement of the Duration of Advertising Effect on Sales,'' *Journal of Marketing Research*, 1976.

[37] R. P. Leone, ''Generalizing What Is Known About Temporal Aggregation and Advertising Carryover,'' *Marketing Science*, 1995.

[38] ''Economic Analysis of Proposed Changed in the Tax Treatment of Advertising Expenditures,'' Lexecon Inc., 1990.

[39] See note 21, above.

[40] See note 22, above.

[41] U.S. Department of the Treasury, ''Report to the Congress on Adjusting the Excess Passive Assets Rules and the Passive Foreign Investment Company Rules to Account for Marketing Intangibles,'' 11/22/94.

[42] ''How Long Does Your Ad Have an Impact?'' Fastcompany.com, 6/28/10.

[43] *The Practice of Econometrics: Classic and Contemporary*, Reading, Massachusetts, Addison-Wesley Publishing, 1991.

[44] See note 36, above.

[45] Academic research generally does not consider the effects of sales due to advertising spending past the three-year mark.

[46] See note 32, above.

[47] See notes 3 and 30, above.

[48] See note 34, above.

[49] See note 35, above.

[50] ''What Is Known About the Long-Term Impact of Advertising,'' MASB Practitioner Paper No. 2011-01, 2011. Also see Abraham et al. (1995), note 32, above; and Ye Hu, Leonard M. Lodish and Abba M. Krieger, ''An Analysis of Real World TV Advertising Tests: A 15-year Update,'' *Journal of Advertising Research*, 2007.

analyses on real-world advertising experiments using Information Resources Inc.'s BehaviorScan tests. These studies estimated the useful life of advertising in a controlled setting, in contrast to the early academic research focusing on market response distribution lag models.[51]

In addition, Wills and Denning examine the life of brand or trademark intangibles in an intercompany setting, where related parties are engaged in licensing the intangibles under a cost sharing arrangement. Consequently, their article is based on the premise that payments to the original developer for the right to use the trademark or brand should terminate after a specified period of time, reflecting the limited life of the preexisting intangible. Thus, their article has a specific, predetermined focus. As such, they tend to turn their attention primarily to literature that concludes that advertising has, at most, a limited time of effectiveness, generally less than a year.

The Marketing Profession

Another issue Wills and Denning do not address is how marketing professionals and researchers have analyzed and segmented consumers into two groups affected by advertising: base (also referred to as core, stayer, or loyal) and incremental (switcher, non-loyal). Base consumers are less elastic in their consumption patterns when it comes to price and advertising changes.[52] The general task of advertising is twofold. First, advertising has the task of attracting an incremental consumer. Second, the role then becomes to transform this consumer into a base, or loyal, consumer. Focusing on advertising's impact on attracting incremental consumers thereby will lead to an estimation of only short-term affects. Incremental consumers are those most affected by marketing and pricing strategies and are likely to alter consumption based on these factors. Most of this impact is likely to be captured in the short term. However, focusing just on the short term will ignore a crucial goal of advertising: to make a loyal consumer out of an incremental consumer. If the company succeeds, these new loyal consumers will affect sales on a long-term basis.[53] While marketing professionals traditionally calculate short-term return on investment measures for business planning purposes, they also calculate long-term return on investment measures for a full return analysis consistent with the view that long-term affects are a multiple of the short-term affects.

Marketing professionals typically have a short time horizon as budgets and business performance are evaluated frequently—often quarterly. However, it has been found that a short-term impact on consumer purchasing (sales) is a prerequisite for a long-term effect (see Hanssens). This is supported by the converse situation found in Abraham, et al. where the authors find that if advertising does not increase sales in the initial year, then years two and three also display no increase in sales. Winston Fletcher in 1992 made a case for the long-term effects of advertising with this statement: ''Advertising must work both immediately and residually. It must generate response both today and tomorrow. Unless short-term results are achieved, the long-term benefits will never materialize. Advertising could not possibly work in the future if it does not work in the present.''[54]

The attention paid to the short term is due to the frequency in which business decisions, such as advertising, are made, and therefore likely drives much of the scope of the academic literature. However, practitioners operating for tax purposes should acknowledge what advertising professionals already know: Long-term effects in acquiring and retaining consumers via advertising are present only if advertising is successful in the short term.

Conclusion

By design, the short-term-focused studies cited by Wills and Denning lead to the conclusion that advertising's impact on sales and profitability is a short-term phenomenon. This implies that a firm suspending all advertising, holding all other variables (such as advertising outlays from the firm's competition) constant, would no longer be able to able to command premium prices from any consumers past one year's time. Thinking about this hypothetical situation clearly leads to the understanding that sales and profits from loyal customers (those retained by advertising many years prior) are unlikely to disappear overnight should advertising completely cease.

While academic results vary based on data and time intervals, it should be evident that there are short-term and long-term effects of advertising on sales. The long-term effect of advertising on sales is found to be approximately twice the magnitude of the short-term effect and is found principally in the second and third years after advertising spend is incurred. This finding is supported by marketing professionals who, in their short-term time horizon (that is, the period in which business decisions are made), understand that return on investment calculations with regard to advertising include both short- and long-term impacts.

The inability to consider advertising's long-term effects may have implications when it comes to using selected research for purposes outside marketing, such as in transfer pricing settings—specifically, cost sharing and licensing. Tax practitioners must examine the entire body of literature related to advertising useful lives on a holistic basis, incorporating know-how from marketing professionals who make advertising budgeting decisions on a day-to-day basis, prior to arriving at a particular conclusion.

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[51] Data interval bias issues led to problematic conclusions about the reliability of the estimation methods utilized in the early academic research. As such, the research transitioned to experimental settings, in which the researcher could evaluate concepts such as the life of advertising in a controlled environment. The studies subjected different sets of consumers to different advertising messages and examined the subsequent purchase decisions of these consumers.

[52] See R. Sethurman, G. J. Tellis and R. Briesch, ''How Well Does Advertising Work? Generalizations From a Meta-Analysis of Brand Advertising Elasticity,'' *Journal of Marketing Research*, 2011.

[53] This is not to suggest that consumer loyalty is driven entirely by marketing efforts. Loyal consumers will remain loyal assuming all other factors, such as the products' quality, reliability and other physical characteristics, remain sufficiently high.

[54] ''A Glittering Haze: Strategic Advertising in the 1990's,'' *NTC Publications*, 1992.

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Directions for Future Research

As shown, the results from academic literature can yield a number of interpretations on the economic useful life of marketing intangibles. Given that there is no exact science to measuring useful lives, the authors propose three areas for future research.

1. Bridge the econometric gap between market mix methods to allow for arriving at reliable estimates of the useful life of advertising

Marketing professionals examine the impact of independent variables, such as advertising spend, on sales and profitability via market mix methods (MMMs). MMMs provide a statistical framework that links multiple variables, including marketing, sales activities, operations and external factors, to changes in consumer behavior, such as acquisition, sales, revenue and retention.[55]

Marketing professionals use MMMs in an attempt to hold all other factors constant to examine the impact of a variable, such as advertising, on *incremental* sales or profit to arrive at a return on investment measure. For advertising expenditures, MMMs are specified to examine how an additional dollar spent generates incremental sales or profit within a steady-state environment typically using historical levels of advertising support and measures of price and competitor activity. MMMs therefore do not directly examine advertising expenditures' *total* impact on sales and profitability over time.

As a business planning tool, MMMs are not specified to adequately determine useful lives as discussed in this article. Bridging the gap between how MMMs are currently specified to a framework that would allow one to reliably arrive at useful life estimates would be a fruitful area of further examination.

2. Explore techniques to estimate other intangibles commonly found within a cost sharing setting such as technology intangibles created through R&D

Along with advertising and marketing expenditures, R&D plays a large role in creating intangible assets that drive premium profits. The useful lives of technology intangibles are considered to be closely tied to product life cycles. However, setting the useful life equal to the product life cycle is a crude approach that often ignores carryover effects from one generation of technology to the next. As such, developing a more refined framework to be able to estimate economic useful lives of technology intangibles is clearly an area that warrants further research.

3. Extend the above analysis, and explore further techniques, to value and determine the economic useful life of other intangible assets

The Internal Revenue Code in Section 936(h)(3)(b) presents a list of less clearly defined intangible assets, ranging from methods and programs to systems and procedures. For many of these intangibles, there are limited existing methods that provide for valuing these assets or arriving at an economic useful life estimate. Further exploration into methods quantifying the useful lives of these intangibles, which routinely find themselves at the center of tax and non-tax disputes, would be beneficial to tax and non-tax practitioners alike.

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[55] For a further analysis on the success and failures in MMMs, see Doug Brooks, ''Success and Failures in Marketing Mix Modeling: Maximizing the Potential of Today's Predictive Analytics,'' *IRI Point of View*, 2009.